Land and Urban Policies for Poverty Reduction

Edited By
Mila Freire
Ricardo Lima
Dean Cira
Bruce Ferguson
Christine Kessides
José Aroudó Mota
Diana Motta

ipea
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Land and Urban Policies for Poverty Reduction

Volume 1

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Brasilia, 2007
The World Bank Group is the world's largest source of development assistance. Its mission is to fight poverty and improve the living standards of people in the developing world. It is a development bank, providing loans, policy advice, technical assistance, and knowledge sharing services to low-and-middle income countries to reduce poverty. The Bank promotes growth to create jobs and to empower poor people to take advantage of these opportunities. It uses its financial resources, trained staff, and extensive knowledge base to help each developing country onto a path of stable, sustainable, and equitable growth in the fight against poverty. The World Bank group has 184 member countries.

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EDITED BY

Mila Freire  Christine Kessides
Ricardo Lima  José Aroudo Mota
Dean Cira  Diana Motta
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FORWARD

Within his role to promote and disseminate research and support the Brazilian government in the design, evaluation and follow-up of public policies, the Instituto de Pesquisa Econômica Aplicada, IPEA has partnered with the World Bank in the organization of the Third International Research Urban Symposium. The event which took place in Brasilia in 2005, was supported by several partners including the Swedish International Development Agency (SIDA), the Lincoln Institute of Land Policy, Caixa Econômica Federal, o Governo do Distrito Federal – GDF, Cities Alliance, and GTZ.

The papers included in this publication represent the contribution of many researchers from all over the world who have been working on the role of urban and land policies in promoting development and alleviating urban poverty. We believe this is an important contribution that will be widely used in the design of urban policies not only in Brazil but in many other countries.

Many thanks to all the authors and partners who made this work possible.

John Henry Stein  
Urban Sector Manager  
Latin America & the Caribbean Region  
The World Bank

Luiz Henrique Proença Soares  
President  
Ipea
ACKNOWLEDGMENTS

This book is the result of a team effort, and as such, it has benefited from an array of invaluable contributions. Our thanks are due to a large number of people. First, the papers' authors – both those who have been selected to be included in this anthology and those who participated in the Symposium with ideas, comments and discussions. They have provided not just material of outstanding technical quality but a remarkable commitment to enriching the debate about the contribution of land and urban policies in the fight against urban poverty. We are fortunate to share this book with these principal authors (in alphabetical order) - Pedro Abramo, Paulo Avila, John Betancur, Adriana Fausto Brito, Robert Buckley, David Dowall, Alain Durand-Lasserve, Rogerio Fernandez, Carolina Fonseca, Cynthia Goytia, Daniel Graham, Sir Peter Hall, Ramin Keivani, Amal Kumarage, Maria Mercedes Maldonado, Anamaria de Araujo Costa Martins, M. M. Mooya, Maria da Piedade Morais, William O'Dell, Jelena Pantelic, Glenn Pearce-Oroz, Rosendo Pujol, Markus Ruhling, Remy Sietchiping, Kala Seetharam Sridhar, Haroldo Torres, Belinda Yuen, Cecilia Zanetta, and Jieming Zhu. All authors are researchers or practitioners who have shared through these papers their insights on the major policy questions that are still with us in terms of how to deal with urban poverty.

While this book reflects the authors' own view and not necessarily the view of the World Bank, of IPEA or any of the sponsors, its production was institutionally housed at the World Bank and IPEA for the final editing and the printing and dissemination. We are grateful to the guidance provided by Maryvonne Plessis-Feissard, Director of the Urban Department, World Bank, Makhtar Diop, Director of Infrastructure for Latin America, World Bank, Glauco Arbix, President of IPEA, Marcelo Piancastelli, Director of Regional and Urban Studies in IPEA, and Martim Smolka, Director of Latin America Programs in Lincoln Institute of Land Policy. We also appreciated the contribution of David Dowall, Victor Serra, and Marianne Fay who guided us into the next stages.

We want to thank the essential sponsorship of our international partners including the Swedish International Development Agency (SIDA) who has been encouraging and supporting the International Urban Symposia since 2002: GTZ, DFID, Lincoln Institute of Land Policy, as well as our Brazilian partners, including CAIIXA and ESAR.

We recognize the importance of all participants at the Symposium held on April 2005, in Brasilia, and thank Luis Henrique Proença who invited the Bank to hold the Third International Symposium in Brazil.

The Brasilia Symposium not only brought together a majority of authors under one roof for three days of candid discussions but also included Brazilian officials, including the Executive Secretary for the Ministry of Cities, Erminia Maricato, the National Secretary of Urban Policies, Raquel Rolnik, and the National Secretary...
for Housing Development, Jorge Hereda and the Vice-President of CAIXA, Aser Cortines, and Diana Motta, Secretary for Urban Development and Housing in the Federal District.

Finally, we are especially grateful to the steering committee that patiently prepared the concept note, received comments from the Bank and partners, made the call for papers, and put in motion the selection process. Special thanks are owed to Mila Freire, Christine Kessides, Ricardo Lima and Dean Cira who helped design the program, select the papers and edit the book. Likewise, we owe appreciation to IPEA's team, represented by Maria da Piedade de Morais, João Carlos Ramos Magalhães, Emmanuel Porto and George Da Guia for their contribution in designing the program, selecting papers, and providing the logistics and organization of the event.

Special thanks are owed to Bruce Ferguson who gave us his full commitment and wisdom in reviewing all papers and preparing the introduction for the chapters in the book. We also thank John Henry Stein, Sector Manager - Urban, and Jennifer Sara, Sector Leader for the Finance, Private Sector and Infrastructure Department. We are grateful for their help and excitement of seeing this book coming into life. Final appreciation is due to Laura De Brular for her steady help in keeping records, files, and being the true institutional memory of the International Urban Symposium that the Bank and its partners have been organizing in the last five years. We also thank Julia Conter and Christiana Johnides and Zoe Trohanis for their support during the actual Symposium in Brasilia, 2005. Our thanks to all of them.
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<tr>
<th>Abbreviation</th>
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<tr>
<td>ABL</td>
<td>Public Lighting, Street Sweeping and Cleaning (Argentina)</td>
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<td>ASEAN</td>
<td>Association of East Asian Nations</td>
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<td>AusAID</td>
<td>Australia Assistance International Development</td>
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<td>AVSI</td>
<td>Organizzazione non Governativa di Cooperazione Internazionale</td>
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<td>BMZ</td>
<td>German Ministry of Economic Cooperation</td>
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<td>BNDES</td>
<td>Banco Nacional de Desenvolvimento Econômico e Social (Brazil)</td>
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<td>BACEN</td>
<td>Banco Central (Brazil)</td>
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<tr>
<td>BIRD</td>
<td>Banco Internacional para Reconstrução e Desenvolvimento</td>
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<td>BPO</td>
<td>Business Process Outsourcing</td>
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<td>BRT</td>
<td>Bus Rapid Transit</td>
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<td>CAFTA</td>
<td>Free Trade Agreement of Central America with the United States</td>
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<td>CANON</td>
<td>Municipal Transfer (Peru)</td>
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<td>CA</td>
<td>Cellular Automata</td>
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<td>CBD</td>
<td>Central Business District</td>
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<td>CBOs</td>
<td>Community Organizations (South Africa)</td>
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<td>CCF</td>
<td>City Challenge Fund (India)</td>
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<td>CDHU</td>
<td>Companhia de Desenvolvimento Habitacional e Urbano (Brazil)</td>
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<td>CEDAE</td>
<td>Companhia Estadual de Água e Esgoto (Brazil)</td>
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<td>CEDEPLAR</td>
<td>Centro de Desenvolvimento e Planejamento Regional da Faculdade de Economia da Universidade Federal de Minas Gerais (Brazil)</td>
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<td>CEF</td>
<td>Caixa Econômica Federal (Brazil)</td>
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<td>CEMEX</td>
<td>Cement of Mexico</td>
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<td>COBRAPE</td>
<td>Companhia Brasileira de Projetos e Empreendimentos (Brazil)</td>
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<td>COFOPRI</td>
<td>Registration of Informal Urban Property</td>
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<td>COHRE</td>
<td>Center on Housing Rights and Evictions (South Africa)</td>
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<tr>
<td>COMEC</td>
<td>Coordenação da Região Metropolitana de Curitiba (Brazil)</td>
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<td>CMR</td>
<td>Colombo Metropolitan Region</td>
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<tr>
<td>CONACyT</td>
<td>National Council of Science and Technology (Mexico)</td>
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<td>CONATA</td>
<td>Consejo Nacional de Tasación (Peru)</td>
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<tr>
<td>CONDER</td>
<td>Companhia de Desenvolvimento Urbano do Estado da Bahia (Brazil)</td>
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<td>CORETT</td>
<td>Commission for Land Tenure Regularization</td>
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<td>CORVIDE</td>
<td>Housing and Social Development Corporation of Medellín</td>
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<td>CPF</td>
<td>Central Provident Fund (CPF) (Singapore)</td>
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<td>CRIC</td>
<td>Comité de Reconstrucción de la Iglesia Católica (Honduras)</td>
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<td>DECSAL</td>
<td>Decentralization and Competitiveness Loan (Peru)</td>
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<td>DFID</td>
<td>UK Department for International Development</td>
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<td>DMC</td>
<td>Delhi Municipal Corporation</td>
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<td>EDB</td>
<td>Economic Development Board Singapore</td>
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<td>ESAF</td>
<td>Escola de Administração Fazendária (Brazil)</td>
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<td>FAME</td>
<td>Financial Analysis Made Easy</td>
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<td>FAT</td>
<td>Fundo de Amparo ao Trabalhador (Brazil)</td>
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<td>FGTS</td>
<td>Fundo de Garantia do Tempo de Serviço (Brazil)</td>
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<td>FIDC</td>
<td>Fundos de Investimento em Direitos Creditórios (Brazil)</td>
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<td>FIDEM</td>
<td>Fundação de Desenvolvimento Municipal (Brazil)</td>
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<td>FJP</td>
<td>Fundação João Pinheiro (Brazil)</td>
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<td>FONAVI</td>
<td>Argentina's National Housing Fund</td>
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<td>FPM</td>
<td>Fundo de Participação dos Municípios (Brazil)</td>
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<td>FUNDEVI</td>
<td>Fundación para el Desarrollo de la Vivienda Social y Rural (Honduras)</td>
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<td>GAM</td>
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<td>GC</td>
<td>Gated Communities</td>
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<td>GOI</td>
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<td>HDI</td>
<td>Human Development Index</td>
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<td>HDPE</td>
<td>High Density Polyethylene</td>
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<td>HUDCO</td>
<td>Housing and Urban Development Corporation (India)</td>
</tr>
<tr>
<td>IADB</td>
<td>Inter-American Development Bank</td>
</tr>
<tr>
<td>IBGE,</td>
<td>Instituto Brasileiro de Geografia e Estatística (Brazil)</td>
</tr>
<tr>
<td>ICMS</td>
<td>Imposto sobre Circulação de Mercadorias e Prestação de Serviços (Brazil)</td>
</tr>
<tr>
<td>ILD</td>
<td>Instituto Libertad y Democracia (Honduras)</td>
</tr>
<tr>
<td>INR</td>
<td>Indian Rupees</td>
</tr>
<tr>
<td>IP</td>
<td>Instituto de la Propiedad (Honduras).</td>
</tr>
<tr>
<td>IBAMA</td>
<td>Instituto Brasileiro do Meio Ambiente e dos Recursos Naturais Renováveis (Brazil)</td>
</tr>
<tr>
<td>IBRD</td>
<td>International Bank for Reconstruction and Development</td>
</tr>
<tr>
<td>IGP</td>
<td>Índice Geral de Preços (Brazil)</td>
</tr>
<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
</tr>
<tr>
<td>INURBE</td>
<td>National Institute for Social Interest Housing and Urban Reform</td>
</tr>
<tr>
<td>IPEA</td>
<td>Instituto de Pesquisa Econômica Aplicada (Brazil)</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------</td>
</tr>
<tr>
<td>IPPUC</td>
<td>Instituto de Pesquisa e Planejamento Urbano de Curitiba (Brazil)</td>
</tr>
<tr>
<td>IPTU</td>
<td>Imposto Predial Territorial Urbano (Brazil)</td>
</tr>
<tr>
<td>IPV</td>
<td>Provincial Housing Institutes (Argentina)</td>
</tr>
<tr>
<td>ISGM</td>
<td>Informal Settlement Growth Model</td>
</tr>
<tr>
<td>LDC</td>
<td>Less Developing Country</td>
</tr>
<tr>
<td>LUD</td>
<td>Law of Urban Development (Mexico)</td>
</tr>
<tr>
<td>MCD</td>
<td>Municipal Corporation of Delhi</td>
</tr>
<tr>
<td>MCR</td>
<td>Mega City Region</td>
</tr>
<tr>
<td>MDF</td>
<td>Municipal Development Fund</td>
</tr>
<tr>
<td>MIC</td>
<td>Middle Income Country</td>
</tr>
<tr>
<td>MAG</td>
<td>Metropolitan area of Guadalajara</td>
</tr>
<tr>
<td>MRBA</td>
<td>Metropolitan Region of Buenos Aires</td>
</tr>
<tr>
<td>MUDPA</td>
<td>Ministry of Urban Development and Poverty Alleviation</td>
</tr>
<tr>
<td>NCAER</td>
<td>Council of Applied Economic Research</td>
</tr>
<tr>
<td>NIE</td>
<td>New Institutional Economics</td>
</tr>
<tr>
<td>NGO</td>
<td>Organização Não Governamental (Brazil)</td>
</tr>
<tr>
<td>NSDP</td>
<td>National Slum Dwellers Program (India)</td>
</tr>
<tr>
<td>OECD</td>
<td>Organização para Cooperação e o Desenvolvimento Econômico (Brazil)</td>
</tr>
<tr>
<td>OODC</td>
<td>Outorga Onerosa do Direito de Construir</td>
</tr>
<tr>
<td>PDG</td>
<td>Population Density Gradient</td>
</tr>
<tr>
<td>PETT</td>
<td>Registration of Rural Property Program (Peru)</td>
</tr>
<tr>
<td>PNAD</td>
<td>Pesquisa Nacional por Amostra de Domicílios (Brazil)</td>
</tr>
<tr>
<td>PPP</td>
<td>Parceria Público-Privada (Brazil)</td>
</tr>
<tr>
<td>PREZEIS</td>
<td>Plano de Regularização das Zonas Especiais de Interesse Social (Brazil)</td>
</tr>
<tr>
<td>PRIMED</td>
<td>Program of Regularization of Low-income Settlements</td>
</tr>
<tr>
<td>PROAP</td>
<td>Low-income Settlements Urbanization Program (Brazil)</td>
</tr>
<tr>
<td>PROCEDE</td>
<td>Ejidal Rights Certification Programme (Mexico)</td>
</tr>
<tr>
<td>PRONAA</td>
<td>Programa Nacional de Assistência Alimentaria (Peru)</td>
</tr>
<tr>
<td>PROSANEAR</td>
<td>Programa de Saneamento para Populações em Áreas de Baixa Renda (Brazil)</td>
</tr>
<tr>
<td>PROVIAS</td>
<td>Program of Road Construction (Peru)</td>
</tr>
<tr>
<td>PTO</td>
<td>Permits to Occupy (South Africa)</td>
</tr>
<tr>
<td>RIDE</td>
<td>Região Integrada de Desenvolvimento (Brazil)</td>
</tr>
<tr>
<td>RMC</td>
<td>Região Metropolitana de Curitiba (Brazil)</td>
</tr>
<tr>
<td>RMR</td>
<td>Região Metropolitana do Recife (Brazil)</td>
</tr>
<tr>
<td>RUS</td>
<td>Régimen Único Simplificado (Peru)</td>
</tr>
<tr>
<td>SABESP</td>
<td>Companhia de Saneamento Básico do Estado de São Paulo (Brazil)</td>
</tr>
<tr>
<td>SANAA</td>
<td>Servicio Autónomo Nacional de Agua y Alcantarillado (Honduras)</td>
</tr>
<tr>
<td>SATs</td>
<td>Servicio de Administración Tributaria (Peru)</td>
</tr>
</tbody>
</table>
SDUV  Sub-Secretaría de Desarrollo Urbano y Vivienda (México)
SENA  National Skill Training Institute (Colombia)
SFH   Sistema Financeiro de Habitação (Brazil)
SIDA  Swedish International Development Assistance
SIPP  Survey of Income Program and Participation (USA)
SME   Small and Medium-Sized Enterprises
STN   Secretaria do Tesouro Nacional (Brazil)
SUNARP  National Register Entity (Peru)
TDR   Transfer Development Rights
UBN   Unsatisfied Basic Needs of the Population
ULA   Urban land Act (Honduras)
ULO   Urban Land Organisation (Honduras)
UN    United Nations
UNCHS United Nations Centre for Human Settlements - Habitat
UNFPA United Nations Population Fund
UIT   Unidad Impositiva Tributaria
URIF  Urban Reform Incentive Fund (India)
VAMBAY Valmiki Ambedkar Awaaz Yojana (India)
WHO   World Health Organization
ZACs  Zones d' Aménagement Concerté (France)
ZEIS  Zonas Especiais de Interesse Social (Brazil)
PREFACE

LAND, SHELTER, TRANSPORT: THE LATIN AMERICAN WAY

Peter Hall

We're just passing one of the great milestones in human history – but hardly anyone is noticing. It isn't anything outwardly dramatic, like a revolution or a war. But it is fundamental, in the sense that the Industrial Revolution in Britain was fundamental. Future historians, doubtless, will call it the Urban Revolution. For the first time in history, a majority of the world's six billion people are living in cities. Between 2000 and 2025, on the best estimates we have from the United Nations, the world's urban population will double, to reach five billion; city-dwellers will rise from 47 per cent to over 61 per cent of the world's population.

But that's not all. Most of this explosive growth will occur in the cities of the developing world. There will be a doubling of the urban population, in the coming quarter century, in Latin America and the Caribbean, in Asia and in Africa together – above all in Africa. Even by 2015, the UN predict that there will be 358 “million cities”, with one million or more people; no less than 153 will be in Asia. And there will be 27 “mega-cities”, with ten million or more - 18 of them in Asia. It is here, in the exploding cities of some of the poorest countries of the world, that the central challenge lies.

Table 1: World Urban Population, 1980-2000-2020

<table>
<thead>
<tr>
<th>Urban Population</th>
<th>Urban Population in %</th>
<th>Urban Population Growth Rate in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>39</td>
<td>47</td>
</tr>
<tr>
<td>Africa</td>
<td>27</td>
<td>38</td>
</tr>
<tr>
<td>Europe</td>
<td>69</td>
<td>75</td>
</tr>
<tr>
<td>North America</td>
<td>74</td>
<td>77</td>
</tr>
<tr>
<td>Central America</td>
<td>80</td>
<td>67</td>
</tr>
<tr>
<td>South America</td>
<td>68</td>
<td>80</td>
</tr>
<tr>
<td>Asia</td>
<td>27</td>
<td>38</td>
</tr>
<tr>
<td>Oceania</td>
<td>71</td>
<td>70</td>
</tr>
<tr>
<td>Developing Countries</td>
<td>29</td>
<td>41</td>
</tr>
<tr>
<td>Developed Countries</td>
<td>71</td>
<td>76</td>
</tr>
</tbody>
</table>

A huge challenge, to be sure – but also a huge range of opportunities: opportunities for greater freedom, greater freedom above all for development, as people leave behind their traditional bondage to the land and the total dominance of the daily struggle for food. Urbanization is a fundamental form of liberation of the human spirit: in the famous German quotation from the Middle Ages, *Stadtluft macht Frei*: the city air makes you free. It does more than that: just because it frees up human creativity, the city is the place where the great advances occur – artistic, intellectual, technological and also organisational. You need urbanisation if you're going to get development. City growth is potentially a great thing.

But only potentially. Urbanization is a basic precondition for development. But it doesn't of itself guarantee development. There's good urban growth and there's bad urban growth. Managing urban growth so that it contributes positively to economic advance, reconciling it with ecologically sustainable forms of development and reducing social exclusion, represents the key challenge for urban planners and urban managers in this new century.

The Fundamental Challenge

The major challenge, for all those of us who care about cities, comes from the burgeoning cities of the developing world, where there is a paradox: people are still flooding into these cities, too many children are being born in those cities based on the hope for a better life; but too often they are being cheated. For urban growth has brought a sharp rise in urban poverty: according to UNFPA estimates, over one in four of the people in the cities of the developing world lives below official poverty lines, and that proportion rises to more than one in three in the Middle East and North Africa and to more than two in four in sub-Saharan Africa. And a large proportion of the poorest are women.

In these cities, the quality of the environment is not improving; in far too many cases, it is deteriorating. The problem is daunting. Many of these cities are already bigger than their equivalents in the developed world, and are projected to become yet larger. Most have only recently started on their development process. And, with some conspicuous exceptions, they lack the governmental structures and the administrative traditions to tackle the resulting problems. Let's be fair: they have achieved a great deal against overwhelming odds; and some have emerged as models for the rest of the world. But they are too few, and their example is not spreading fast enough.

Three Kinds of City: Three Kinds of Problems

However, and this is the first important point I want to make this morning, the term "developing city", like the term "developing country", is no longer very meaningful. In fact, I want to argue that it's fundamentally confusing. The World Commission on 21st-Century Urbanism, which presented its report *Urban Future 21* to a major conference in Berlin in the year 2000 (Hall and Pfeiffer 2000), argued that we can most usefully divide cities worldwide into three major categories, and that so-called "developing cities" in fact fall into two different categories. Even this is crude and simplistic, but it makes the point.

The first the Commission called the City coping with Informal Hypergrowth. It is represented by many cities in sub-Saharan Africa and in the Indian subcontinent, by the Moslem Middle East, and by some of the poorer cities of Latin America and the Caribbean. It is characterized by rapid population growth, both through migration and natural increase; an economy heavily dependent on the informal sector; very widespread
poverty, with widespread informal housing areas; basic problems of the environment and of public health; and difficult issues of governance.

The second they called the City Coping with Dynamic Growth. It is the characteristic city of the middle-income rapidly-developing world, represented by much of East Asia (including China), some of South Asia, much of Latin America and the Caribbean and the Middle East. Here, population growth is falling, and some of these cities face the prospect of an ageing population. Economic growth continues rapidly, but with new challenges from other countries. Prosperity brings environmental problems.

**The City coping with Informal Hypergrowth**

In this first kind of city, the key problem is that the urban economy can't keep pace with the growth of the people. There are high birth rates – a product of sexual ignorance, superstition and above all poorly-educated, often illiterate women. This, plus continued migration from the countryside, produces a huge surplus of unskilled labour. Many of the migrants have been pushed off the land rather than positively pulled into the cities, by famine or civil war or insurrection: too often, they are virtually starving. They go into the only work they can find, in the informal economy: casual work and petty trading. This leaves them in dire poverty – especially the women and above all the female-headed households, which typically form more than 30 per cent of the poor population.

The problem is that in these cities the formal or modern sector is too often struggling to survive, and too often giving up the battle. This is particularly true of indigenous enterprises. They can't compete, for multiple reasons: under-education, poor infrastructure, lack of credit and failure to access global markets. So you find cities that – apart from global enterprises like hotel chains or fast food outlets - lack a formal economic base, cities in which the great majority of people live in informal slums, often in very bad conditions, and eke out an existence in the informal economy. They have little work and they live at the margin of existence, in places that lack the basics for a civilised life. They have no respect for the environment, because they can't afford to do anything except struggle for survival: if keeping warm means cutting down the remaining trees for firewood, they'll do it; if keeping alive means drinking polluted water, they'll do that. And they find it hard to contact worthwhile jobs, even if they had the skills, because they can't physically reach them: lacking either a bicycle or a bus fare, they have nothing but their own two feet.

If you visit such cities, your first reaction may well be despair. But there is actually a solution to this huge raft of problems, though it may sound paradoxical. First, it's to get the birth rate down, which means basic education, above all education for the girls. Our report argues that there's a tremendous role for information technology here, if we can get low-cost machines that don't need to depend on erratic mains electricity. In fact technology has taken a huge leap even in the five years since we were working on our report, through the development of battery-powered mobile phones that can hook up directly to the Internet. And this is just the beginning.

Then, the key is progressively to formalise the informal economy. Cities can do this in various ways: strengthening relationships to the mainstream economy, both for inputs and outputs – for instance, through schemes to provide microcredit, providing building materials and food and water, and more effective transportation to help people access a wider range of jobs. They can achieve this best through communal self-
help neighbourhood projects, backed up by informal levies to pay for materials, which can help overcome bottlenecks in basic infrastructure. Microcredit schemes, providing tiny loans so people can start their own businesses, will play a particularly crucial role.

The City Coping with Dynamic Growth

This kind of city is important for this conference, because most Latin American cities belong to it. Here there’s good news: the trend is for population growth to fall sharply, because of urbanisation, as people see that the costs of education and rearing children rise while the economic value of children goes down. (These are two sides of the same coin: crudely, the value of uneducated young people tends to decline, so it simply takes much longer and costs more to get them to the point when they become effective earners). And this has a further knock-on effect: there is a big rise in the number of working-age people relative to the young and the old, who have to be looked after. In the jargon, the dependency ratio falls to a minimum.

So that’s the good news, and it isn’t the end. In these cities, the great passage from the informal to the formal economy is already well under way. Many of them are very attractive to inward investment, because they offer a well-educated and well-trained labour force at lower wages than in developed cities, and besides economic growth is generating big domestic markets for consumer durables like cars and refrigerators and personal computers. China is the outstanding case here, following on a hugely bigger scale the example earlier set by “tiger economies” like Singapore, Hong Kong or South Korea. But there’s a sting in the tale there: this foreign direct investment can always be diverted to even lower-cost countries and cities, as some Latin American cities are now finding to their cost. The key is to keep trading up into more sophisticated levels of production, especially advanced services, as both Singapore and Hong Kong have done during their forty years of sustained growth, and as leading Chinese cities like Shanghai are now doing.

The main result of all this is that cities in this group all find themselves in a state of quite extraordinary dynamism but also of rapid transition. It often seems as if they’re going through every stage of economic development at once. Or rather, different sections of their population are going through different stages. Side by side, in the downtown business districts you can see gleaming new high-rise office towers housing global corporations that provide advanced business services; along the arterial expressways, sleek suburban factories that are pouring out consumer goods as well as forests of new apartment towers; and, in between, wretched informal slum settlements where the people struggle to make a basic living by performing odd jobs or selling trinkets. These cities often look as if they’re simultaneously first world cities and third world cities.

One result is that they are highly polarised. Many of them, though not all, display extraordinary contrasts in wealth and poverty. Cities in South Africa and Brazil, two of the most unequal countries on earth, display this pattern to an extreme degree – but it’s now observable in China and in Poland. A significant sign is to see heavily gated, even armed luxury apartment blocks or country-club type developments, next to wretched shacks or worn-out slum apartments. All too often, in many though not all of these cities, there are reports of escalating crime and violence. The poor, some of them, may find solace in drink or drugs, compounding the problem. Because the poor have to find somewhere to live, they often contribute to environmental disasters by building their homes on unstable hillsides or on floodplains, with results that are sometimes tragic. Even
when they and their homes survive, they are often located far from job opportunities, with poor or non-existent bus services, compounded by traffic congestion.

The answer to these problems is to continue to push the economy in the direction first of advanced manufacturing and then of advanced services, always keeping one step ahead of the global competition. (Again, Eastern Asian cities provide the classic model). Of course, cities cannot provide all the necessary policies on their own: nation states have to provide the right framework of macro-economic policies. But cities can do a lot, especially if they are given the right degree of administrative and fiscal autonomy – which many of them have been getting, already, during the last twenty years. Above all, they must and they can help their poorest citizens to join the mainstream economy and the mainstream society.

**Then and Now...**

It’s helpful at this point, I think, to turn from a geographical kind of comparison to an historical-geographical comparison. In some important ways, not least I come levels, cities in this group compare with cities in the mature developed world about a hundred years ago. London, Paris, Berlin, New York in 1905 can be compared with São Paulo, Mexico City, Caracas and Bogotá today. Both groups of cities were, or are, growing explosively both in population and wealth. Both displayed, or display, extreme divisions of wealth. Both contained, or contained, huge high-income areas of great affluence and also huge slum areas of great wretchedness. But there are, I would argue, two key differences.

The first is in housing. Then, the slums had a formal characteristic: they were of permanent construction, generally large houses built for wealthy people (as in London), sometimes apartment blocks (as in Paris or New York), subdivided and sometimes again subdivided, and therefore chronically overcrowded. Now the corresponding slums are informal: self-built and unserviced. In fact, they correspond very precisely to the slums of the first category of cities, which shows us that this second category is really an amalgam of the first type and the fully-developed mature city.

The second key difference was, or is, in transport. The basic reason for the slums of 1905 was that the poor, who depended on informal employment, had to crowd ever more closely into housing near their work – that is, in or near the city centre. In London at that very time, the great social reformer Charles Booth wrote a paper entitled *Improved Means of Locomotion as a first Step towards the Cure of the Housing Difficulties of London* (Booth 1901). And in fact, just that was happening. Already, London had the world’s first underground railway; in 1900, it was already nearly forty years old. And, aided by American capital, the tunnelling teams were burrowing under London’s streets. Most of the tube network, on which you travel if you visit London today, was built by the year 1907. And simultaneously, the municipal authority for London, the London County Council, was electrifying and extending the tramcar system to serve new public housing estates, offering very low workmen’s fares so that poor people could afford to live in good housing on the edge of the city while getting to their jobs in the centre. Latin American cities today, in contrast, are in some cases very much larger – the São Paulo metropolitan area is three times the size of London one hundred years ago – yet have much less well-developed public transport systems. The paradoxical, even perverse, result is that relatively speaking, the poor in these cities have much greater problems in getting to work than their counterparts in London or New York in 1905.
Housing in the Developing World

How adequate is housing in the developing world? UN-Habitat figures show a mixed picture. Very evident is the fact that two areas – Latin America and the Caribbean, and Asia – show far better standards than Sub-Saharan Africa or North Africa and the Middle East. The same is evident for provision of basic infrastructure like water, sewerage, electricity or telephone service. To a remarkable degree, throughout the developing world, most housing is well-serviced. But for informal housing, the position varies very much. Generally, however, provision in Sub-Saharan Africa falls well behind that in the rest of the developing world.

That raises the basic question; what is sub-standard housing? How do we define a slum? UN Habitat has sought to produce a rigorous, generally-applicable definition. They use five key elements: access to water, access to sanitation, structural quality of housing, overcrowding and security of tenure. Using that as the basis, Table 2 from UN-Habitat shows the relative proportion of slum housing by region, worldwide, in 2001. Overall, slum dwellers constitute 32 per cent of the world's urban population. For developing countries, the figure is 43%; for the least developed countries, 78 percent. This represents a huge differential between Sub-Saharan Africa and the rest of the developing world.

Table 2: Distribution of the World's Urban Slum Dwellers, 2001

<table>
<thead>
<tr>
<th>Region</th>
<th>Urban population (000)</th>
<th>% in total population</th>
<th>% slum dwellers in total urban population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sub-Saharan Africa</td>
<td>231,052</td>
<td>34.6</td>
<td>71.9</td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>1,211,540</td>
<td>35.4</td>
<td>43.2</td>
</tr>
<tr>
<td>Latin America and Caribbean</td>
<td>399,385</td>
<td>75.8</td>
<td>31.9</td>
</tr>
<tr>
<td>Middle East and Northern Africa</td>
<td>145,624</td>
<td>57.7</td>
<td>29.5</td>
</tr>
<tr>
<td>Transition economies</td>
<td>259,091</td>
<td>62.9</td>
<td>9.6</td>
</tr>
<tr>
<td>Advanced economies</td>
<td>676,492</td>
<td>78.9</td>
<td>5.8</td>
</tr>
<tr>
<td>World</td>
<td>2,923,184</td>
<td>47.7</td>
<td>31.6</td>
</tr>
<tr>
<td>Developing countries</td>
<td>2,027,665</td>
<td>40.9</td>
<td>43.0</td>
</tr>
<tr>
<td>Least developed countries</td>
<td>179,239</td>
<td>26.2</td>
<td>78.2</td>
</tr>
</tbody>
</table>


Slum development is systematically associated statistically with GDP per capita and with the UN’s Human Development Index. But there is a striking systematic relationship between the prevalence of slum housing and inequality of income (rather than absolute income), as Table 3 shows. The UN-Habitat analysis suggests that generally throughout the developing world, despite rising per capita income levels, housing is becoming less rather than more affordable, both for owners and renters. But there are major differences between the least and the most developed regions: Latin America appears quite highly developed in terms of housing affordability, suggesting that the process of formalising informal settlements has been successful overall. Rather remarkably, most inhabitants of informal housing do not squat rent-free, but pay rent to a landlord. This suggests the degree to which there is an incentive to own.
Table 3: Slums and Income Inequality

<table>
<thead>
<tr>
<th>Country</th>
<th>Income ratio (richest 20% to poorest 20%)</th>
<th>Slum dwellers (% of urban population)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sierra Leone</td>
<td>57.6</td>
<td>96</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>48.8</td>
<td>81</td>
</tr>
<tr>
<td>Guatemala</td>
<td>46.0</td>
<td>62</td>
</tr>
<tr>
<td>South Africa</td>
<td>45.9</td>
<td>33</td>
</tr>
<tr>
<td>Lesotho</td>
<td>43.4</td>
<td>57</td>
</tr>
<tr>
<td>Honduras</td>
<td>42.7</td>
<td>18</td>
</tr>
<tr>
<td>Nigeria</td>
<td>40.8</td>
<td>79</td>
</tr>
<tr>
<td>Cameroon</td>
<td>36.6</td>
<td>67</td>
</tr>
<tr>
<td>Kenya</td>
<td>36.1</td>
<td>71</td>
</tr>
<tr>
<td>Cambodia</td>
<td>33.8</td>
<td>72</td>
</tr>
<tr>
<td>India</td>
<td>33.5</td>
<td>55</td>
</tr>
<tr>
<td>Central African Republic</td>
<td>32.7</td>
<td>92</td>
</tr>
<tr>
<td>Bolivia</td>
<td>32.0</td>
<td>61</td>
</tr>
<tr>
<td>Morocco</td>
<td>30.9</td>
<td>33</td>
</tr>
<tr>
<td>Lao People Democratic Republic</td>
<td>30.6</td>
<td>66</td>
</tr>
<tr>
<td>Ghana</td>
<td>30.1</td>
<td>70</td>
</tr>
</tbody>
</table>


Housing and Transport: The Pacific Asian and Latin American Ways

One important key for the people in such areas is to help them formalise their housing: to use communal self-help to provide the necessary infrastructure, so that they begin to turn their informally-built areas into middle-class neighbourhoods. In countless Latin American cities, it has been happening and is still happening. In many eastern Asian cities, the approach has been different: the city itself has intervened to tear down informal neighbourhoods and provide high-quality housing, first for rent, later for sale, either through public provision or, increasingly, by policies that foster the growth of owner-occupation, as now in Singapore. There is no one right way here; there are different paths towards the same goal.

The UN-Habitat 2003 report contains a number of urban case studies, several located in Latin America. Bogotá demonstrates forty years of "informal" growth – here, mainly not due to squatting, but to illegal subdivision. Vast settlements such as Ciudad Bolívar, Bosa and Usme at first lacked water, drainage, sewerage, power, education and health care. But they saw consistent improvement, in which the city authorities worked collaboratively with local inhabitants (UN-Habitat 2004, 88).

Here in Bogotá, which is characterised by a special form of low-income neighbourhood called the *barrio pirata* (pirate neighbourhood), formed not through land invasions through an informal process of land subdivision and granting of title, there has recently been a huge “de-marginalisation mega-project”, which between 1998 and 2000 used a budget of US$800 million to construct 110 kilometres of local roads, 2300 kilometres of drainage, six hospitals, 51 schools, 50 parks, four major public libraries and legalising 450
settlements. It did not fully achieve these targets, falling significantly short on surfacing and lighting of roads, partly because it depended on the sale of a telephone company that failed to go through — but it is nevertheless impressive. The problem, as in so many other Latin American cities, is that though the city achieved measurable and significant improvements on key measures¹, none the less poverty rose sharply (from 35% below the official poverty line in 1997, to 49.6% in 2000) and income inequalities grew as more and more internal refugees flood into the city escaping political violence outside, causing new household formation to surge ahead of housing provision (Skinner 2004, 80-1).

The São Paulo case study demonstrates that here, there are two distinct kinds of slum: corticos (rented rooms in subdivided inner-city tenements), of very poor quality but close to jobs and urban services, and favelas, found everywhere, but for the fact that in the city itself, private owners tended to regain possession of squatted areas - two only survive here, both very large (Heliópolis and Paraisópolis) but the great majority are now found in the poorest, peripheral, environmentally-fragile areas (UN-Habitat 2004, 89).

Mexico City produces two case studies in the UN-Habitat 2003 report. The first, Nezahualcóyotl, concerns a huge irregular settlement that developed from the 1950s on a drained lake bed outside the federal District. Here, legal title was ambiguously legal: speculators “sold” plots and the state government subsequently regularised title. But the resultant developments lacked basic services such as paved roads, lighting, water and main sewerage. From the end of the 1960s a citizens' movement, Movimiento Restaurador de Colonos, successfully campaigned to secure progressive legalisation of titles and basic servicing, even extending, at the Millennium, to extension of the Metro outside the Federal District. As a result, by the end of the 1990s, only 12% of the area was still held in irregular title. But the quality of basic services varies greatly: 63% of households have inside water supply, but 15% still have poor roofing (UN-Habitat 2004, 94).

The second Mexico City case study concerns the Valle de Chalco Solidaridad, a vast informal settlement south east of the federal District. This was an agricultural area, where in the early 20th Century, after the Mexican revolution, the land was expropriated and given to the peasants. But after 1950 the plots became uneconomic to farm at just the time when, resulting from urban sprawl, the land became attractive to speculators. The land was subdivided and sold on credit, and between 1970 and 2000 the population rose from 44,000 to 323,000. Here, too, by 1998 90% of the plots had regularised title, and major infrastructure had taken place. Even so, at that date basic housing conditions remained very bad: 78% of households had no inside tap, 40% still had cardboard roofing, 20% lived in one room (UN-Habitat 2004, 91).

The conclusions from these UN-Habitat case studies are very clear, and they give mixed signals. Informal settlement tend quite rapidly to become regularized, and their inhabitants to receive legal title, while services are progressively provided: first basic ones like piped water, sewers, paved streets and street lighting, then more advanced services like schools, libraries and even Metro service. But the resultant provision is still incomplete, with different standards. Meanwhile, the entire invasion/improvement process ripples ever farther out from the urban core, bringing a problem of access to jobs, with long commuting distances and even longer times. As a result, the quality of transport service becomes crucial.

¹ Between 1993 and 2001, the percentage lacking more than one of five key measures — inadequate housing, lack of drinking water or sewerage, overcrowded shelter, non-attendance at school by at least one child in the household, and dependence of more than three household members on a head with less than four years of primary school — fell from 3.5 to 2.4.
Here, too, there is a basic difference in approach. Some Eastern Asian cities have deliberately encouraged high-density development which will support a top-quality metro system – and some, like Hong Kong and Singapore, had no choice because they had so little land. China seems to be going the same way, as can be seen in Shanghai. Some Latin American cities, in contrast, have made extraordinary innovations in operating bus systems to serve their more far-flung residential neighbourhoods – and one of the most extraordinary of all, Curitiba in Brazil, has created a bus system that works like a metro, with local buses that feed into an express system travelling on its own tracks; Bogotá in Colombia has developed a very similar system.

Latin American cities, above all Brazilian cities, have taken a world lead over the past thirty years in developing highly innovative urban bus-based transit systems. For this there have been very good reasons. As we have seen, rail-based metro systems have been far less developed, especially 30 years ago; Brazilian cities simply lacked the resources for expensive tunnelled rail systems, and made a virtue out of necessity. Curitiba’s “Bus Metro” system was the great pioneer, widely hailed and now widely imitated in cities as diverse as Bogotá, São Paulo and many others. Brazilian engineers took the lead in developing these solutions. But at their best they involved not just engineering but also planning approaches, since they integrated bus service and land use planning.

The central feature of the Curitiba system is a variety of services – express buses running along special bus corridors, orbital services and local services, all integrated through high-speed transfer stations at a variety of points all over the city, and used as the basis of a land-use policy that encourages high-density development and redevelopment along the express corridors. The buses on the express corridors are very high-capacity bi-articulated vehicles with a total capacity of 270, more akin to a light rail train than an ordinary bus. Painted red, they interchange at the transfer stations with buses running on orbital routes from suburb to suburb, painted green, and with local feeder or “conventional” buses painted yellow. The comparative capacities of the buses on the different systems vary greatly. All are operated privately on a franchised system. The express corridors have been deliberately developed through planning and zoning controls for very high-density, high-rise mixed development – as is very evident from the tourist’s view from the top of the city’s television tower.

Thus Curitiba’s success became a Brazilian success. Brazilians make over 60 million bus trips a day; Americans, living in a country with twice the urban population, make only one third as many. Brazilian cities demonstrate some of the highest rates of bus ridership in the world: São Paulo and Rio between them have about as many daily bus journeys as the entire United States, which has ten times their combined population. All the major Brazilian cities have made major innovations in bus operation: in the 1970s, São Paulo and Porto Alegre pioneered the idea of running buses in convoys along a dedicated lane, and Porto Alegre developed an integrated paratransit system. These innovations were driven by necessity: bus-based transit systems average $5 million per mile ($3 million per kilometre) against $20-$100 per mile ($12-62 per kilometre) for light rail or metro systems. The success of these bus-based solutions – urban bus operations in Brazil yield positive net revenues of over $3 billion per year – have created a flourishing export industry, with worldwide consulting operations; the engineer Pedro Szasz, developed the bus convoy systems in São Paulo and Porto Alegre, engineered the combination of local, skip-stop and express services that constitute the Transmilenio Bus Rapid Transit (BRT) in Bogotá (Golub 2004, 4-5; Skinner 2004, 78).

But there’s a funny point: if you visit Singapore and Curitiba, the two cities look very alike, because both have integrated their land use and transportation policies, encouraging high-density and high-rise development along their main transportation corridors. Again, there’s more than one way towards the same goal, but in the end the outcomes may be very similar.
It's no accident, perhaps, that Curitiba and Singapore are now two of the richest cities in this group; in effect both have made the transition into the developed world, and both are technologically and organisationally among the world's most advanced cities. These cities are leading their countries in technological and organisational innovation, showing the way for other cities either to imitate them or to go in a different, equally innovative, direction. That is the path of rapid development.

There are some important conclusions, therefore, regarding transport. Latin American cities demonstrate that bus-based cities do work: they can deliver good service, with high passenger volumes, at remarkably low cost. But there is a basic question. Can they do so everywhere – especially, to the urban periphery? If they fail to do this, is the urban transport problem in the largest cities destined to become steadily worse? I want to argue that it will not, because of the emergence of a new urban phenomenon: the Mega-City-Region.

A New Urban Phenomenon: The Mega-City-Region

Another key difference between the great cities of a century ago, and now, is this new phenomenon: the Global Mega-City-Region. This is a pattern of extremely long-distance deconcentration stretching up to 150 kilometres from the centre, with local concentrations of employment surrounded by overlapping commuter fields, and served mainly by the private car. The Pearl and Yangtze River Deltas in China and South East England, around London, are two of the world's leading examples of this phenomenon. In Pacific Asia, it has recently been predicted that by 2020 two-thirds of the population of the ASEAN group of countries will be found in only five MCRs: Bangkok (30 million), Kuala Lumpur-Klang (6 million), the so-called Singapore Triangle (10 million), Java (100 million) and Manila (30 million). In adjacent Eastern Asia, these agglomerations are even bigger: Japan's so-called Tokaido corridor (Tokyo-Nagoya-Kyoto-Osaka-Kobe) is predicted as having a total population of 60 million, China's Pearl River Delta (Hong Kong-Shenzhen-Guangzhou) 120 million, and the Yangtze River Delta (Shanghai-Suzhou-Hangzhou-Nanjing) 83 million (McGee 1995, Wo-Lap 2002, quoted in UN-Habitat 2004, 63).

The precise spatial details vary from country to country according to culture and planning regime, and for this reason population figures and predictions should be treated with caution, but the pattern is emerging very clearly and very rapidly around some of the largest cities in this second category: it is very evident around São Paulo, and has recently been analysed in some detail by Adrián G. Aguilar and Peter M. Ward for Mexico City (Aguilar and Ward 2003).

Latin America is highly urbanised. In 2000, in Latin America and the Caribbean, 75.4% of the total population, 400 million, were urban; 31.6% of the total population, 41.8% of the urban population lived in cities of more than one million, while 15.1% of the total, 31.5% of the urban population, lived in metros with 5 million and more people. And these included some of the biggest urban agglomerations in the world: Mexico City, with 18.1 million, 2nd; São Paulo, with 17.9 million, 3rd; Buenos Aires, with 12 million, 11th; and Rio de Janeiro, with 7.4 million, 15th. Also in this list were Bogotá (6.8 million) and Santiago (5.5 million) (UN-Habitat 2004, 64).

However, it is extremely important that the term “city”, in this sense, is not the administrative entity but a much larger metropolitan area. In the largest cases, such as Mexico City and São Paulo, it is in fact an equivalent of the Asian mega-city region. These mega-city-regions develop through a complex process of
simultaneous decentralisation at a regional scale, and recentralisation at a more local scale: a process that Dutch planners in the 1960s called “concentrated deconcentration”. Thus they are increasingly polycentric. In recent decades, it has been observed that central city growth has slowed while peripheral growth has speeded up. As the UN-Habitat 2004/5 report notes, “…significant shifts from city-centred to regional forms of urbanization are currently taking place” (UN-Habitat 2004, 65): multi-nodal, urban regional systems are developing, in which many sub-centres are independent in terms of their social and economic patterns, but are functionally linked to the big city, a process that in a recent European study we have termed functional polycentricity (Hall and Pain 2004). In the Mexico City metro, more than half the population lives outside the central Distrito Federal, which is generally regarded as the city. In São Paulo, the city contains 10 million people, just half that found in the wide metropolitan area (19.8 million). In Buenos Aires, out of a total metropolitan population of 12 million, only 3.5m live in the Capital Federal (UN-Habitat 2004, 65-66).

Failure to appreciate or understand this process has led to some quite serious errors. In the 1970s, urban analysts incorrectly predicted further explosive growth of metro areas: Mexico City for instance was predicted in UN publications as growing by the year 2000 to 30 million. In fact, almost as these predictions were being made, growth tapered sharply and stopped at the 20 million point. There were two reasons for this, neither having conspicuously much to do with planning. First, because of obvious emerging negative externalities in the Mexico City metro, migrants from rural areas diverted to second-order cities such as Guadalajara and Monteray. Secondly and even more significantly, within the general ambit of Mexico City growth diverted to “secondary cities” at increasing distances, many informal settlements of vast size such as Nezahualcóyoitl and Ecatapec, located in the adjacent State of Mexico (UN-Habitat 2004, 50, 65).

Aguilar and Ward show that Mexico City's Federal District is now merely the core of a huge and polycentric mega-city-region stretching up to 100 kilometres and more from the Zócalo. In fact more than half the population of the region is now found outside the District. Over the last 35 years, population growth has rippled out in concentric circles at steadily increasing distances from the city centre, and the most rapid growth is now in the peripheral areas. This outer zone is characterised by huge informal settlements like Ecatapec and Nezahualcóyotl, with up to one or two million people apiece. Very significantly, these settlements suffered from serious deficiencies in basic infrastructure thirty years ago, but had largely caught up by the 1990s (Aguilar and Ward 2003, passim). I will return to that point a little later.

Equally important however is another point: these outer areas are not just vast residential zones. They now contain economic subcentres which are increasingly important in their own right. And in this process, which could be called the increasing polycentralisation of the region, there is an increasing specialisation of function: the more advanced or formal parts of the economy remain within the Federal District, even in its core, while the outer centres attract manufacturing and retail functions. To the north these are dominated by heavy, large-scale and high-technology enterprises such as metallic and chemical industries; to the east, they are dominated by small-scale informal activities; in some parts of this zone, significantly, there was a decline in employment in traditional craft industrial employment. But there was also a notable growth of tertiary activity in this zone along major transportation corridors (Aguilar and Ward 2003, 15-16).

The process has distinct advantages. As jobs develop in the outer rings of these metropolitan areas, the burden of commuting can lessen. In Bogotá, though population grew 40%, it was found that travel distances stayed the same (UN-Habitat 2004, 52).
The Basic Emerging Problem: Governance in the Mega-City-Region

There is currently a basic problem with all these Mega-City-Regions: they suffer from fragmented governance. The Mexico City metropolis has 28 municipalities, and more than half the population lives outside the Distrito Federal. The São Paulo metró is similarly divided among 39 districts/municipalities; Rio de Janeiro among 13 municipalities, and Buenos Aires among 20 municipalities that enjoy varying degrees of autonomy; the Curitiba metropolitan area is governed by no less than 25 municipalities (UN-Habitat 2004, 58, 66). This last case is particularly significant: within the Curitiba metropolitan area the population of the city accounts for only 61% of the population - and is falling. And, despite the legendary worldwide reputation of the city for delivery of highly innovative services, the evidence from the wider region is far less encouraging: 500,000 live below the Brazilian official poverty line, there are 89,000 substandard units in 903 problem housing areas, only 58% of the area is sewered and only 35% of the sewerage is treated. A regional planning authority, COMEC, has existed for nearly twenty years and has generated plans but no action, because it has no effective powers (Macebo 2004, 547-8).

In conclusion, therefore, the overwhelming need in all these great metropolitan areas is for effective metropolitan governance across the entire mega-city-region. Such regions are the new reality of urban existence in the 21st century. They are, as earlier said, both the solution and the emerging problem. They are a Solution because the offer the prospect of re-equilibrating homes, jobs and transport across a new and vast spatial scale. But they are also the Problem because this demands effective planning, powers and action across a very wide Metropolitan scale. Unless this opportunity can be grasped, the evident risk is that such regions will be characterised by a deepening economic and social imbalance and polarisation, between rich central cities and marginalised poor peripheries. The signs are already evident. There is some time to grasp the problem and resolve it - but, perhaps, less than we think.

References


As Sir Peter Hall notes in his preface, the “Urban Revolution” now occurring largely in developing countries presents great opportunities and risks. Urbanization can help raise standards of living, provide the infrastructure and services for immense improvement in human welfare, and free people from the bondage to land and total dominance of the daily struggle for food. The attractive neighborhoods and downtowns, efficient transport, many amenities, impressive social indicators, and high standard of living of Singapore and Curitiba signal this potential.

However, if mismanaged, the urban wave can bring a sharp rise in urban poverty, result in surreallyistically desperate conditions, and foment disease and violence. The pavement dwellers of Mumbai living cheek by jowl with the immense wealth of this commercial capitol of a newly-prosperous India, and the seemingly endless slums and hovels that consume many sub-Saharan African cities are emblematic of this other urban present and possible future.

Urban land lies at the center of many of these opportunities and risks. Assembling reasonably priced, well-located land parcels has become the most crucial challenge for affordable housing development. When— as is often the case — such programs are unavailable, the low/moderate-income majority in many developing country cities usually cannot afford to purchase the least-expensive commercially-built home and, instead, use “informal” systems to house themselves. Such “progressive housing” also starts with and depends on access to a lot. Similarly, efficient transport and the ability of households to connect with jobs and services depend on land-use and density.

Near the start of the great urban wave in developing countries—in the 1950s—poor households migrating to cities from the countryside could, with some frequency, find centrally-located low-cost land on which to settle. The film “Black Orpheus” that re-creates the myth of Orpheus and Eurydice in the shantytowns on the steep hills with panoramic views above Rio de Janeiro paints an idyllic picture of favela life at this time. It is impossible to imagine that such a lyrical film on favela life would be made now. Indeed, the Brazilian cinema currently produces many gritty, neo-realist films featuring the blow-back from the spread and worsening conditions in favelas, including street orphans, kidnapping, and urban violence.

In this regard, the era of easy access to urban land is long gone in most developing-country cities. Continuing urbanization has used up the most developable areas around many cities. Although government agencies frequently own some land in urban and peri-urban areas, large development companies that build mainly for middle and upper-income households now appear to own most of the remaining developable parcels. The low rates, high technical requirements, and political difficulties of the real property tax in developing countries allow such large landowners to continue to hold their parcels at little cost. Without mitigating measures, land titling and other market reforms have resulted in the “commodification” of land and housing (Durand-Laserve), often raising prices and excluding the poor. For many reasons, urban land has now become the main “binding constraint” to housing the poor.
This anthology collects and organizes 32 papers presented at the International Urban Research Symposium held on April 4-6, 2005 in Brasilia focused on urban land. IPEA and the World Bank jointly sponsored this event.

The papers presented at this 2005 Symposium have been organized around six key themes in the sections of this anthology:

- Land markets, land development, and land policy
- Secure tenure, property rights, and informal land delivery systems
- Informal settlement, slums, and upgrading
- Transport, density, urban planning and urban form
- Housing markets and program design
- Development on the urban fringe and the city center, and the environment

The remainder of this general introduction briefly describes these six thematic areas. In addition, the “section introduction” to each of these six sections in the text of the anthology will delve more deeply into these themes in order to place each paper in a useful framework.

**Land markets, development and policy.** Legal land development for low-income households has dried up or is in the process of drying up in many developing country cities. For example, in Buenos Aires, the formal submarket for sales of individual lots in monthly installments to low-income households was important from 1950 to 1970 (World Bank, 2006), but has disappeared since then – see Box 1. During this period, land developers extended purchase-money loans to buyers (typically 150 monthly installments) – the most common form of credit finance for selling lots to low-income households in emerging countries. However, indexation of such contracts mandated by government, hyper-inflation during the 1990s eliminated these loans. As a result, many subdivisions remain largely unoccupied on the fringes of Buenos Aires, and legal low-income land markets are paralyzed (World Bank, 2006).

Simply adding money – either through subsidies or credit finance – without addressing such land bottlenecks results mainly in raising land prices. Put another way, the inelasticity of supply produces mainly higher prices rather than more units when demand increases.

The mounting pressure on urban land has driven the rise in the price of housing, and made housing markets surreally dysfunctional in many major metropolitan areas of developing countries. In Dhaka, for example, the price of the median house is a startling 106 times the median annual household income. In comparison, the highest-priced metropolitan housing markets in the U.S. – New York City and San Francisco – have median-price-to-annual-household-income ratios of around 6.

The extreme pressures on and high cost of land have also lead to innovative approaches to land development that, in effect, lower the price and capture a portion of the added-value of public investment in urbanization. In particular, Asian countries – Singapore, Hong Kong, and, most recently, China - have taken measures to lower the cost basis of urban land for affordable housing and other types of development. Earlier, Japan and South Korea encouraged owners of land on the urban fringe to pool their property as a means of more efficient development – a method called “land readjustment.”

Some governments own considerable amounts of land in peri-urban and urban areas that is significantly under-utilized. Publicly-owned land frequently has fundamental importance for both the public and private
sectors. Typically, however, public landownership remains fragmented among many different agencies at various levels of government, each with its own mandate and administrative turf to be guarded. The ownership and legal rights to particular parcels are often in confusion. Hence, the first step usually consists of inventorying publicly-owned land along with selected privately-owned plots to clarify the legal status of these vacant or under-utilized parcels. Such investigations usually show that some parcels can be developed in a straightforward way. Other parcels are likely to have complex ownership problems that are difficult to solve in the short term. Clarifying the legal status of these parcels represents a pre-requisite for action to stimulate their use such as incentive mechanisms to place privately-owned property on the market.

The first two papers of this anthology’s first section explore innovative efforts to transform urban land development in order to reduce greatly its cost for affordable housing and other uses. In Iran (Keivani, Mattingly, and Majed), government limited the size of individual land holdings, resulting in transfer of large amounts at low cost to the public sector, which passed on these benefits to individuals and developers, and resulted in housing roughly 7% of the country’s lowest-income households. Maldonado analyzes the experience of Colombia with a new legal framework for land readjustment that captures a portion of the value added by public investment in urbanization in order to finance and develop affordable serviced lots. The third paper (Pearce-Oroz) investigates the institutional realities and limits of urban land markets – which are often captured by a small elite – in the context of massive reconstruction aid after Hurricane Mitch hit Honduras in 1998. The fourth and final paper of this section documents the failure of the local property tax in Peru to produce substantial revenue due to weak local governance – a common problem in emerging countries – and the introduction of tax collecting agencies independent from municipalities that has led to great increases in property-tax revenue, although from a miniscule base.

**Secure tenure, property rights, and informal land delivery systems.** The drying up of legal low-income land markets leaves illegal development (variously termed “pirate”, “informal”, and “clandestine”) and informal markets as the main source of land for low-income settlement, and the progressive housing process as the principal means of occupation and building of habitat in many developing country cities for low/moderate-income families. Typically, households invade land or purchase a lot in an informal sub-division and build their housing over 10 to 15 years. They finance this construction largely through their own savings, but also though many other sources including small loans, pension funds (if available), and mutual-aid arrangements with other families. As the families consolidate the house, the community lobbies for services and greater tenure security. The legal upgrading of community and the extension of services parallels the physical upgrading and building of the individual houses. Thus, progressive housing is partly an individual process – that of the house - but with a strong collective component – upgrading of services and legal status of the community.

Informal land delivery mechanisms constitute parallel systems for land development and tenure. Although these “para-legal” systems are lower cost, they are often less transparent. Again, Argentina – a middle-income, relatively sophisticated country - provides one example. Households may obtain ownership through peaceful occupation of land for 20 years, in general, and for 10 years in limited cases, and a 1994 law provides for registering the purchase agreements for such lots to increase security of tenure. This informal land system co-exists with the formal registration of property deeds. However, the cost of formal-sector registration typically ranges from US $400 to $700 including title expenses, and most low-income purchasers of lots on installments from land developers in the 1950s and 1960s have yet to sign their deeds due to lack of funds (World Bank, 2006).
These parallel informal systems also often out-compete the formal ones. In effect, the entry costs are much lower (although the total costs over time usually far exceed those of formal-sector development) and the characteristics appear better suited to the needs and effective demand of low/moderate-income households. That is, informal development typically demonstrates some combination of: (a) more central location (closer to jobs and social networks crucial to the poor); (b) larger lot size that allows poor households more room to expand and customize their habitat to their needs (larger families, home-based micro-businesses, urban agriculture); and (c) more flexible financing terms (payments can be missed if justified by temporary sickness, job loss, or other compelling causes) better suited to these household’s intermittent informal incomes and employment, although interest rates are usually very high. In addition, informal land development also often benefits from the implied promise of subsequent service provision and upgrading by government, largely at public cost. These benefits get capitalized to some extent into a higher price that households pay illegal developers for a lot of raw land.

“Secure tenure” of land protects these households against eviction and bull-dozing of their communities. Hence, it provides the foundation for households to invest progressively in their homes and build their communities. Full legal title backed by modern land systems (property registry, cadastre, effective legal enforcement) gives the greatest security of tenure, but is costly, technically demanding and often pushes the entry price of access to the lot beyond the reach of low/moderate-income households. In many regions, intermediate and traditional forms of property ownership have provided a sufficiently secure basis for the progressive land and housing process.

Other aspects of property rights systems offer ways to address urban-land issues including: group rights vs. individual rights; and leasing/rental as opposed to ownership. Individual rights facilitate markets and transparency, but are problematic in reaching low-income households. Experiments with group rights in low-income communities — such as in Recife and Porto Alegre, Brazil and the Community Land Trusts of Kenya (see Payne) — have proved interesting, but hard to ramp up.

Rental housing and long-term land leases have theoretical virtues. Long-term land leases, in principle, can offer security of tenure sufficient for financing (Deininger, 2003). Informal rental housing in poor neighborhoods already provides the main source of rental accommodation in most developing countries (Gilbert). Typically, households build an extra room or unit onto their existing home (horizontally or vertically) and rent it as a source of income. As they do not have to pay extra for land and gain other economies (e.g. existing clandestine and legal service connections) from their adjacent owner-occupied unit, such accessory units are the least expensive way to produce low-income housing. Subsidized rental housing is the main form of affordable housing in most affluent countries.

Thorny technical and political problems, however, make the expansion of formal low-income rental housing and leasing of land difficult and rare in emerging countries. From a technical perspective, no one has solved the problem of who will own, operate, and maintain low-income rental units in a way that ensures satisfactory affordable shelter, and that channels the benefit of any public subsidy or publicly-financed improvement largely to the low-income renters rather than mainly to the owners. Western Europe, the U.S., and Canada use networks of sophisticated non-profits and/or municipal corporations supported by public subsidy systems backed by a well-functioning legal framework to operate, maintain, and — increasingly — develop affordable rental housing.
However, most low and middle-income countries still lack such organizations and the funding and legal/regulatory structure necessary to make this approach work, although a few are beginning to develop affordable rental systems (e.g., Singapore, Hong Kong, China). From a political perspective, most developing-country governments find production of homeowner units much more rewarding than support of rentals. In many regions—particularly in Latin America and South Asia—it could be argued that a strong cultural preference for homeownership eclipses any government effort at rentals, except for rent control, which generally shuts these markets down and ends up greatly reducing the stock of rental units. In contrast, the bulk of urban dwellers in some parts of sub-Saharan Africa view their urban residence as a transient place for commuting to work in the city before returning to their real homes in their tribal areas, and rental accommodations are much more common.

The first paper of this section (Durand-Laserve) documents how increasing pressures on urban land and the “commodification” of shelter and settlement has increased “market evictions” of families holding intermediate title to property, although international declarations and pressures have contributed to reducing “forced evictions.” The second paper (Mooya and Cloete) uses the tools of the New Institutional Economics to analyze the argument in Hernando De Soto’s path-breaking book, The Mystery of Capital, that full legal title is the key to turning “dead capital” in the form of informal property held by many low-income families into an economic asset and to detonating broad-based economic growth. The paper concludes that intermediate forms of tenure can have the virtues of full legal title if properly constructed, and then examines the case of Namibia in this context. The third paper (Fernandes) documents and assesses the recent efforts of the Brazilian federal Ministry of Cities to develop a comprehensive approach for regularizing title throughout that country. In the fourth paper, Abramo gives a structural and theoretical overview of informal settlement in Brazil. The fifth paper (Rakodi) looks at traditional land delivery systems in five medium-sized Sub-Saharan African cities, and concludes that policies and programs can build on their strengths.

**Informal Settlement, Slums, and Upgrading**

Although progressive housing is a crucial solution, it is also an immense problem that exacts enormous public and private costs when unguided. Increasingly, tight land markets force households to settle on precarious locations including ravines, steep hillsides, marshes, riverbanks, garbage dumps, watersheds, sidewalks, the edges of public facilities and infrastructure lines and associated rights-of-way, and distant sites far from existing infrastructure lines that are often environmentally fragile or inappropriate. Alternatively, these families crowd into ever-denser existing informal settlements: inner-city tenement units divided into many rooms with each rented to a family; and shantytowns on the urban fringe and beyond that expand horizontally into every free space and then vertically by adding stories to existing structures.

Slum upgrading involves retrofitting these areas with infrastructure to create a viable road network underlain by water lines, and accompanied by drainage and sanitation. This process often requires relocating a modest share of a slum’s population (around 5%)—frequently, a problematic and costly step. Slum upgrading frequently occurs piecemeal and without an overall plan or layout, mainly close to election time when candidates for political office trade an improvement or commitment for an improvement for votes. In contrast, “integrated” slum upgrading programs provide the missing basic services together based on a plan, and—often—join them with organized community participation and selected social and economic services and with legal tenure.
these reasons, retrofitting these areas through slum upgrading is usually much more expensive than new formal-sector development. Government typically ends up absorbing the high capital costs of improving or replacing the infrastructure of these communities, selective resettlement, and regularizing their legal situation.

The relatively high costs of slum upgrading have created problems for financial sustainability and program scale. Particularly when an integrated approach is taken that lifts these areas to standards approaching (but still below) those of the rest of the city, the high cost per household tends to make these programs into boutique, small-scale efforts. The model project looks good, but cannot be expanded much.

In addition to the public costs of upgrading programs, informal housing development also has high costs for families. The process of home construction is typically long and wasteful. One market study (see Box 3) found that building a basic 2-bedroom house takes Mexican families 11 years, and costs 30% more because of the high cost of small purchases of building materials, theft and damage of these materials, and poor planning. Households also end up paying high sums for purchasing a raw lot, for improving security of tenure, for basic services (e.g. private water supplied by tanker, which is typically 5 to 10 times the cost of publicly-supplied water) prior to consolidation, and to save and to borrow sums for the steps in the progressive housing process. Irregularly-settled neighborhoods also have substantially higher levels of crime and insecurity than other neighborhoods of a similar socio-economic profile. The bad reputation of these neighborhoods can brand their residents, and make them largely unemployable in the formal sector (e.g. Jamaica).

The high public and private costs of upgrading existing slums have called attention to the importance of slowing the formation of new slums through getting ahead of demand by expanding low-income land development. This strategy holds particular importance in South Asia and Africa where urbanization is still cresting. Most medium and large developing-country cities are still growing at rates that will double their size in 20 to 25 years. The global population is projected to increase by 1.5 to 2 billion over this period, and the bulk of these people will constitute low-income households living in developing country cities. Where will all these new city residents live? As Payne notes, the international community has come to realize that the “real challenge of slums is two-fold:”

First, there is a need to improve the living conditions of people living in slums and various types of unauthorized settlements. And second, there is an equally urgent need to create conditions in which all sections of urban society, especially the poorest and most vulnerable, can obtain access to legal, affordable shelter in ways that prevent the need for future slums and unauthorized settlement.

In the first paper of this section, Abiko, Azevedo, Reinaldelli, and Haga quantify slum upgrading costs in Brazil, and find that providing a basic package of services costs through these programs costs around three times (US $3,000) that of formal-sector development (US $1,000) on average, although these costs range widely between simple and complex projects. The second and third papers show that the likelihood that certain areas will become slums and that households will become slum dwellers can be predicted, and – thus - that proactive advance planning can have a large impact on meeting the challenges of slums. Sietchiping's application of a Geographic Information System based on mathematical “cellular automata” dynamically maps urban development in Yaounde (Cameroon in West Africa) and predicts the location of slums with 73% accuracy. Piedade, Oliveira, and Albuquerque use a probit model to determine the likelihood that Brazilian households with specific socio-economic characteristics (higher unemployment, lower quality of employment, lower schooling, higher household sizes, etc.) will live in a slum. The fourth and final paper
(Betancur) examines an integrated slum upgrading program in the context of urban violence and local politics in Medellin, Colombia.

**Transport, density, urban planning and urban form**

The immensity and paradoxes of the urban land challenge suggest that the most effective solutions must join the micro level of projects with that of the macro-development of the city region as a whole. Here, innovations in transport and urban planning, systems of settlements and the form of large metropolitan areas are crucial.

Urban-density studies (such as density-gradient analysis) demonstrate that housing and transport are a binomial equation. Improvement in urban transport opens up much larger land areas for residential development and improves economic productivity. In turn, higher residential densities make public transport systems economically feasible. The form of metropolitan areas is crucially important to both housing and transport. This is particularly true for the immense urban agglomerations – or “megopolitan areas” – that contain an increasing share of populations – such as those of Mexico City, Sao Paulo, and Jabotabek (i.e. Jakarta and surrounding areas).

Based on the experience of Asian megopolitan areas, Laquian concludes, “allowing a monocentric settlement to grow in an uncontrollable and haphazard fashion is a recipe for disaster... (These areas are) sprawling, and extremely expensive to provide basic services.” Instead, macro land-use decisions and other measures can create poly-nucleated urban region. Traditional master planning (zoning, subdivision regulation), typically leaves blank spaces for the huge informal settlements within developing country cities, and is of little use. Instead, strategic plans should focus on systems of settlements. Relatively simple actions such as laying out main roads in a rational way (Angel) in expansion areas can also have an important impact.

Improving the governance and management of metropolitan regions (Freire and Stren) has crucial importance for implementing such macro approaches. However, many metropolitan regions in developing countries as developed countries are fragmented into dozens of local jurisdictions and authorities, and the institutions for coordination among them are only gradually emerging.

The first paper (Serra, Dowall, Motta, and Donovan) examines the form of three Brazilian cities – Recife, Curitiba, and Brasilia – through calculating population density gradients and regression analysis of the determinants of land prices. The relatively well-functioning land markets of Recife and Curitiba contrast with those of Brasilia, and raise important issues for social welfare and economic development. Coelho and Irving continue this type of analysis by calculating density gradients for 10 Brazilian cities. The third paper (Graham) concerns the links between city size, productivity, and infrastructure provision through calculating elasticities of productivity with respect to city size for different industrial sectors in the United Kingdom. Kumarage then examines the impact of transport investment on urban poverty and land development in Colombo, Sri Lanka, concluding that improving transport holds key importance for low-income households. The final paper (Pujol) analyzes the metropolitan development of San Jose, Costa Rica. While Costa Rica has, in significant measure, met its housing challenge, many urban-development issues remain.

**Housing Markets and Low-Income Housing Programs**

Starting in the early 1990s, many governments and donors – influenced by the World Bank – adopted an “enabling markets” approach to housing (World Bank, 1993). The context of the emergence of this approach...
consisted of the fall of the Soviet Union and entry into the market system of a large share of the world's population (in China, India, and the Newly-Independent States), the poor results of highly-subsidized housing programs that attempted to replace the market in many countries – particularly in Latin America, the limited impact of sites and services and slum upgrading projects, and the Savings and Loan debacle of the 1980s in the U.S., where ignoring the logic of markets cost taxpayers US $500 billion.

The enabling-markets approach has encouraged reform of various aspects (land, property rights, infrastructure, housing finance, housing institutions) of the housing “sector”, and embraced land issues within a housing framework. This approach lead the World Bank to shift from supporting sites and services and slum upgrading – which were viewed as isolated projects with little systemic impact - to reforming and expanding mortgage credit in the hope of eventually pushing this and other aspects of formal-sector housing “downmarket” to reach low/moderate-income households.

Enabling housing markets has had a number of successes. In particular, mortgage finance – which was formerly available mainly in OECD countries – has now spread throughout the world (Buckley, 2005). However, formal systems - including mortgage credit - have largely failed to go downmarket to reach low-income households. In most countries, even moderate-income families remain left out of formal-sector housing and land systems. Meanwhile, the “informal sector” and slums – which appeared a limited market failure in the early 1990s – have continued to grow in many regions. In Sub-Saharan Africa, where many countries have urbanized rapidly without economic growth (Fay), these irregular settlements consume the great bulk of many cities. It is now clear that these impoverished, poorly housed, and poorly serviced areas are at least semi-permanent features of the urban landscape in many regions.

In retrospect, the initial enabling-markets approach appears too sanguine about the difficulties of creating “well-functioning” housing markets – where “everyone is housed adequately..... at a reasonable share of income” and “residential land is available at a reasonable price” (World Bank, 1993). The urban process is also much more complex and diverse now than when the World Bank first started its work (Buckley). Well-functioning housing and land markets are powerful but difficult to create and maintain, and must frequently be supplemented with interventions to overcome large-scale market failures. This is not only true in developing countries but also, arguably, in affluent countries. Housing affordability has sharply declined in Western Europe and the U.S. in recent years.¹

Some (Laquian) have speculated that the “enabling markets” approach appears to be a “transition to a moment when much greater and more systematic attention needs to be paid to housing, land, and urban development.” This is not just the job of the public sector. GDPs of developing countries as a whole are growing at over 6% per annum, compared to rates of around 2% for the developed world. Housing is the largest single investment of the low/moderate-income majority.

Surely, if markets are to play a substantial role in development, then the private sector could have a substantial role in low-income housing and land. However, the private-sector organizations that employ the most effective

¹ Although both the U.S. and much of Western Europe are in the middle of a housing market correction, housing affordability has declined steadily for half a century, particularly in large metropolitan areas. For example, the median house price-to-median household income for the U.S. as a whole has gone from 2 in the 1950s to over 3 today. Only more favorable finance (some aspects of which create greatly increased risks for households and for the financial system) and two-income families have kept the rate of homeownership from falling in the U.S.
management methods and that have the greatest capacity to help low-income households — multi-nationals and large local companies — generally do not understand low-income markets, and — with some notable exceptions (Prahalad) — have kept out of them. Instead, marginal producers and suppliers of land, building materials, finance and other inputs to the land/housing process dominate. The result is, too often, very high-cost, “savage” low-income housing and land markets (Buckley) in which local bosses and public and private mafias greatly increase costs at transition points.

Thus, the methods and models for involving the private-sector constructively in solving low-income housing problems largely remain pending. An encouraging exception is that of CEMEX, the third largest cement maker in the world, in satisfying markets for progressive housing in Mexico. The CEMEX Patrimonio Hoy program organizes small groups of families who commit to a 70-week saving program, arranges with local building materials suppliers to deliver high-quality product at competitive prices, and advances microcredit to these families in the form of delivering building materials well prior to payment by households. CEMEX operates this program through establishing offices located in low-income communities, and local “promoters” — 98 percent of them women — to inform local households about the program. Patrimonio Hoy has proved astonishingly successful, reaching 100,000 people in its first two years with plans to expand this number to 1,000,000 in the next 5 years. The program operates without subsidies and the other two of the top three cement manufacturers of the world — Folcin and Lafarge — have recently launched initiatives to reach the progressive housing market in a number of developing countries. Hence, the involvement of large corporations and application of modern management methods to low-income housing still has potential, despite the uneven results of a decade and a half of “enabling housing markets.”

Due to the crucial importance of urban land for the poor and the failure of the enabling markets approach to address this problem, a land-centered approach appears to be replacing a housing-centered approach to low-income shelter and settlement. Nevertheless, the traditional issues of housing finance — including how to join housing credit, housing savings systems, and housing subsidies to make shelter more affordable — remain.

On the real side, an important area for innovation and program design is the various forms of “low-cost housing solutions.” “Low-cost land and housing solutions” consist of a wide range of options that compose the steps of the progressive housing process. These include serviced and unserviced lots, rehabilitation and improvement, expansion, construction of a core unit on a lot already owned by the family (for replacement, to add a unit, for rental), tenure regularization, infrastructure and service upgrading etc). These incremental housing solutions cost a small fraction of purchasing of a new commercially-built unit. Thus, they represent a fundamental key to large-scale provision of affordable shelter and housing policy in many countries.

Joining such project approaches with new technologies including housing microfinance (Ferguson), organized community participation (Ruster and Imparato), and selective involvement of the private sector — such as the Patrimonio Hoy program of CEMEX — may hold the key to creating a new generation of more effective, more sustainable, and more massive low-income housing projects that really do reach the poor at scale. In this context, it may be time (Buckley) to re-evaluate the earlier experience of the World Bank and county governments with sites and services, and slum upgrading programs.

In contrast, many government housing programs still often focus on making moderate and middle-income families bankable in order to move formal-sector credit and other systems downmarket to these groups and to
spur economic growth. Physically, the prototype moderate-income housing solution in Latin America consists of a core expandable unit of 25 to 45 m² that families upgrade and expand in programmed steps, as need and available resources dictate; and, in East Asia, a 40 to 80 m² unit in a multi-storey building. The vested interests of the construction and development industry often play a large role in promoting this policy approach. However, most developing countries usually have a very small housing credit system and a potentially more important instrument is subsidies (Buckley).

The art of low-income housing program design consists mainly of joining financial resources (subsidies, credit, and household savings) with different types of low-income housing solutions to suit local housing conditions, the financial capacity of government to fund these efforts, and the institutional capacity of other key actors (housing NGOs, local governments, lenders) to perform their roles in these efforts.

Within the developing world, the housing programs of Latin America, and those of East Asia are particularly noteworthy. While Latin America has focused on housing subsidy systems, East Asia has emphasized forceful public management of urban land. The first two papers of this section examine housing programs in Latin America. Zanetta examines the decentralization of Argentina’s National Housing Fund to provincial governments during the 1990s, while Fonseca, Trani, and Wakisaka document the large effort of the state of Sao Paulo in affordable housing, in general, and the experience of its self-help housing partnership with the state’s municipalities, in particular. The third paper adapts the model used in the state of Florida in the U.S. for estimating housing need to Brazil. The last two papers deal with East Asia. Yuen examines the strikingly successful experience of Singapore, and Zhu surveys that of Singapore, China, Bangladesh, and Vietnam. The most successful Asian cases – Singapore, Hong Kong, and China – join forceful public management or ownership of urban land with private-sector development and ownership of the resulting units.

Development on the urban fringe, the city center, and the environment

Development on the urban fringe increasingly takes polarized forms in developing countries. Low-income households – although not the poorest, whose main priority is to locate close to jobs in the city center – tend to occupy sprawling informal subdivisions on the periphery. Subsidized government housing development for low/moderate-income families depends on the availability of low-cost land, also located on or beyond the urban fringe. At the other end of the income spectrum, the elite follow manufacturing subsidiaries of international companies (Buenos Aires, Curitiba, Sao Paulo), universities, locally-grown high-tech manufacturers and international service-providers (Bangalore and some other Indian cities), and commercial establishments to the suburbs, and increasingly live in gated suburban communities.

The resulting sprawl has strong negative environmental impacts. It consumes agricultural and environmentally-sensitive land. City growth also contributes to threatening an absolute global shortage of fresh water. Utility companies must go further and further afield to find sources, and spend skyrocketing sums on processing, pumping, and transporting it. De-salinization technologies may have a role to play here in coastal cities. Most troubling of all, sprawl joined with the export of old, highly-polluting automobile technologies from rich countries to China has substantially increased the carbon-dioxide emissions of the world, and contributed to global warming.

The alternative to sprawl involves greater densification of existing urban areas, particularly around transport nodes. In this regard, many larger and older developing-country metropolitan areas have come to assume the
donut form of U.S. cities. Congestion, crime, and departure of the middle-class to the suburbs leave a declining central city, which sometimes falls in population.

Redevelopment of central cities appears to make sense. After all, these areas already have infrastructure and services, and are much closer to jobs than the periphery. On closer inspection, however, the costs of purchasing, cleaning (necessary for “brownfields” sites formerly used for polluting industries), and developing centrally located sites are usually higher than development on the fringe. Strong public-private partnerships are essential to assemble sufficiently-large parcels of centrally located land to make such redevelopment projects economically viable. While redevelopment of central cities has a long history in the U.S. and Western Europe, most developing countries are only now beginning to build the institutions and legal framework for such partnerships.

The first four papers of this final section of the anthology examine the dilemmas of rapid development on the urban fringe – the pattern of most developing-country cities. The last two papers look at the theoretical advantages and practical difficulties of redevelopment of the central city and the densification of existing urban areas. Pantelic, Srdanovic, and Greene note that the distinct features of the urbanization of the past two decades constitute a “post-modern period” in which the segregation of the rich and poor increasingly makes low-income urban households vulnerable to natural and man-made disasters. Sridhar then examines suburbanization of newly-prosperous Indian cities. The third paper (Torres) analyzes the urban sprawl of the Sao Paulo metropolitan area, the expansion of its poor periphery, and the impact on the environment. The fourth paper of this section (Goytia) focuses on the polarization of development of the urban fringe into gated communities for the rich and slums for the poor in Pilar, a municipality in the northeast corner of the Buenos Aires metropolitan area. Aragao then investigates the central-city redevelopment experience of Paris and Barcelona, and compares it with that of Sao Paulo. The final paper of this anthology examines the densification of Guadalajara, Mexico’s second largest city, concluding that the methods to promote a more compact city are still incipient in this metropolitan area.

References


INTRODUÇÃO GERAL

SIMPÓSIO INTERNACIONAL SOBRE PESQUISA URBANA 2005

Mila Freire, Bruce W. Ferguson, Ricardo Lima, Dean Cira and Christine Kessides

Como observou Sir Peter Hall em seu prefácio, a “Revolução Urbana” verificada em especial nos países em desenvolvimento representa grandes oportunidades e riscos. A urbanização tem a faculdade de ajudar na elevação dos padrões de vida, pode oferecer a infra-estrutura e os serviços que resultam em enorme aprimoramento em termos de bem estar humano, além de libertar as pessoas do jugo da terra e do domínio total da busca quotidiana por alimentos. Os bairros e centros ararentes, o transporte eficiente, as várias amenidades, os impressionantes indicadores sociais e o elevado padrão de vida de Cingapura e de Curitiba são sinais desse potencial.

Por outro lado, caso seja mal administrada, a onda urbana poderá resultar em acentuado crescimento da pobreza nas cidades, gerando condições surrealisticamente desesperadoras e fomentando a doença e a violência. Os moradores de rua de Bombaim, que convivem lado a lado com a imensa riqueza desse capitolio comercial de uma Índia que vem recentemente conhecendo a prosperidade, e os casebres e favelas aparentemente sem fim que consumem tantas cidades da África subsariana são exemplos emblemáticos desse outro presente urbano e de seu possível futuro.

No centro de muitas dessas oportunidades e riscos, está o próprio terreno urbano. Encontrar lotes de terra bem localizados e a preços razoáveis é hoje o desafio mais crucial para o desenvolvimento de habitações acessíveis. Nos casos em que esse tipo de programas não estejam disponíveis – como ocorre com frequência – a maioria formada por pessoas de renda baixa a moderada em muitas cidades de países em desenvolvimento em geral não consegue pagar por uma casa mais barata construída comercialmente, recorrendo em vez disso aos sistemas “informais” para solucionar o próprio problema habitacional. Mesmo esse tipo de “habitação progressiva” inicia-se com o acesso a um lote, dependendo também dele. Da mesma forma, a eficiência do transporte e a capacidade das famílias de garantirem a conexão com seus empregos e serviços estão condicionados ao uso e à densidade da terra.

No período que caracterizou o início da grande onda urbana nos países em desenvolvimento – a década de 1950 – as famílias pobres que migravam dos campos para as cidades conseguiam com alguma frequência encontrar terrenos baratos e de localização central onde instalarse. O filme “Orfeu Negro”, que recria o mito de Orfeu e Eurídice nas favelas localizadas em morros ingremes e com vistas panorâmicas da cidade do Rio de Janeiro, pinta um quadro idílico da vida na favela na época. Hoje em dia, é impossível imaginar um filme lirico como esse sendo produzido sobre a vida que ali se desenrola. Na verdade, atualmente o cinema brasileiro produz muitos filmes neo-realistas ásperos, que descrevem os resultados das condições cada vez piores e mais espalhadas das favelas, incluindo os órfãos de rua, seqüestros e violência urbana.

Em relação a isso, na maior parte das cidades de países em desenvolvimento a era de acesso fácil a terrenos urbanos há muito tempo acabou, uma vez que o avanço da urbanização terminou por ocupar as melhores áreas para desenvolvimento ao redor de muitas cidades. Muito embora alguns terrenos localizados em setores
urbanos e periurbanos sejam frequentemente de propriedade de órgãos dos governos, as grandes empresas incorporadoras, que construem principalmente viaando famílias de renda alta e média, agora parecem ser donas da maior parte dos lotes adequados à construção que ainda restam. Os valores reduzidos, os altos requisitos técnicos e as dificuldades políticas dos impostos sobre a propriedade imobiliária nos países em desenvolvimento permitem que esses grandes proprietários de terras continuem mantendo os terrenos, incorrendo em custos reduzidos. Na ausência de medidas que venham a melhorar essa situação, de processos que formalizam a propriedade da terra e de outras reformas, o resultado vem sendo a “commodificação” da terra e da habitação em geral (Durand-Laserve), o que com frequência leva à elevação dos preços e à exclusão dos pobres. Por muitos motivos, a terra urbana tornou-se hoje a principal “restrição vinculante” à questão habitacional relacionada à população carente.

A presente antologia reúne e organiza 32 trabalhos apresentados durante o Simpósio Internacional de Pesquisa Urbana, realizado em Brasília de 4 a 6 de abril de 2005, sob o patrocínio conjunto do IPEA e do Banco Mundial, e que focalizou a terra urbana.

Os trabalhos apresentados durante esse Simpósio de 2005 foram organizados ao redor de seis áreas temáticas nas seções desta antologia:

- Mercados e desenvolvimento da terra e política do solo
- Garantia de posse, direitos de propriedade e sistemas informais de acesso à terra
- Assentamentos informais, favelas e urbanização
- Transportes, densidade, planejamento urbano e conformação urbana
- Mercados de imóveis residenrais e desenho de programas
- Desenvolvimento na periferia urbana e nos centros das cidades e o meio ambiente

A seguir, nesta introdução geral, passaremos a descrever brevemente essas seis áreas temáticas. Ainda, a “introdução da seção” que antecede cada uma das seis seções constantes do texto da antologia tratará em maior detalhe dos tópicos, de forma a colocar cada um dos trabalhos em seu contexto.

**Mercados e desenvolvimento da terra e política do solo.** Em muitas cidades de países em desenvolvimento, o desenvolvimento de terrenos destinados a habitações que venham a atender famílias de baixa renda legalmente está estagnado, ou em processo de estagnar-se. Por exemplo, em Buenos Aires o submercado formal representado pela venda de lotes individuais a famílias de baixa renda através de prestações mensais foi importante de 1950 a 1970 (Banco Mundial, 2006), mas desapareceu desde então — verQuadro 1. Durante esse período, os incorporadores forneceram diretamente aos compradores empréstimos para a aquisição dos imóveis, que ficavam garantidos por gravames sobre os mesmos (típicamente, 150 prestações mensais) — a forma mais comum de crédito para a venda de lotes a famílias de baixa renda nos países emergentes. Entretanto, a indexação desses contratos exigida pelo governo e a hiperinflação dos anos 90 terminaram por impossibilitar esses empréstimos. Em parte como resultado disso, muitos bairros na periferia de Buenos Aires permanecem em grande parte desocupados, enquanto estão paralisados os mercados legais de terra destinada à população de baixa renda. (Banco Mundial, 2006).

Simplesmente acrescentar dinheiro — quer seja através de subsídios ou crédito para financiamento — sem solucionar esses gargalos relacionados à terra principalmente tem como resultado a elevação dos preços dera
terra. Em outras palavras, a falta de elasticidade da oferta produz principalmente preços mais altos, em vez de um número maior de unidades, quando a demanda cresce.

A pressão crescente sobre o solo urbano determinou o aumento dos preços dos imóveis residenciais, tendo tornado o mercado surrealisticamente disfuncional em muitas das principais áreas metropolitanas dos países em desenvolvimento. Em Dacca, por exemplo, o preço de uma casa média atinge o nível chocante de 106 vezes a renda anual familiar mediana. Em comparação, os mercados de residências metropolitanas mais caros nos Estados Unidos – os da cidade de Nova Iorque e de São Francisco – exibem proporções entre os preços médios e os rendimentos anuais médios das famílias que correspondem a aproximadamente 6.

As pressões extremas sobre o solo e o seu alto custo geraram ainda abordagens inovadoras ao desenvolvimento da terra, que efetivamente reduzem o preço e capturam uma porção do valor agregado do investimento público em urbanização. Em especial, os países asiáticos – Cingapura, Hong Kong e mais recentemente a China – tomaram medidas para reduzir a base de custo dos terrenos urbanos para residências acessíveis e para outros tipos de desenvolvimento. Ainda antes disso, o Japão e a Coreia do Sul já estimulavam os proprietários de terras nas periférias das cidades a reuniem suas propriedades, como forma de promover um desenvolvimento mais eficiente – um método denominado “reajuste da terra”.

Alguns governos são os proprietários de extensões consideráveis de terras nas áreas periurbanas e urbanas, que são significativamente subutilizadas, ainda que frequentemente essas terras públicas tenham importância fundamental tanto para o setor público quanto para o privado. Por outro lado, o que é mais típico é que a propriedade do poder público sobre a terra fique fragmentada entre vários órgãos de diferentes níveis de governo, cada um com o seu próprio mandato e seção administrativa a ser guardada. É comum haver confusão entre a propriedade e os direitos legais sobre determinados lotes; assim, o primeiro passo em geral envolve a realização de um inventário da terra pública, juntamente com terrenos de particulares, para que se possa esclarecer a situação legal desses lotes vazios ou subutilizados. Essas investigações comumente revelam que alguns lotes estão prontos para desenvolvimento de forma direta, enquanto que outros envolvem problemas complicados de propriedade, que dificilmente podem ser resolvidos a curto prazo. A determinação da situação legal dessa área é pré-requisito para qualquer tipo de ação que possa estimular o seu uso como mecanismos de incentivo para a colocação no mercado de terras particulares.

Os dois primeiros trabalhos da primeira seção dessa antologia exploram os esforços inovadores de transformação dos desenvolvimentos em terras urbanas, com a finalidade de reduzir em muito os seus custos para construção de residências acessíveis e outros usos. No Irã (Keivani, Mattingly e Majedi), o governo limitou a extensão das terras de propriedade individual, o que resultou na transferência para o setor público de grandes áreas a baixo custo, benefícios que foram repassados a indivíduos e incorporadores, o que por sua vez resultou na oferta de habitações para aproximadamente 7% das famílias de mais baixa renda no país. Maldonado analisa a experiência da Colômbia, com uma nova estrutura jurídica para o reajuste de terras, que captura uma parte do valor agregado por investimentos públicos em urbanização para financiamento e desenvolvimentos de lotes com disponibilidade de serviços e a preços acessíveis. O terceiro trabalho (Pearce-Oroz) investiga as realidades institucionais e os limites dos mercados de terras urbanas – que com frequência são dominados por uma reduzida elite – no contexto da vulga assistência para reconstrução que se seguiu à passagem do furacão Mitch por Honduras, em 1998. O quarto e último estudo dessa seção documenta o fracasso dos impostos locais sobre a propriedade no Peru em produzir um volume substancial de receitas, como resultado das fragilidades da governança local – problema comum em países emergentes – e a introdução de órgãos para a
arrecadação de impostos independentes dos municípios, que resultou em grandes aumentos na receita gerada por impostos sobre a propriedade, apesar da base reduzidíssima.

**Garantia de posse, direitos de propriedade e sistemas informais de acesso à terra.** A estagnação dos mercados legais de terra para a população de baixa renda faz com que os desenvolvimentos ilegais (que recebem várias denominações, como “piratas”, “informais” e “clandestinos”) e os mercados informais passem a ser a principal fonte de terrenos para assentamentos das famílias carentes. Aqui, o processo de habitação progressiva é o principal meio de ocupação e construção de moradia para famílias de renda baixa ou moderada em muitas cidades de países em desenvolvimento. Tipicamente, as famílias invadem a terra ou adquirem lotes em um bairro informal, construindo suas casas ao longo de dez a quinze anos. Financiam a construção em grande parte através da sua própria poupança, mas também através de muitas outras fontes, que incluem pequenos empréstimos, fundos de pensão (se houver disponibilidade) e arranjos que envolvem assistência mútua entre outras famílias. A medida que as famílias vão consolidando a sua casa, a comunidade passa a demandar serviços e uma maior garantia de posse. As melhorias legais acrescentadas às comunidades e a expansão dos serviços acompanha a urbanização física e a construção de moradias individuais. Assim sendo, a habitação progressiva revela-se em parte um processo individual — o da própria habitação — ainda que inclua um forte componente coletivo — a melhoria dos serviços e a condição de legalidade da comunidade.

Os mecanismos informais de acesso à terra constituem sistemas paralelos para desenvolvimento e posse da terra. Muito embora esses sistemas “paralegais” envolvam custos mais baixos, com frequência são menos transparentes. Mais uma vez, um exemplo é a Argentina — país de renda média e relativamente sofisticado. As famílias conseguem obter a propriedade através da ocupação pacífica da terra durante vinte anos, de forma geral, e durante dez anos em um número limitado de circunstâncias; uma lei de 1994 regula o registro dos acordos de compra desses lotes, para aumentar a garantia da posse. Esse sistema informal coexiste com o registro formal de escrituras de propriedade; por outro lado, o custo do registro no setor formal tipicamente varia de 400 a 700 dólares, incluindo despesas de escritura, e a maior parte das famílias de baixa renda que nas décadas de 50 e 60 adquiriu lotes de incorporadores para pagamento em prestações ainda não possui suas escrituras, devido à falta de recursos (Banco Mundial, 2006).

Além disso, na concorrência, esses sistemas informais paralelos derrotam os formais. Na verdade, os custos de ingresso são muito inferiores (ainda que com o tempo, os custos totais em geral excedam em muito os verificados no desenvolvimento do setor formal) e as características parecem ser mais adequadas às necessidades e às efetivas demandas das famílias de renda baixa a moderada. Os desenvolvimentos informais tipicamente demonstram algum tipo de combinação entre fatores como (a) localização mais central (mais próxima do local de trabalho e de redes sociais que são cruciais para a população carente), (b) lotes maiores, que oferecem mais espaço para que as famílias de baixa renda possam expandir e adaptar os imóveis às suas necessidades (famílias mais numerosas, microempresas sediadas nas próprias residências, agricultura urbana) e (c) condições mais flexíveis de financiamento (prestações que podem deixar de ser pagas em caso de enfermidade temporária, perda do emprego ou outros motivos importantes), e que são mais adequadas às rendas e aos empregos informais dessas famílias, que são inconstantes, apesar do fato de as taxas de juros serem em geral bem altas. Ainda, o desenvolvimento informal utiliza também o argumento da promessa do governo em relação à prestação subsequente de serviços, aliada à urbanização, ambas em grande parte financiadas pelo setor público. Esses benefícios até certo ponto são capitalizados através de preços mais altos que as famílias terminam por pagar aos incorporadores ilegais, por um lote de terra bruta.
A “segurança de posse” da terra protege essas famílias contra o despejo e a derrubada de seus imóveis por tratantes, representando assim a base para que elas possam progressivamente investir em suas casas e construir suas comunidades. As escrituras com pleno valor legal, respaldadas por modernos sistemas fundiários (registro e cadastro de imóveis, validação legal efetiva), resultam em maior segurança de posse, muito embora o sistema seja caro, exigente do ponto de vista técnico e frequentemente empurre o valor do acesso aos lotes para além do alcance das famílias de renda baixa a moderada. Em muitas regiões, as formas intermediárias e tradicionais de propriedade imobiliária têm representado base suficientemente segura para o processo progressivo relacionado à terra e à habitação.

Outros aspectos dos sistemas de direitos de propriedade oferecem formas de solucionar questões ligadas ao solo urbano, incluindo os direitos de grupos versus direitos individuais e o arrendamento/aluguel em oposição à propriedade. Os direitos individuais facilitam os mercados e a transparência, muito embora envolvam problemas em alcançar as famílias de baixa renda. Experiências realizadas com os direitos de grupos em comunidades de baixa renda – como as desenvolvidas em Recife e em Porto Alegre, no Brasil e os Regimes Fiduciários de Terrenos Comunitários do Quênia (ver Payne) – revelaram-se interessantes, mas difíceis de serem expandidos.

O aluguel de moradias e o arrendamento de terras em longo prazo possuem virtudes teóricas. Em princípio, esses arrendamentos por períodos prolongados de tempo podem oferecer segurança de posse suficiente para a obtenção de financiamento (Deininger, 2003). Quanto ao aluguel informal de residências nos bairros pobres, já representa a principal fonte de acomodações para aluguel na maior parte dos países em desenvolvimento (Gilbert). O que comumente ocorre é que as famílias construam um cômodo ou uma unidade a mais na moradia já existente (seja horizontal ou verticalmente) e alugam, como forma de obtenção de renda. Considerando-se que não necessitam pagar nada a mais pela terra e que ganham outras economias (como por exemplo conexões clandestinas e legais com serviços) a partir das unidades adjacentes, ocupadas pelos proprietários, essas unidades acessórias são a forma mais barata de produzir moradia para os grupos de baixa renda. Nos países mais ricos, as moradias de aluguel subsidiado são a forma principal de habitação a preços acessíveis.

Entretanto, a expansão de moradias de aluguel para a população de baixa renda e de terras para arrendamento, de acordo com os sistemas formais, é difícil e rara nos países emergentes, como resultado de complicados problemas de natureza técnica e política. Do ponto de vista técnico, não foi possível ainda resolver o problema de quem deverá possuir, operar e manter as unidades de aluguel para pessoas de baixa renda, de maneira que possa ser garantida uma forma de abrigo satisfatória e acessível, e que canalize os benefícios de quaisquer subsídios públicos ou de melhorias financiadas pelo setor público principalmente para os locatários de baixa renda, em vez de basicamente para os proprietários. Na Europa Ocidental, nos Estados Unidos e no Canadá, utilizam-se redes de sofisticadas empresas sem fins lucrativos e/ou empresas municipais, que recebem o suporte de sistemas públicos de subsídios respaldados por um arcabouço legal com bom funcionamento, que então operam, mantêm e – cada vez mais – desenvolvem moradias de aluguel acessíveis.

Por outro lado, a maior parte dos países de renda baixa ou média ainda carece dessas organizações e das estruturas de financiamento e jurídicas/regulatórias necessárias para que essa abordagem possa funcionar, muito embora alguns poucos já começem a desenvolver sistemas acessíveis de aluguel (como são os casos de Cingapura, de Hong Kong e da China). Do ponto de vista político, a maioria dos governos dos países em desenvolvimento acredita que a produção de unidades para proprietários seja mais recompensadora do que o
apoio ao sistema de aluguéis. Em muitas regiões – em especial na América Latina e no Sudeste da Ásia – é possível argumentar que a forte preferência cultural pela casa própria reduziria em muito a importância de qualquer ação governamental que focalizasse o aluguel, excetuando-se o controle dos aluguéis, o que de maneira geral resulta no fechamento desses mercados e termina por reduzir em muito a oferta de unidades para aluguel. Em contraste, a grande parte dos moradores de cidades em algumas partes da África subsaariana consideram suas moradias urbanas como um lugar transitório enquanto vão trabalhar na cidade, antes de retornarem aos seus verdadeiros lares nas regiões das tribos, sendo muito mais comuns as acomodações alugadas.

O primeiro trabalho desta seção (Durand-Laserve) documenta como as crescentes pressões sobre o solo urbano e a “comodificação” de abrigos e assentamentos fizeram aumentar os “despejos pelo mercado” de famílias detentoras de documentos intermediários de propriedade, muito embora declarações e pressões internacionais tenham contribuído para reduzir os “despejos forçados”. O segundo estudo (Mooya e Cloete) emprega os instrumentos da Nova Economia Institucional para analisar o argumento apresentado por Hernando de Soto em seu livro pioneiro O Mistério do Capital, de que o título pleno e legal é a chave para transformar “capital morto”, na forma de imóveis ilegais de tantas famílias de baixa renda, em um ativo econômico e para impulsionar o crescimento econômico em bases amplas. O trabalho conclui que as formas intermediárias de posse podem ter as virtudes do título legal pleno caso sejam construídas adequadamente, para em seguida examinar o caso da Namíbia nesse contexto. O terceiro trabalho (Fernandes) documenta e avalia os recentes esforços do Ministério das Cidades no Brasil, em desenvolver uma abordagem abrangente para a regularização da titularidade imobiliária em todo o país. No quarto estudo, Abramo oferece uma visão geral estrutural e teórica dos assentamentos informais no Brasil. O quinto (Rakodi) examina sistemas tradicionais de acesso à terra em cinco cidades de porte médio da África subsaariana, concluindo que as políticas e os programas podem potencializar os seus pontos fortes.

Assentamentos Informais, Favelas e Urbanização. Muito embora a habitação progressiva seja uma solução crucial, é também um imenso problema, que ao carecer de orientação resulta em enormes custos para os setores público e privado. Cada vez mais, os rígidos mercados da terra forçam as famílias ao assentamento em locais precários, que incluem campos, encostas íngremes de morros, alagadiços, leitos de rios, lixões, mananciais, calçadas, extremidades de instalações públicas e linhas de infra-estrutura e áreas de direito de passagem associadas, além de locais distantes das linhas existentes de infra-estrutura, que são frequentemente frágeis ou inadequados do ponto de vista ambiental. A opção é ver essas famílias aglomerando-se em assentamentos informais cada vez mais densos: unidades de aluguel no interior das cidades, divididas em muitos cômodos, cada um alugado a uma família, ou ainda favelas nas periferias das cidades ou até mais longe, que se expandem horizontalmente tomando todo e qualquer espaço livre, para em seguida continuar verticalmente, sendo acrescentados andares às estruturas existentes.

A urbanização das favelas envolve dotar essas áreas de infra-estrutura para a criação de uma malha viária viável, construída sobre redes de abastecimento de água e acompanhada por sistemas de drenagem e saneamento. Com frequência, esse processo exige a transferência de pequena parte da população das favelas (aproximadamente 5%) para outros locais – o que em geral é uma fase problemática e cara. É comum a urbanização das favelas ocorrer pouco a pouco, sem que haja um plano geral ou um desenho estabelecido, em geral perto de períodos eleitorais, quando os candidatos a cargos públicos trocam melhorias ou o compromisso de promover melhorias por votos. Em contraste, os programas “integrados” para a melhoria das favelas fornecem juntos os serviços básicos que faltam, com base em um plano e – frequentemente – os combinam com a participação
organizada das comunidades, com determinados serviços sociais e econômicos e com a posse legal. Por esses motivos, a urbanização dessas áreas através da realização de melhorias nas favelas é em geral muito mais cara do que novos desenvolvimentos do setor formal. Tipicamente, o governo termina por absorver os altos custos de capital necessários para melhorar ou para substituir a infra-estrutura dessas comunidades, promovendo o reassetamento seletivo e regularizando a situação legal.

Os custos relativamente elevados das melhorias em favelas criaram problemas para a sustentabilidade financeira e para a escala dos programas. Em particular quando se adota uma abordagem integrada, que eleve essas áreas aos padrões que se aproximem (ainda que permaneçam inferiores) dos encontrados no resto da cidade, o alto custo por família tende a fazer com que esses programas sejam reduzidos a ações específicas e de pequena escala. O projeto modelo é bom, mas não consegue expandir-se muito.

Além dos custos dos programas de urbanização para o poder público, o desenvolvimento de moradias informais representa também altos custos para as famílias. O processo de construção de uma residência é tipicamente longo, além de envolver desperdício. Um estudo do mercado (ver Quadro 3) concluiu que são necessários onze anos para que as famílias mexicanas consigam construir uma casa básica de dois quartos, que saí por 30% a mais, devido ao alto custo representado por pequenas compras de material de construção, roubo e danificação desse material, além do planejamento inadequado. Ainda, as famílias terminam por pagar muito pela compra de lotes em estado bruto, para garantir mais segurança de posse, por serviços básicos antes da consolidação (como por exemplo água fornecida por carros-pipa, que custa tipicamente de 5 a 10 vezes mais do que a água abastecida através de serviços públicos) e para poupar ou tomar emprestados recursos para o custeio das etapas envolvidas no processo de construção progressiva de habitações. Quanto aos bairros assentados de forma irregular, experimentam ainda níveis substancialmente mais altos de criminalidade e insegurança, em comparação com outras áreas de perfil sócio-econômico semelhante. A má reputação desses bairros pode vir a rotular os seus moradores, prejudicando-lhes em grande medida a empregabilidade no setor formal (por exemplo, na Jamaica).

Os elevados custos para os setores público e privado da urbanização das favelas existentes vêm chamando a atenção para a importância de reforçar a formação de favelas novas, através da antecipação da demanda e da expansão de desenvolvimento de terrenos para a população de baixa renda. Essa estratégia reveste-se de especial importância no Sul da Ásia e na África, onde a urbanização ainda está chegando ao auge. A maior parte das cidades de tamanho médio e grande dos países em desenvolvimento ainda vem experimentando taxas de crescimento que farão com que dobrem de tamanho em 20 a 25 anos. Nesse mesmo período, as projeções indicam que a população global deverá aumentar em 1,5 a 2 bilhões de pessoas, sendo que a maioria dessas pessoas estará em famílias de baixa renda que residirão em cidades de países em desenvolvimento. Onde viverão todos esses novos habitantes das cidades? Como observa Payne, a comunidade internacional já percebeu que "o verdadeiro desafio das favelas é na verdade duplo."

Primeiro, é preciso melhorar as condições de vida das pessoas que moram em favelas e nos vários tipos de assentamentos não autorizados. E em segundo lugar, existe uma necessidade igualmente urgente de criar condições para que todas as seções da sociedade urbana, em especial os mais pobres e os mais vulneráveis, possam ter acesso a abrigo de caráter legal e a preços acessíveis, de maneiras que evitem a necessidade de futuras favelas e assentamentos não autorizados.
No primeiro trabalho desta seção, Abiko, Azevedo, Reinaldelli e Haga quantificam os custos de urbanização de favelas no Brasil, concluindo que o fornecimento de um pacote básico de serviços custa em média através desses programas aproximadamente três vezes (3.000 dólares) mais do que o desenvolvimento promovido pelo setor formal (1.000 dólares), embora esses custos variem grandemente entre projetos simples e complexos. O segundo e o terceiro trabalho mostram que a probabilidade de determinadas áreas virem a transformar-se em favelas, e de famílias virem a ser moradoras de favelas pode ser prevista e que – portanto – o planejamento avançado proativo pode ter impacto considerável, quando se trata de enfrentar os desafios das favelas. A aplicação por Sietchiping de um Sistema de Informações Geográficas baseado em “autômatos celulares” matemáticos mapeia de forma dinâmica o desenvolvimento urbano em Yaounde (Cameroun, na África Ocidental) e prevê a localização de favelas com 73% de precisão. Piedade, Oliveira e Albuquerque utilizam um modelo probit para determinar a probabilidade de famílias brasileiras com características sócio-econômicas específicas (maior nível de desemprego, qualidade inferior de emprego, mais baixa escolaridade, famílias mais numerosas, etc.) virem a morar em favelas. O quarto e último trabalho (Betancur) examina um programa integrado de urbanização de favela no contexto da violência urbana e da política local em Medellín, na Colômbia.

Transportes, densidade, planejamento urbano e conformação urbana. A imensidão e os paradoxos do desafio relacionado ao solo urbano sugerem que as soluções mais efetivas deverão unir o nível micro dos projetos ao macrodesenvolvimento da região da cidade como um todo. Aqui, são cruciais inovações na área de transportes e planejamento urbano, sistemas de assentamentos e na forma de áreas metropolitanas.

Os estudos de densidade urbana (como a análise de gradientes de densidade) demonstram que habitação e transporte formam uma equação binômica. As melhorias no transporte urbano resultam na abertura de áreas muito mais extensas de terras para desenvolvimento residencial e aumentam a produtividade econômica. Por sua vez, a maior densidade residencial faz com que sejam viáveis economicamente os sistemas de transportes públicos. Quanto à forma das áreas metropolitanas, possui importância crucial, tanto do ponto de vista da habitação quanto do transporte. Isso é particularmente verdadeiro no caso dos imensos aglomerados urbanos – ou “áreas megapolitanas” – que abriga uma parte cada vez maior da população – como se verifica na Cidade do México, em São Paulo e em Jabotabek (como em Jakarta e nas áreas ao seu redor).

Com base na experiência das áreas megapolitanas da Ásia, Laquian conclui que “permitir que um assentamento monocêntrico cresça de forma aleatória e descontrolada é uma receita para o desastre... (Essas áreas estão-se) esparramando, sendo extremamente caro o fornecimento de serviços básicos.” Em vez disso, decisões macro em relação ao uso da terra e outras medidas podem resultar em uma região urbana polinucleada. O planejamento-mestre tradicional (zoneamento, regulamentação de condomínios) deixa tipicamente espaços vazios para os enormes assentamentos informais dentro das cidades dos países em desenvolvimento, e tem pouca utilidade. Em seu lugar, os planos estratégicos deveriam focalizar os sistemas de assentamentos. Ações relativamente simples, como o desenho de vias principais de um modo racional (Angel) nas áreas de expansão podem também representar impacto importante.

Melhorar a governança e a administração das regiões metropolitanas (Freire e Stren) tem importância crucial para a implementação dessas abordagens macro. Entretanto, muitas regiões metropolitanas de países em desenvolvimento e desenvolvidos são fragmentadas em dezenas de jurisdições e autoridades locais, sendo que as instituições para coordenação entre elas estão surgindo apenas gradualmente.
O primeiro trabalho (Serra, Dowall, Motta e Donovan) examina a conformação de três cidades brasileiras – Recife, Curitiba e Brasília – calculando gradientes de densidade populacional e análises de regressão dos fatores que determinam os preços da terra. Os mercados de terra em Recife e em Curitiba, que funcionam relativamente bem, contrastam com os de Brasília, levantando questões importantes relacionadas ao bem estar social e ao desenvolvimento econômico. Coelho e Irving continuam com esse tipo de análise, calculando gradientes de densidade para dez cidades brasileiras. O terceiro trabalho (Graham) focaliza a ligação que existe entre o tamanho da cidade, a produtividade e o fornecimento de infra-estrutura, através do cálculo das elasticidades da produtividade em esses assentamentos irregulares. Um grande número de famílias que consomem uma parte muito considerável de seus rendimentos em habitação, em muitas regiões. Na África subsaariana, onde muitos países experimentaram urbanização muito rápida, na ausência de crescimento econômico (Fay), esses assentamentos irregulares consomem uma parte muito considerável de muitas cidades. Hoje em dia, já é claro que essas áreas empobrecidas, com moradias inadequadas e carenciadas de serviços, representam pelo menos características semipermanentes do cenário urbano em muitas regiões.
Olhando para trás, a abordagem inicial, que envolvia a capacitação dos mercados, parecia excessivamente ansiosa em relação às dificuldades de criar mercados habitacionais “que funcionem bem” – em que “todos disponham de moradias adequadas … mediante porções razoáveis de sua renda” e em que “haja disponibilidade de terras residenciais a preços razoáveis” (Banco Mundial, 1993). Além disso, o processo urbano é hoje muito mais complexo e muito mais diversificado do que era na época em que o Banco Mundial deu início ao seu trabalho (Buckley). Mercados habitacionais e de terra que funcionem bem são poderosos, mas difíceis de criar e de manter, frequentemente necessitando ser suplementados através de intervenções destinadas a superar falhas de mercado em larga escala. Argumenta-se inclusive que essa afirmação não seja verdadeira apenas no caso dos países em desenvolvimento, mas também entre os mais afluentes. Nos últimos anos, a disponibilidade de moradias sofreu declínio acentuado na Europa Ocidental e nos Estados Unidos.1

Alguns pesquisadores (Laquian) especularam que a abordagem da “capacitação dos mercados” parece ser uma “transição para um momento em que será necessária uma atenção muito maior e muito mais sistemática às questões de habitação, do solo e do desenvolvimento urbano”. E essa não é apenas responsabilidade do setor público. Os PIB’s dos países em desenvolvimento como um todo estão crescendo a taxas de mais de 6% por ano, em comparação às taxas aproximadas de 2%, no caso do mundo desenvolvido. A habitação representa o maior investimento isolado da maioria da população de renda baixa e moderada.

Certamente, se é que os mercados devem desempenhar papel substancial no desenvolvimento, o setor privado pode ter função substancial quanto à habitação e à terra para as pessoas de baixa renda. Por outro lado, as organizações do setor privado que empregam os métodos mais efetivos de administração e que dispõem da maior capacidade para oferecer assistência às famílias de baixa renda – as multinacionais e as grandes companhias locais – em geral não compreendem os mercados de baixa renda e – com algumas exceções dignas de nota (Prahalad) – mantiveram-se fora deles. Em vez disso, dominam os produtores e fornecedores marginais de terra, de materiais de construção, de financiamento e de outros insumos ligados ao processo de habitação/terra. Com frequência excessiva, o resultado são mercados habitacionais e de terra de custos extremamente altos e “selvagens” (Buckley), onde os chefões locais e as máfias públicas e privadas aumentam em muito os custos em pontos de transição.

Assim sendo, permanecem em grande parte pendentes métodos e modelos para envolver o setor privado de forma construtiva na solução dos problemas habitacionais das classes de mais baixa renda. Uma exceção estimulante é a da CEMEX, o terceiro maior fabricante de cimento no mundo, no atendimento aos mercados de habitações progressivas no México. O programa Patrimonio Hoy da CEMEX organiza pequenos grupos de famílias, que se comprometem com um programa de poupança de 70 semanas, providência com fornecedores locais de material de construção e entrega de produtos de alta qualidade a preços competitivos e oferece microcrédito a essas famílias, sob a forma da entrega de material de construção bem antes de elas efetuarem o pagamento. A CEMEX opera esse programa através de escritórios instalados nas próprias comunidades de baixa renda e de “promotores” locais – 98 por cento mulheres – que informam as famílias sobre o programa.

1 Muito embora tanto os Estados Unidos quanto a Europa Ocidental estejam passando por um processo de correção de seu mercado habitacional, há meio século vem-se observando uma queda contínua da acessibilidade de habitações, em especial nas grandes áreas metropolitanas. Por exemplo, nos Estados Unidos como um todo, a proporção do preço de uma residência média para a renda média familiar passou de 2, na década de 1950, para mais de 3 hoje em dia. Apenas esquemas mais favoráveis de financiamento (onde alguns aspectos geram riscos extremamente maiores para as famílias e para o próprio sistema financeiro) e famílias que dispõem de duas fontes de renda é que evitaram a queda da taxa de propriedade residencial naquele país.
O *Patrimonio Hoy* revelou-se um sucesso surpreendente, tendo alcançado 100.000 pessoas durante os dois primeiros anos, com planos para expandir esse número para 1.000.000 nos próximos cinco anos. O programa opera sem subsídios, e os outros dois fabricantes entre os três maiores do mundo — Folcin e Lafarge — recentemente lançaram iniciativas para alcançar o mercado de habitações progressivas em vários países em desenvolvimento. Portanto, o envolvimento das grandes empresas e a aplicação de métodos modernos de gestão ao setor de habitação de baixa renda tem ainda potencial, apesar dos resultados instáveis de uma década e meia de “capacitação de mercados habitacionais”.

Por causa da importância crucial do solo urbano para os pobres, e considerando o fracasso da abordagem da capacitação dos mercados para solucionar esse problema, parece que uma abordagem centrada na terra está substituindo a abordagem centrada na habitação, em relação à questão do abrigo e do assentamento da população de baixa renda. Mesmo assim, permanecem aspectos tradicionais, referentes ao financiamento habitacional — incluindo a participação no crédito habitacional, sistemas de poupança habitacional e subsídios para habitação, que possam tornar mais acessível a casa própria.

Do lado mais realista, uma área importante para inovação e desenho de programas são as várias formas de “soluções habitacionais de baixo custo”, que consistem de uma ampla variedade de opções que compõem as etapas do processo de habitação progressiva. Aqui, incluem-se lotes com e sem serviços, reabilitação e melhoria, expansão, construção de uma unidade nuclear em lote já de propriedade de uma família (para substituição, para o acréscimo de uma unidade, para aluguel), regularização da posse, melhorias na infra-estrutura e nos serviços, etc. Essas soluções graduais de habitação custam uma pequena fração da compra de uma nova unidade, construída comercialmente; portanto, representam chave fundamental para o fornecimento em muitos países de habitação acessível em grande escala e para a própria política habitacional.

A combinação dessas abordagens de projetos com novas tecnologias, incluindo o microcrédito habitacional (Ferguson), participação das comunidades organizadas (Ruster e Imparato) e o envolvimento seletivo do setor privado — como no caso do programa Patrimonio Hoy, da CEMEX — pode ser o segredo para a criação de uma nova geração de projetos habitacionais de baixa renda mais efetivos, mais sustentáveis e mais abrangentes, que realmente alcancem em escala a população mais pobre. Nesse contexto, é possível que esteja na hora (Buckley) de reavaliar a experiência anterior do Banco Mundial e de governos de alguns países, com seus programas que focalizavam locais, serviços e urbanização de favelas.

Em contraste, muitos programas habitacionais de governos ainda focalizam frequentemente a bancarização de famílias de renda moderada e média, com o objetivo de transferir o crédito do setor formal e outros sistemas para camadas inferiores do mercado, para cobrir esses grupos e para estimular o crescimento econômico. Do ponto de vista físico, o protótipo da solução de habitação de renda moderada na América Latina consiste de uma unidade nuclear possível de ser expandida, de 25 a 45 metros quadrados, que as famílias aumentam e melhoram em etapas programáveis, de acordo com a necessidade e com a disponibilidade de recursos. No caso do Leste da Ásia, a realidade corresponderia a unidades de 40 a 80 metros quadrados, em prédios de mais de um andar. Os interesses próprios da indústria de construção e de desenvolvimento frequentemente desempenham papel importante na promoção desse tipo de abordagem de política, ainda que a maior parte dos países em desenvolvimento em geral disponha de um sistema de crédito habitacional muito limitado, tendo nos subsídios um instrumento potencialmente mais importante (Buckley).
A arte do desenho de programas habitacionais para as camadas de mais baixa renda da população consiste principalmente da combinação de recursos financeiros (subsidios, crédito e poupança familiar) com diferentes tipos de soluções de habitações de baixa renda, que sejam adequadas às condições locais de habitação, com a capacidade de financiamento do governo para essas ações e com a capacidade institucional de outros atores importantes (ONGs dedicadas ao setor habitacional, governos locais e organizações fornecedoras de empréstimos), para que executem os seus papéis como parte desses esforços.

No mundo em desenvolvimento, são dignos de nota em especial os programas habitacionais do Leste da Ásia e da América Latina. Enquanto a América Latina vem focalizando os seus esforços em sistemas de subsídios à habitação, o Leste asiático vem enfatizando a gestão pública obrigatória do solo urbano. Os dois primeiros trabalhos desta seção examinam programas habitacionais na América Latina. Zanetta avalia a descentralização do Fundo Nacional de Habitação da Argentina durante a década de 90, enquanto Fonseca, Trani e Wakisaka documentam o grande esforço do estado de São Paulo na área de habitação a preços acessíveis, de forma geral, além da experiência de sua parceria de auto-ajuda em habitação com os municípios do estado, em particular. O terceiro trabalho adapta o modelo empregado no estado da Flórida, nos Estados Unidos, para estimar as necessidades habitacionais no Brasil. Os dois últimos trabalhos focalizam o Leste da Ásia: Yuen examina a experiência incrivelmente bem sucedida de Cingapura, enquanto Zhu pesquisa Cingapura, China, Bangladesh e Vietnã. Os casas asiáticas mais bem sucedidos – Cingapura, Hong Kong e China – combinam a obrigatoriedade da administração ou propriedade públicas da terra urbana com desenvolvimento e propriedade do setor privado das unidades que resultam da ação.

Devolvimento na periferia urbana e nos centros das cidades e o meio ambiente. O desenvolvimento nas periferias urbanas cada vez mais assume formas polarizadas nos países em desenvolvimento. As famílias de baixa renda – muito embora não sejam as mais pobres, cuja principal prioridade é estarem mais próximas do trabalho, nos centros das cidades – tendem a ocupar os bairros informais na periferia, que estão em rápida expansão. O desenvolvimento habitacional subsidiado do governo para as famílias de renda baixa a moderada depende da disponibilidade de terras a baixo custo, localizadas também na periferia ou ainda mais longe. Na outra extremidade do espectro de renda, a elite acompanha as fábricas das subsidiárias das empresas internacionais (Buenos Aires, Curitiba, São Paulo), universidades, fabricantes locais de produtos de alta tecnologia e prestadores internacionais de serviços (Bangalore e algumas outras cidades indianas), além de estabelecimentos comerciais para os subúrbios, cada vez mais estabelecendo-se ali, em comunidades cercadas.

Essa dispersão resultante envolve fortes e negativos impactos sobre o meio ambiente, além de consumir terras agrícolas e sensíveis, do ponto de vista ambiental. O crescimento das cidades contribui ainda para a ameaça global de absoluta falta de água doce. As empresas concessionárias de serviços públicos precisam ir cada vez mais longe para encontrar mananciais, despendendo somas altíssimas no processamento, bombeamento e transporte da água. No caso das cidades costeiras, é possível que a dessalinização tenha um papel a desempenhar. O que é mais preocupante nisso tudo é que o espalhamento das cidades, combinado à exportação de tecnologias antigas e altamente poluidoras dos automóveis dos países ricos para a China aumentou de modo substancial as emissões de dióxido de carbono no mundo, contribuindo para o aquecimento global.

A alternativa a esse espalhamento urbano envolve maior densificação das áreas urbanas existentes, principalmente ao redor dos centros de transportes. Aqui, muitas das mais antigas e maiores áreas metropolitanas de países em desenvolvimento assumiram a forma de rosca das cidades dos Estados Unidos. O congestionamento, o crime e o êxodo da classe média para o subúrbio deixam zonas centrais em declínio, às vezes com menos população.

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A revitalização das áreas centrais das cidades parece fazer sentido. Afinal de contas, essas áreas já dispõem de infra-estrutura e serviços e estão muito mais próximas dos locais de trabalho do que a periferia. Olhando mais de perto, entretanto, os custos de comprar, limpar (necessário no caso de áreas enegrecidas, antes utilizadas por indústrias poluidoras) e desenvolver as áreas centrais são em geral mais altos do que o desenvolvimento na periferia. Parcerias entre os setores público e privado revelam-se então essenciais para a reunião de terrenos suficientemente extensos nas áreas centrais, para que esses projetos de revitalização sejam economicamente viáveis. Embora a revitalização do centro das cidades já tenha longa história nos Estados Unidos e na Europa Ocidental, na maioria dos países em desenvolvimento apenas agora está-se iniciando a construção das instituições e os arcabouços legais para tais parcerias.

Os primeiros quatro trabalhos dessa última seção da antologia examinam os dilemas do desenvolvimento acelerado nas periferias urbanas – o padrão da maior parte das cidades de países em desenvolvimento. Os dois últimos trabalhos examinam as vantagens teóricas e as dificuldades práticas das revitalizações de áreas centrais das cidades e a densificação das áreas urbanas existentes. Pantelic, Srdanovic e Greene observam que as características distintas da urbanização das duas últimas décadas constituem um “período pós-moderno”, em que a segregação dos ricos e dos pobres cada vez mais coloca as famílias urbanas de baixa renda em situação vulnerável a desastres naturais e aos causados pelo homem. Em seguida, Srídhara examina a sub-urbanização de cidades indianas que experimentam recente prosperidade. O terceiro trabalho (Torres) analisa o espalhamento urbano da área metropolitana de São Paulo, a expansão de sua periferia pobre e o impacto sobre o meio ambiente. O quarto trabalho dessa seção (Goytia) focaliza a polarização do desenvolvimento na periferia das cidades, dividida em comunidades muradas para os ricos e favelas para os pobres em Pilar, um município no canto a nordeste da área metropolitana de Buenos Aires. Aragão investiga a experiência de revitalização das áreas centrais das cidades de Paris e Barcelona, comparando com o que ocorre em São Paulo. O último trabalho desta antologia examina a densificação de Guadalajara, a segunda maior cidade do México, concluindo que os métodos para promover uma cidade mais compacta são ainda incipientes nessa área metropolitana.

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URBAN LAND MARKETS, LAND DEVELOPMENT, AND LAND POLICY

Bruce Ferguson

The high cost of urban land has become the most important binding constraint to affordable housing – from Mumbai, where land prices exceed those of Manhattan, to Chile, where this country’s remarkably successful direct-demand housing-subsidy program (profiled in the Introduction to Section V) has now floundered on the escalating price of land in most major cities. As real property markets tighten, increases in housing subsidies increasingly get capitalized in higher lot costs, rather than passed on to households.

Simply “enabling markets” – the dominant approach to shelter and settlement endorsed by many economists and several international development institutions over the last 15 years – appears essential but insufficient to meet the urban land challenge. Various strategies have arisen to lower the cost of urban land to make housing and other types of development “affordable.” Affluent jurisdictions (attractive sites for new housing projects) in rich countries increasingly require developers to “set aside” a share of each project for low-income households or charge builders fees to finance affordable units. The cost of such requirements, however gets passed on to some extent\(^1\) to middle-income home purchasers who – in effect - end up paying more to support the inclusion of some low-income units in their development.

Countries and jurisdictions have also used various means to capture a portion of the value added by their public investment in urbanization (roads, sanitation, schools, and other localized services) that spurs rising land prices (Smolka, 2003). In high-income countries, the local property tax typically captures 1% to 2.5% of property values each year to fund local public services. The theoretical advantages of the local property tax, in general, and land taxation, in particular, have a long history, dating to the works of Henry George.\(^2\) However, the high technical demands (accurate and up-to-date cadastral records, periodic re-assessment of market value, a competent tax-collecting bureaucracy etc.) and the great political visibility and vulnerability of the property tax have resulted in very low revenues in many emerging countries.

Partly as a result of these problems with the property tax, many developing nations have searched for other methods to capture a portion of the value added to urban land by public investment. Such “value-capture” methods are typically applied at transition points, such as the conversion of rural to urban land, or at sale. Relative to the property tax, value-capture methods substitute large occasional charges for periodic smaller

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\(^1\)The extent that these costs get passed on to homebuilders (as opposed to other economic actors, such as developers and landowners) depends on the elasticity of the supply and of the demand for housing and the point at which developers lock in the cost of land for their projects.

\(^2\) Born in 1855 in Philadelphia, George traveled widely and was struck by the apparent paradox that the poor in New York City were much worse off than the poor in California. This paradox supplied the theme and title for his 1879 book, Progress and Poverty, which sold over 3 million copies – a phenomenally large number for this time. In it, George argued that a sizeable portion of the wealth created by social and technological advances in a free market economy is captured by land owners and monopolists via economic rents, and that this concentration of wealth is the root cause of poverty. As an antidote, he advocated taxing land, and replacing other taxes with a land tax. Tremendously popular, George subsequently ran for mayor of New York City and came in second place.
charges (Smolka, 2002). Not surprisingly, they also stimulate political opposition, although more from the owners of developable large parcels, rather than the land-owning public as a whole.

Finally, some countries – particularly Asian ones – have imposed norms that forcefully lower urban land prices, or require landowners to sell at low prices to government for urban development, such as affordable housing. Sometimes, these norms form a reliable part of the social contract of the society (e.g. Singapore). An individual landowner may be forced to sell at a price well below the property's highest and best urban use, but – in turn – can count on many public services including affordable shelter, in return. Elsewhere, such heavy-handed methods represent a windfall for some and a wipeout for others and can generate heated social conflict – e.g. land wars. For example, “location permits” used in Indonesia restrict sales and, hence, reduce the price largely of peasant-owned properties to particular developers approved by the State, and helped fuel continual land disputes (Ferguson, 1993). Typically, those families and economic sectors with the least political and financial clout are at the greatest disadvantage. Too often, peasants get their property taken with little compensation, and rural and agricultural interests end up subsidizing urban households. Thus, a move from enabling to shaping forcefully urban land markets carries risks as well as potential rewards. However, growing problems with housing affordability and urban development, in general, are driving countries and individual jurisdictions to take this chance.

The first two papers of this section explore two innovative efforts that go beyond enabling markets to transforming them in order to lower the cost of urban land as an input to make development more affordable. In Iran (Keivani, Mattingly, and Majedi), government limited the size of individual landholdings based on Islamic law from 1979 to 1989. Although the law at first stipulated that individual landholdings above the ceiling would be given to government, subsequent interpretation resulted in reimbursement to the owners, although at prices well below their highest and best use from urbanization. As a result of this law, government came into possession of substantial amounts of urban land at low cost. Interestingly, this law allowed not only transferring this land directly to low-income families, but also to cooperatives and developers for housing and other forms of development at reduced prices commensurate with affordability. During this 10-year period, 10,790 hectares of land were transferred on behalf of 422,864 families – 234,000 directly, 131,000 through housing cooperative societies and 58,000 through public and private developers/companies. In effect, this law ended up providing shelter and settlement for around 7 percent of the Iranian population, including a substantially higher share of the most-needy families. Large-scale land banking by government has often proved problematic. Governments often have difficulties acquiring, holding, and using land efficiently. The Iranian experience serves as a reminder that forceful public land management that involves the acquisition and use of large acreages can work technically and politically.

The second paper (Maldonado) documents the on-going efforts of Colombia to achieve similar results, but through a more sophisticated and nuanced approach. Informal subdivisions by “pirate developers” that charge low-income households about ten times their purchase cost for raw unserviced land account for the bulk of low/moderate-income settlement. While the pirate developers reap the benefits of anticipated urbanization (capitalized largely in land prices), the public sector gets the high-cost job of subsequently providing infrastructure and services to these areas. A series of measures including the Territorial Development Law 388 in 1997 have sought to capture government's contribution to urbanization, in general, and institute a system of land readjustment on the urban fringe, in particular.
Colombia’s land-readjustment system requires landowners on the urban fringe to pool their parcels and incorporates local government as a partner in the benefits as well as the costs of the development. Each contributor to the partnership receives a share of the resulting serviced subdivision in proportion to its contribution, including local government, which receives an amount of serviced land reflecting the substantial public investment in infrastructure and services necessary for the project. The public sector then sells its serviced lots to low-income households at low prices. In turn, these low prices help make a market that reduces land prices for privately-supplied parcels as well. Although Colombia has established the overall legal framework for this process, many of the details remain to be worked out, and the two large projects described in the paper are a work in progress rather than a fait accompli. Thus, the technical and political sustainability of capturing a substantial portion of the value added of government investment in urbanization in Colombia still remains to be seen. Nevertheless, this sophisticated system appears to have considerable potential.

The Iranian and Colombian display some broad similarities. Both reduce the price of land to non-urban levels and – in effect – capture the value of public investment in urbanization, but retain private ownership of the resulting parcels. This land-based approach also substantially reduces or replaces the need for direct public or housing subsidies (as discussed in the Introduction to Section V).

The third paper (Pearce-Oroz) investigates the institutional realities and limits of land markets, based on the experience of massive reconstruction (and low-income land development) after Hurricane Mitch hit Honduras in 1998. Only a small elite has the financial ability and access to political and legal institutions necessary to develop land parcels in many countries. Thus, these are “captured” markets, segregated by economic power, which – increasingly - produce settlement on unstable hillsides, floodplains, drainage areas, and other precarious sites. The resulting high-risk settlement typically multiplies the impact of natural disasters. Afterwards, even generous international reconstruction aid proved insufficient to overcome these structural problems, and secure appropriate parcels for large-scale low-income development near Honduras’ largest city, Tegucigalpa. In contrast, local governments in two medium-sized municipalities actively participated in locating and facilitating appropriate land for reconstruction. Thus, local governments – more than national governments – frequently have considerable power over land – including the control of land-use regulation, local property taxation, and infrastructure provision. Although reconstruction can offer the opportunity for some large immediate gains, it is unsuited to the intense collaboration necessary for systemic and structural reform of urban land markets.

The real property tax potentially constitutes a fundamental instrument for influencing land at the local level and is used in 130 countries (World Bank, 1999). This importance derives not only from its role in funding local services (water, sanitation, roads, schools) and, hence, serviced land development, but also from its effect in establishing appropriate incentives for owners to develop real property. The experience of Peru documented in the fourth paper (Ruehling) demonstrates both the perils, and potential of the property tax.

Peru has come late to decentralization, the process of transferring revenues and responsibilities from national government to sub-national government. Decentralization has had particular force in Latin America but has also occurred throughout the developing world (Freire and Stren). Peru’s experience with the property tax – the premiere “local” tax, in theory - falls within this broader context. The 1,700 districts and provinces that compose the metropolitan area of Lima – an area of 8 million people - collected a total of only US $70 million in 2002, and the rest of the country (19 million people) collected only US $40 million. Overall, the
property tax accounted for only 8% of local revenues – only about US $4.50 per person per year! This extremely poor performance of the property tax – not uncommon in developing countries - came largely from a devotion to populism rather than effective programs and policy as the main form of governance at the local level. Some technical problems in the exchange of information between a number of central government agencies that play a role in the implementation of the property tax and local governments exacerbated the fundamental governance issue. It is a case of “political responsiveness acting in the guise of technical incompetence” as Dillinger (1991) characterizes the property tax in many emerging countries.

In this context, the introduction of tax-collecting local agencies independent from the political pressures of Peruvian local government has lead to great increases in the property tax in a number of important local jurisdictions, although still from a miniscule base. The increase in revenue has allowed the expansion of basic services necessary for land development and slum upgrading in these areas. These “semi-autonomous” tax collecting agencies are now spreading throughout Peru.

References


ENABLING HOUSING MARKETS OR INCREASING LOW INCOME ACCESS TO URBAN LAND: LESSONS FROM IRAN

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Hamid Majedi***

Abstract

This paper provides a detailed examination of the impact of the Urban Land Act (ULA) in Iran on accessibility to urban land and affordable housing provision in the country during the 1979-1989 period. The Iranian experience in the study period has shown that such an intervention can provide a rich source of urban land resources for housing particularly the low and middle income groups as well as commercial and public service purposes. The paper will show that through a comprehensive acquisition and allocation programme the Government of Iran substantially expanded the stock of low income urban housing by directly providing land for its construction by individuals, cooperatives, organizations and even private firms, effectively bypassing urban land and housing markets and their shortcomings. In addition the programme had facilitated the rapid development of housing cooperatives, public private partnership and a corollary impact on the private market with a major reduction in land and house price increases in the unregulated private market during the same period. This rather under-researched land policy experience has major implications for the current discourse on housing policy in developing countries that has been dominated by market enabling strategies since the publication of the 1993 World Bank policy paper enabling housing markets to work.

The paper adds to the debate by highlighting the important role of public ownership in regulating urban land and housing markets and facilitating increased low income access to affordable housing. This flies against the conventional wisdom of the market enabling strategy that has been firmly against large scale public management and direct intervention in urban land markets. However, the success of the Iranian experience during the study period shows that at the very least governments can play an important and effective role in low and middle income housing provision through direct management of the urban land market. This highlights the need for rethinking of current assumptions on the best way for developing housing sector capacity and even a more effective private market that would include the middle and low-income groups. It may be that the best way forward is a combination of enabling market approaches for developing basic institutional functions while at the same time facilitating expanded private market housing provision through their better access to cheaper factors of production. A major component of this is access to land through joint venture schemes that in the case of Iran was only possible due to the increased public land bank capacity of

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the ULA. Such a policy at the same time facilitates government action in support of alternative provision, i.e., direct self build, cooperatives, workers housing through large industries, and public foundations for the very low-income groups.

**Introduction**

World Bank policy plays a significant role in shaping international housing and urban policy including that of UNCHS, development arms of western governments and international consultants (Keivani and Werna, 2001a; Baken and van der Linden, 1993). In addition while the degree to which national governments actually adopt the Bank’s policy recommendations may be open to question (Harris and Giles, 2003) they have for the past three decades set the agenda for the international housing debate and influenced national policies of many countries in at least a partial form if not in their entirety. The Bank’s influence can be seen in the international propagation and national adoption of supported self help and sites and services schemes, particularly in the 1970s and 1980s, and has continued to the more recent emphasis on market efficiency and enabling housing markets (Keivani and Werna, 2001a). The latest examples of this are the post apartheid housing policy in South Africa selectively, but largely, drawing on the Bank’s enabling market strategy, particularly in respect of formal finance delivery and the housing subsidy programme (Jones and Datta, 2000) and the recent adoption of a 12 year Urban Upgrading and Housing Reform Programme in Iran in 2003 targeted at five provincial capital cities and part financed by the World Bank to the tune of US$80 million (UUHRP, 2004). The main aim of this programme is to initiate market-based housing sector reform and improve the living conditions in under-serviced neighbourhoods. Finally, we can note recent policy proposals by researchers on India and Nigeria (Sivam, 2002; Ogu and Ogbezo, 2001).

The origins of the enabling housing market policy may be traced back to a number of earlier initiatives and policy developments both from within and outside the World Bank. These include the Bank’s Urbanization Sector Working Paper in 1972 in its incipient focus on harnessing market forces (Jones and Ward, 1994); the self help debate of the 1960s and subsequent policies on aided self help in their emphasis on replacing direct conventional public housing programmes (Harris, 1998; Keivani and Werna, 2001b); or even earlier efforts of the UK and US development agencies in the 1940s and 1950s in support of mass housing production through the building industry (Harris and Giles, 2003). Since the mid 1980s, however, the enabling policy approach has come to dominate the housing and greater urban policy debate in developing countries (World Bank, 1988; LaNier et al, 1987; Cohen, 1983; Kimm, 1987; Linn, 1983; Loh, 1987). This debate reached its most explicit and best developed articulation in the Bank’s urban and housing policy documents respectively published in 1991 and 1993 (World Bank, 1991; 1993). In so far as housing provision is concerned, the underlying rationale of the policy is explained in terms of overcoming the inherent inefficiencies of earlier project-based approaches (primarily aided self help and settlement upgrading) in their piece-meal effects and lack of financial sustainability, cost recovery and replicability.

The new approach, therefore, is articulated in terms of a set of comprehensive policy measures for developing the housing sector as a whole through enhancing private market capacity, which it is deemed would then be able to reach a wider sphere of commodity circulation that includes much of the lower income groups. The essence of the policy revolves around governments refraining from direct supply of land for housing to lifting of restraints from private market activity and the treatment of housing as an economic sector tied to the
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general macro-economic development (World Bank, 1993). More specifically, the enabling housing market strategy proposes developing property rights (regularisation, efficient cadastral and registration systems, etc), developing mortgage finance including lending and borrowing at market rates, rationalising subsidies, providing infrastructure for residential development, reforming building and planning regulations in line with expanding private market activity, organising the building industry by eliminating regulatory barriers and developing an institutional framework for managing the housing sector.

What is clear from these policy measures is their emphasis on private market development and a lack of attention to the specific needs of informal and community groups and of the modes that provide most low-income housing in developing countries (Keivani and Werna, 2001a). Later formulations of the enabling strategy by the UNCHS have attempted to overcome some of these shortcomings. This can be seen in the adoption of 'adequate shelter for all and sustainable human settlements', in the UNCHS 1996 conference in Istanbul. They included the low-income communities themselves, community groups, NGOs and women as main actors who should be supported through the enabling strategy in their own right as well as the private market (UNCHS, 1996). Nevertheless the private markets are still identified as the 'primary housing delivery mechanism' that form the backbone of the 'shelter for all' policy of the UNCHS (UNCHS, 1996, Clause 63).

While many of the policy prescriptions of the enabling strategy are eminently reasonable and appropriate suggestions for developing the housing sector and market capacity, it has been subject to criticism from a number of writers. The most important issues include its overemphasis on the formal market process to the detriment of other existing modes of provision, lack of consideration of informal markets in particular and their specific requirements and lack of clarity as to who benefits from the increased market efficiency given the effective demand approach thereby marginalizing the urban poor (Keivani and Werna 2001a and 2001b; Mukhija, 2001; Baken and van der Linden, 1993; Jones, 1996; Strassmann, 1994; Durand-Lasserve, 1987; Moavenzadeh, 1987; Duran and Soza, 1987).

Some of these concerns may be illustrated by an interesting recent case study on a public-private partnership scheme in Ahmadabad, India. In this study Mukhija (2004) highlights the complicated intricacies of formal-informal (and at times illegal) practices to enable low-income housing provision by a major private developer who had specialised in this sector of the market since the mid 1960s. In 1988 the government attempted to upscale the developer's activities through an enabling joint venture programme involving the Housing and Urban Development Corporation (HUDCO) as the main financier both for short term construction finance and refinancing the developer's private mortgage facility for the home buyers. Ironically, however, by the mid 1990s this enabling exercise had led to the developer abandoning the project halfway through, selling 60% of the land to up-market housing developers and shifting their own activities completely to high-income housing provision (Mukhija, 2004). These were due largely to a lack of appreciation of the informal aspects of low-income housing provision by HUDCO, imposition of formal regulations and working practices on the developer and lack of sufficient regulation of the developer's ability to transfer land. Thereby facilitating their shift up-market due to larger profit margins and greater social prestige once they were accustomed to formal processes rather than enabling greater low-income housing provision through the private market.

Perhaps the most important criticism of this enabling market paradigm is the inappropriateness of the enabling strategy in the context of developing countries and the need for a wider range of strategies that might provide
more effective alternatives to enabling formal markets. Chief among alternatives is for the state to do what the market does not. This is direct state action to counter the inadequate responses of markets to rapid urban growth, to poverty, to the lack of resources for providing serviced land on a scale that can match needs, and to chaotic economic conditions (rampant inflation and/or interest rates, falling real incomes, and lack of alternative investment opportunities). These contribute to excessive speculative investment in land and monopoly behaviour for maximising profits, actions that, in effect, limit efficient market activity and drive up land and housing prices, without any significantly lowering of the threshold for access by low-income households to mortgage or building finance (refer to Keivani and Werna, 2001a and 2001b for a more detailed discussion).

Specific examples of the results can be seen in the contexts of Ahmadabad, Santiago, and Manila where a combination of the above factors have led to relentless speculative investment, the freezing out of the middle and lower income groups and, in one case, paralysis of the housing market altogether during the study period (Baken and Van der Linden, 1993; Duran and Soza, 1987; Strassmann, 1994). In the conditions of developing countries, market faults can be exaggerated, on the one hand. On the other, the lack of capacities and poor governance in the circumstances noted above can render the institutions of developing countries incapable of market-enabling actions of any consequence. As Jones and Ward (1994) highlight in respect of urban management, the government, therefore, needs to exert a mixture of land market management and direct action, rather than solely relying on market management or totally abrogating responsibility, in order that the state can “resolve the land problem ‘flashpoints’ in LDC cities” (p47). It should not be surprising that the current Government of Brazil reported to the 2004 World Urban Forum in Barcelona its conviction that the housing problems of the urban poor could not be tackled successfully unless it could provide land.

It is on the basis of such concerns that Keivani and Werna (2001a and 2001b) argue that, while markets can and should be supported as part of the wider spectrum of housing provision in developing countries, they need not necessarily be the focus of policy initiative. Indeed, development of the housing sector in respect of expanded low-income provision requires us to go beyond the enabling market strategy. This means a more comprehensive and pluralistic approach capable of considering the social, economic, institutional and political aspects of a specific context. It further means a far greater role for the state than that required by the policy prescriptions of international donors and development agencies, including the operation of more traditional management tools such as taxation and other punitive or incentive measures.

This paper takes the debate forward by reporting the impact of action by the Government of Iran after the 1979 revolution on low-income housing provision. Starting from that time, the State successfully took land from private ownership, assembled it with holdings of its own into a large bank of public urban land, and allocated land from this bank for housing that reached large numbers of poor households. The remainder of this paper, first, briefly reports on the general experiences of large scale public land management for low-income urban housing in developing countries. Then it provides an overview of the changes in urban land and housing policy in Iran that were implemented during the period between 1979 and 1989. The paper concludes by examining the impact of these changes on the urban land market and low-income housing provision. The concluding section also considers some of the implications for the market enabling strategy and the general housing debate regarding developing countries.
Management of Large-Scale Public Land Holdings for Low-Income Urban Housing in Developing Countries

The taking of private land to create a large bank of public holdings has rarely been successful in developing countries as a means of providing land for housing low-income urban residents. It is no wonder that some policy advocates abandoned this as a strategy. Consequently, there is good reason to give attention to a case where management for low-income housing of large scale public land holdings has succeeded. First, this will remind us that successful management of large scale public land holdings for low-income urban housing in developing countries is possible. The many high profile failures should not cause us to throw out the baby with the bath. When tackling low-income housing, there is, in fact, more than one possible strategy from which to choose. Second, recognition of the achievements of Iran paves the way for studies that can reveal how its success might in some circumstances be replicated.

Governments find it very difficult to amass quantities of urban land for whatever purpose. If they seek to buy in the market, the high prices found there require expenditures of magnitudes to which governments will consistently not consent, given the more immediate demands on them for funds. In the minds of politicians, buying land is an investment in the future that cannot usually be made into a highly visible attack on the threatening economic and social problems of the moment. It is not possible to name a single national or city government in the developing world that has purchased large areas of land for urban purposes from the market during the past 50 years. It is their wealth that has probably made it possible to do so in developed countries such as Canada, the United Kingdom (for example, Harloe, 1975), and Sweden (Darin-Drabkin, 1977; Strong, 1979). Even compensating for land that is taken from private owners requires sums too substantial to claim priority, if done on a large scale. Moreover, land-taking may cost less only because compensation is commonly set at levels much lower than market price. Consequently, land owners resist vigorously, using all the political power they can muster.

Major political change has sometimes provided governments with sufficient political will to carry out substantial takings of land with or without compensation. This permitted Tanzania and Nigeria to nationalise most land within their boundaries. Other countries have attempted more limited takings by legislating limitations on the quantity of land an individual may hold. In India, Sri Lanka and Nepal such legislation was not effective against the abilities of landowners to escape through legal loopholes, use their influence within government, and/or stall action against them for years by going to inefficient and corruptible court systems (McAuslan, 1985; Acharya, 1987).

Assembling large quantities of government-controlled urban land has been only half of the battle. Putting it to use for low-income housing has proved equally as difficult. Tanzania never seemed to build the capacity required to administer land transactions on the scale needed (Kombe, 1997). Nigeria created requirements for recipients that worked to exclude the poor households that are the urban majority (Okpala, 1982). Governments with a legacy of substantial urban holdings that had been taken by colonial regimes—such as Kenya and Pakistan—similarly failed to create effective institutions for allocating this land for low-income housing. Although it could claim to have the administrative capacities these others lacked, the Delhi Development Authority has been severely criticised for losing sight of its pro-poor mission (Baken and van der Linden, 1992; Sarin, 1983). Moreover, in so many of these cases—as from time immemorial—governments have been seen to use the distribution of land as a tool for consolidating political power through gifts of land that squander opportunities to benefit poor people.
Urban Land and Housing Policy in Iran

Prior to the 1979 revolution despite Iran’s low demographic density compared to many other countries of the world (30 person per square kilometre), and while there was sufficient land to meet all demand, the price of land in Iran was higher than in many other developing countries (MHUD, 1977). In the fifth national Development Plan (1973-1978) the government in fact attempted to address the worsening land and urban housing situation by introducing a tax on land appreciation, limiting private transaction of undeveloped urban land, increasing state land acquisition powers for public purposes and expanding direct public supply of low-income housing which grew to its highest level (to date) of 20% of total housing investment in the country by the end of the period (CBI, 1980a; MHUD, 1989).

However, the entrenched major landed interests were able to negate the impact of these policies by either influencing the process of decision making within the state apparatus or by controlling the land market and its prices and sometimes both (Takamoli, 1981; Hafizi, 1981; McCutcheon, 1979). Note that by 1978 about 85 percent of land within the Tehran city boundary belonged to the Royal family or a few big land-owners. Furthermore, of the 80 million square meters of land on the outskirts of the city, 90 percent belonged to 10 percent of land-owners (Hafizi, 1981). The urban land and housing situation progressively worsened. Between 1971 and 1976, the price of land in Tehran increased by 500 percent (Takamoli, 1981) and by the end of 1977 the average price of land in the urban areas of the country as a whole and Tehran was respectively about 42 percent and 50 percent of the overall cost of housing (CBI, 1989a; Mowlazadeh, 1991).

In the post 1979 revolutionary climate, one of the major objectives of the new government was addressing the urban land and housing situation. Initially in the immediate post-revolution period, a large number of urban poor and some middle class citizens seized the opportunity to occupy many vacant land plots in and around Tehran and many other large cities. These groups of the population took advantage of the breakdown in municipal controls and started a boom in self-help housing by constructing their own housing themselves on the occupied lands. Many of these were in the protected boundary of the cities and had been protected from development. At the same time the revolutionary courts and some other revolutionary foundations and organisations confiscated the lands belonging to well known big land owners, both within and outside the city limits, and subdivided and transferred them to the low-income families. In the four month period of February to June 1979 between the spontaneous invasions and the revolutionary courts, a total of 30,433 plots amounting to some 10 million square meters of urban land was transferred to landless families in Tehran alone (Municipality of Tehran, 1980).

However, in June 1979 the government decided to bring some order to this situation by passing a law which imposed a ceiling limit on private ownership of undeveloped urban land and to acquire the excess land for housing and urban development purposes. This was largely facilitated by relying on Islamic law for defining urban land categories and rights of ownership. Accordingly, urban land was divided into three main categories which are a) undeveloped or virgin (Mavat) land, b) abandoned, or unutilised (Bayer) land and c) cultivated or developed (Dayer) land (Taleqani, 1983).

Under the new law, the Abolition of Undeveloped Urban Land Ownership (and Implementation Regulations) Act (AUULOA), the term ‘undeveloped land’ covered all categories of vacant urban land in general (AUULOA, 1979). It included those lands which had never been developed in the past (Mavat or undeveloped land) and those currently abandoned or unutilised but which were at one time put to productive use (Bayer or unutilised
land). Moreover a dedicated agency, i.e., the Urban Land Organisation (ULO) was created at the same time to oversee the implementation of the law.

The law granted the right of development of one plot of land up to a specified ceiling limit for owners of undeveloped urban lands on the condition that neither they nor their spouses owned a suitable housing unit. The ceiling limit was set at 1,000 square meters in cities over 200,000 and 1,500 square meters in smaller cities. In addition the owners were given a 3-year time limit to develop their land. Any excessive area of land more than the stated ceiling was to become available for public acquisition without payment of any compensation (AUULOA, 1979).

However, after the enactment of these measures some controversy arose regarding the right of owners of Bayer (abandoned or unutilised) lands to receive compensation. In this respect some Islamic scholars argued that, as such land had at one time been put to productive use such as farming or other purposes and could easily be reused for such purposes, then they could not be treated the same as totally undeveloped lands. Therefore their owners were entitled to some compensation. As a result the government passed another law in March 1982 to take account of this issue and of some practical problems that emerged during the implementation of the previous law. This law was called the 'Urban Land Act' (ULA) and was given a duration of five years, subject to extension by the parliament.

According to 1982 Act, vacant urban lands were divided into the two previously stated categories of Mavat (undeveloped) and Bayer (abandoned or unutilised) lands. As before, the owners of vacant urban lands were each allowed to develop one plot of land to a specified ceiling and up to a specified period of time. On the one hand, the surplus Mavat lands were taken by the government without any payment of compensation (ULA, 1982). On the other, the excess Bayer lands, which went beyond the permitted ceiling limit, could remain in private ownership but were not transferable, except to the state and at a price established by government. In addition, the ceiling limit for the larger cities was reduced to about 660 square metres and the smaller ones to 1,000 square metres, while the deadline for the development of plots was extended to 1990.

As a result of these measures, the government came into the possession of substantial tracts of land lying around the cities and also inside the city limits. The lands obtained were subdivided, the necessary urban infrastructure provided, and the plots of lands transferred to eligible households. While the Act did not specify an income criterion, its requirement that recipients lacked land and housing ownership and its encouragement of cooperatives for factory workers, civil servants and general trades-people largely favoured the low to middle income groups. Consequently, at the end of the 5 year period of the implementation of the law, there was a better balance between demand and supply of land in most urban areas of Iran. However, the work of acquiring and allocating the excess lands was deemed to be incomplete as the ULA neared the end of its legal life, so the government was obliged to pass another law in 1987 to extend it.

The main differences between the new ULA and the previous one were as follows (ULA, 1987):

Firstly, there was no limitation of time for the public acquisition of Mavat or undeveloped land in all urban areas.

Secondly, the necessity order for the acquisition of Bayer or unutilized land was restricted to only 32 cities out of the existing 500 cities and towns in the country. This was done since the amount of Mavat land in the other cities was seen to be adequate for allocation for housing and other public requirements.
Thirdly, because of shortage of Mavat and Bayer lands in the chosen 32 cities, the government was allowed to compulsorily acquire the Dayer or developed land that is currently under-utilised as well. Nevertheless, where the amount of its existing Mavat land was not adequate for the provision of housing and urban facilities, the government would have to acquire any remaining Mavat lands in the first instance, then the Bayer lands and lastly, if it still requires more land, the Dayer lands.

However, the owners of Bayer abandoned (unutilised) and Dayer developed lands in these 32 cities can subdivide and transfer their lands after the provision of services, if the state or municipalities announce that they do not need their lands for acquisition (ULA, 1987). Moreover in so far as Dayer lands are concerned, the Act extended the government acquisition power until September 1992. From that date onwards, such land could only be bought with the consent of the owners at agreed prices.

These 32 cities were mostly large ones and the new satellite towns around them. The total population of these 32 cities was 13,775,412 in 1986 while the total population of the urban areas of the country was 26,844,561 (SCI, 1987). Therefore it can be concluded that about 51 percent of the urban population of the country were still subject to the measures of the ULA in 1987.

Finally, the 1987 Act established the ceiling limit for all areas as 1,000 square metres.

An interesting aspect of the 1982 and 1987 Urban Land Acts’ Implementation Regulations (ULAIR) was that they recognised the potential of public/private cooperation to increase urban low-moderate income housing. As a result, apart from allocating land for individuals to build their own homes, Clause 67 of the Acts also provided for the allocation of urban land to private firms and individuals for the provision of low-cost housing for the purpose of commercial sale in joint ventures with the government (ULAIR, 1982, and 1988). The Act put a limit of 10 units to registered individual builders and 50 units to legal entities (companies) at each cycle of development from initial allocation to delivery of units. Furthermore, the size of the project and the respective share of the government and the private parties would vary depending on the location of the project and are subject to negotiations between the MHUD and the private parties. Consequently, in each city the ULO was responsible for identifying suitable parcels of land for both purposes.

After the completion of the project the share that the private builder can sell in the market would be separated, while the share of the government would be transferred at pre-set prices to eligible customers who are introduced by the Ministry of Housing and Urban Development.

Other changes in the law also provided for the allocation of land to housing cooperatives, government organisations, government and private factories and other productive units for the purpose of worker’s housing. Housing cooperatives were one of the creations of the revolution, and they have been greatly encouraged by the government as a means of alleviating the housing problem in the country. They are usually trade or workers’ cooperatives formed in different ministries, private and public firms and factories, and also some other trades, such as the taxi drivers. The main objective of these cooperatives is to provide housing for their members with the aid and encouragement of the government.

Furthermore, in order to curb the sale of the land soon after development, an amendment was introduced in 1986 to the 1982 Act that made full transfer of the land title to recipients conditional on them obtaining building completion certificates from the local authority. This replaced the original condition that was satisfied with a development certificate for the completion of as little as just one habitable floor. In addition the
amendment also forbade the sale of such buildings and its land for 5 years after the official issue of the building completion certificate.

In the same amendment, the government entitled the original land recipients to apply for subsidised materials and finance for the construction of their dwellings. Furthermore, while the government charged for the allocated land, in most cases the fee for low-income families would only be the cost value to the government without any speculative or profit gain. This meant that the allocated land could be cheaper than in the market, and even then the Act provided that, subject to the approval of the allocation committee in exceptional circumstances, very poor applicants who can not pay for the cost of land would be given a discount on the cost (ULA, 1986, CL 76; MHUD, 1989). In charging higher prices for more desirable land plots, government saw the potential for income that could be used to cross-subsidise land allocation for low-income families. Potentially, therefore, the full implementation of the Act could provide a major tool both for income redistribution and the provision of land for low-income housing by the formal and informal private sectors. The former was involved both in joint venture developments with ULO as well as contracting services for individual units while the latter largely limited to building and contracting services for individual households that were allocated land and were subsequently responsible for constructing their own dwellings.

The impact of the new land policy on housing provision and land market

The evidence shows that, in contrast to the other stated cases, the urban land ceiling Acts in Iran did indeed provide a formidable tool for state action in terms of direct land provision, influenced the land market, and - at least in the study period - were pursued in a comprehensive and effective manner. Table 1 shows that in the 10 year period of this study a total of 85,557 hectares of urban land was either acquired by, or transferred to the authority of, the Urban Land Organisation (ULO Annual Report, 1979-1988). These comprised about 41,272 hectares of land, which were previously owned by the government and 36,000 hectares which had been classified as undeveloped (Mavat) land and confiscated from the private sector without the payment of compensation. To this must be added a further 8,258 hectares that were developed or unutilised lands and were acquired in return for the payment of compensation. The total amounts of such confiscated or compensated land that were urban, however, were 16,829 hectares, unutilized, and 25,183 hectares, developed.

At the same time Table 1 also shows the total amount of land allocated during the stated 10 years of 1979 to 1988 was about 14,103 hectares or 16.5 percent of the total amount of the 85,557 hectares acquired by the ULO. Therefore, about 71,454 hectares or 83.5 percent of the lands which were acquired by the ULO would have been available for transfer in future.

In other words the amount of land that was available still for disposal was five times more than that transferred during the study period. The percentage of allocated land in the different parts of the urban areas of the country ranged from about 6 percent to over 98 percent depending on the province. The percentage of allocation in Tehran was only about 18 percent, which, while being higher than the average of 16.5 percent for all the urban areas, is still lower than the figure for about half of the provinces of the country. The variations in these figures are indicative of the different scale of administrative, allocation problems in the different provinces of the country as well as the requirement for service provision after 1984 prior to allocation and the impact of earlier allocations in the smaller centres meeting the land requirement of the eligible candidates. In addition, it shows the effects of a deliberate policy of reduced allocation in comparison to
acquisition. In Tehran, this was aimed at reducing immigration flows to the capital and to realise the much higher value of the land that government was increasingly selling on the market in order to raise revenue for the ULO and the MHUD (Moatazed-Keivani, 1993). This last point is reflected in the increasing share of non-housing allocation (i.e., commercial, industrial, and public service purposes) rising from 12.9 in 1984 to 40 percent in 1988 (SCI, 1989; 1991).

Table 1: The amount of urban land acquired and allocated by the ULO between 1979-1988 in Iran (1000 M2)

<table>
<thead>
<tr>
<th>PROVINCE</th>
<th>Acquired land</th>
<th>Allocated land</th>
<th>Allocated as a Percentage of acquired</th>
<th>The land still available for allocation in 1988</th>
<th>Percentage of acquired available for allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Urban Areas</td>
<td>855569</td>
<td>141033</td>
<td>16.5</td>
<td>714536</td>
<td>83.5</td>
</tr>
<tr>
<td>1 Tehran</td>
<td>84200</td>
<td>15342</td>
<td>18.2</td>
<td>68858</td>
<td>81.8</td>
</tr>
<tr>
<td>2 Khorasan</td>
<td>75146</td>
<td>13962</td>
<td>18.6</td>
<td>61184</td>
<td>81.4</td>
</tr>
<tr>
<td>3 Isfahan</td>
<td>44043</td>
<td>13246</td>
<td>30.1</td>
<td>30797</td>
<td>69.9</td>
</tr>
<tr>
<td>4 East-azarbayejan</td>
<td>11580</td>
<td>8159</td>
<td>70.5</td>
<td>3421</td>
<td>29.5</td>
</tr>
<tr>
<td>5 Fars</td>
<td>62945</td>
<td>5289</td>
<td>8.4</td>
<td>57656</td>
<td>91.6</td>
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<tr>
<td>6 Khoozestan</td>
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<td>16710</td>
<td>15.9</td>
<td>88168</td>
<td>84.1</td>
</tr>
<tr>
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<td>4277</td>
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<td>5572</td>
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<tr>
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<td>13 Lorestan</td>
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<td>1943</td>
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<td>8094</td>
<td>80.6</td>
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<tr>
<td>14 Hamadan</td>
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<td>5385</td>
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<tr>
<td>15 Sistan &amp; Baluchestan</td>
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Table 2, on the other hand shows, that while overall 77 percent of the allocated land went for housing purposes, other uses such as urban services and commercial use have also taken a fair amount of allocation. Indeed, as stated in the previous paragraph, in some poorer provinces that in particular lacked urban services such allocation was around 50 percent of the total allocation. This points to the comprehensiveness of the
programme in the sense that it made provisions for all types of urban requirements, much of which would enhance the housing and living environment of the residents.

Table 2: Distribution of land for construction of residential and non-residential buildings by the ULO between 1979-1988 in Iran (000 M2)

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<th>PROVINCE</th>
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<th>Residential</th>
<th>Percentage residential</th>
<th>Non-residential</th>
<th>Percentage non-residential</th>
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During the stated period a total of 10,790 hectares of land were transferred to 422,864 families directly (234,000), through housing cooperative societies (131,000) and through public and private developers/companies (58,000). These figures are elaborated in tables 3 and 4. On closer inspection, however, an interesting observation is the much higher rate of cooperative housing in Tehran (64 percent) and respectively much lower rate of public/private developer provision (only 2 percent) in comparison to other provinces. In respect of the cooperatives this can be explained by the higher concentration of civil servants and other trades in Tehran and their better ability for forming cooperative societies to benefit from the Act. The lower rate of public/private activity on the other hand is partly due to the higher activities of some public/charity foundations.
involved in low-income housing provision and formal private developers outside Tehran utilising the joint venture scheme and partly as a result of the higher availability of private market opportunities for residential activities in Tehran, largely concentrated around redevelopment of Daer land. This latter point is clearly demonstrated by Moatazed-Keivani (1993) in his examination of private housing development activity in Tehran during the same period highlighting joint venture schemes between developers and owners of low density dwellings that were used for redevelopment purposes at much higher densities. The same study shows that the interviewed private developers were by and large reluctant to get involved in ULO land allocation programme due to their perception of inappropriate locations of many parcels for their cost recovery from their share of the scheme in the private market in comparison to their current activities.

Table 3: Distribution of land among individual families, cooperative societies and private developers by the ULO between 1979-1988 in Iran (000 M2)

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<th>%</th>
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Table 4: Number of families benefiting from allocation of land by ULO in urban areas of Iran between 1979-1988.

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Overall, however, the importance of the ULO allocation programme to urban housing provision in the country may be ascertained by considering that while only 12.6 percent of the allocated land was distributed for housing purposes, it actually comprised some 34 percent of the total amount of land used for housing during the period in the urban areas of the country (CBI, annual reports, 1979b-1988b). Indeed as shown in figure 1 in the second half of the period, the contribution of ULO plots to overall urban housing plot provision in the country rises above 50%, exceeding that of the private market.

**Figure 1:** Comparison of total number of housing plots commencing housing construction according to ULO, private and total land allocations between 1974 and 1988.

The impact of this action on the land market was dramatic. Figure 2 provides an indication of the differences between the nominal prices of ULO allocated land and those of the private sector. What is important here is not only the expected reduction of total average cost per square meter to that of half of the market price due to the discounting effect of ULO allocation fees, but also the fact that constant (1974 base year) land market prices remained at the level of 1976, with only a slight increase during 1984. A similar picture (Figure 3) emerges when we consider the average ratio of land cost to housing cost, which stayed below the 1974 base year for half of the period rising to the same level in the second half although still below the 1976 and 1977 peak periods.

**Figure 2:** Comparison of average urban land prices per square meter in current and constant (1974 base year) values according to the total, private and ULO allocation between 1974 and 1988.

**Source:** Majedi, 1996.
Figure 3: Ratio of average urban land prices to average housing costs between 1974 to 1988.

Source: MHUD, 1989, 1985 and CBI, 1989a, 1990. In the end, a note of caution is necessary as the cheap allocation of urban land without considering its full urban impact can also have negative consequences in terms of urban sprawl and the concomitant demand on infrastructure requirement. To a large degree, this has occurred in Iran, where in the late 1990s, the urban population density stood between 50 to 95 persons per hectare (Athari, 2003). This compares to more accepted norms of 150 persons per hectare that increases to 200-300 persons per hectare in mega-cities.

Conclusion

This paper started by challenging the World Bank’s enabling housing market strategy, suggesting that it overestimates the capacity of formal markets to provide adequate low-income housing in developing countries and that it excludes from consideration, or at least, does not support alternative strategies. Most of all, it questioned reorienting government’s role to that of essentially facilitating private market activity and refraining from more direct action. While agreeing with much of the enabling policy measures for institutional development of the housing sector and private housing market, we suspect that in the context of most developing countries these measures are not in themselves sufficient to expand low-income housing to any significant degrees, if at all. This, in our view, requires maintaining strong government land management to overcome inherent private market inefficiencies, many of which are unique or exaggerated in the context of developing countries. We do accept, however, that effective government land management is itself contingent on the existence of favourable political and socio-economic conditions and sufficient institutional capacities. Nevertheless, the Iranian experience suggests that this is possible in some context and cannot be dismissed a priori in the manner of the market enabling framework. Stronger government land management, therefore, deserves consideration as part of a broader comprehensive policy package, or an alternative to enabling private markets in its current dominant formulation.

In this respect, there is evidence that the Government of Iran substantially expanded the stock of low-income urban housing during the study period by directly providing land for its construction by individuals and organisations, effectively bypassing urban land and housing markets and their shortcomings. The Iranian experience has shown that such an intervention can provide a rich source of urban land resources for housing particularly the low and middle income groups as well as commercial and public service purposes. Here we must note that while the Iranian policy did not have an explicit income criterion, the eligibility criteria for

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1 The 1988 figures reflect the April to September values only.
lack of ownership of other land or housing, encouragement of labour and trade cooperatives and even the private sector ventures were all designed to specifically benefit a large section of the low and middle income sectors that would otherwise be excluded from the private market.

Moreover, policies implemented in Iran have demonstrated that intervention and the increased capacity for public-private joint venture schemes can in fact be a more effective mechanism for developing private sector housing provision capacity specifically targeted to include lower income groups than leaving the entire process to the market. Similar schemes have significantly increased the productive capacity and economic efficiency of housing developers in more developed countries such as Sweden (Ball, 1983; Duncan, 1986). It is pertinent that interviews with a cross section of housing developers in Tehran in 1990 showed that none of them were in principle against the Government's actions and viewed the joint venture scheme as an important tool for their involvement in housing provision in general and to the low-income groups in particular (Moatamed-Keivani, 1993). The fact that private housing developers in Tehran had not utilised the scheme as much as in other urban areas was more a reflection of the location of the sites on offer, rather than a weakness in the policy itself. This issue was to some degree addressed in the 1990s with a shift of government policy to encourage larger scale and smaller unit provision in conjunction with private developers/cooperatives in major conurbations rather than individual allocations. This, however, should be subject to further research and is out of the scope of the present paper.

At the very least the success of the Iranian experience during the study period shows that a government in a less developed country can effectively assemble and distribute public land so that it is then used for housing benefiting low-income urban dwellers on a large scale. This is very different from the results of most of the efforts made in developing countries to increase low-income housing through land nationalisation, through limitations on individual land holdings, or through the allocation of the large stocks of urban land governments inherited from colonial regimes.

Iran did not nationalise land, but retained individual ownership following its revolution. It obtained a large quantity of land by implementing a policy of limitation on the size of individual land holdings. Islamic law may have played a critical role in the success of this policy of land taking, as well as the use of some land for middle-income housing that was also badly needed. Although compensation was paid that was lower than market prices, there was not a political backlash powerful enough to halt the programme. Land was distributed by the Iran Government directly to individuals and to organisations that would construct housing for low-income urban dwellers.

2 The shifts in the ULO urban land allocation from 1990 onwards have been largely influenced by supply side neo-liberal policies (Athari, 2003). Therefore, while the government has maintained its control of the undeveloped urban land market it has shifted towards commercial allocation and full cost recovery, reduction of individual land allocation, increasing reliance on mass housing provision by private developers and development of satellite towns around major conurbations to absorb the increasing urban population. Interestingly, however, Athari (2003) notes that in spite of the stated policy the share of individual allocations in the 1994-1997 period increased to 50.4 per cent in comparison to mass builders (36.8 percent) and cooperatives (18.9 percent). This is indicative of some confusion and lack of consistency in the overall policy implementation. Later MHUD policy announcements, however, have re-emphasised developing the role of large scale developers as the mainstay of future housing provision in the country.

It is also pertinent to note that from the mid 1990s the private ‘Daer’ or developed segment of the urban land market in a handful of the major urban conurbations has been subject to rapid price increases. As such by 1998 the urban land price and house building cost indices respectively increased to over 3000 percent and 3,500 percent of their 1979 values (Athari, 2003). Tehran in particular is worst hit experiencing a 400% increase in house prices between 1992 and 1998 (Rafiei, 2003) and a full boom and bust cycle up to 2000. Prices in the city were again on the increase in the first half of the new decade, although field market observations by authors suggest that prices have stagnated during 2004 and in to 2005.
Land markets had not been serving the housing needs of many urban residents, especially those who were low-income. The Government of Iran provided an effective and sustained alternative to the market. It demonstrated the necessary commitment and administrative capacity to deliver its land to the urban poor targets of its policies, in contrast with so many other governments in developing countries. It further showed that this could be done on a very large scale, throughout the country, within all of its regions and cities. The Iran experience demonstrated that government could bring about construction of new low-income housing by delivering land to cooperatives and even to private sector firms. It worked directly with them, rather than through the market, for it found them capable of the required tasks.

So much that has been demonstrated by the evidence deserves further investigation. This is particularly so because it has taken place in a developing country of the kind where international donor agencies such as the World Bank would advocate enabling the market as the preferred approach to improving housing for poor people. This Iran experience has been given little attention. Research is needed to understand why the alternative approach taken in Iran has worked and to identify the factors that made it so effective. There are valuable lessons here for other governments, ones that have performed so poorly in their attempts to improve the provision of low-income housing in cities and towns.

References


Baken, R. J. and Van der Linden, J. 1992. Land Delivery For Low Income Groups In Third World Cities. Brookfield USA.


In the absence of a more detailed study it is difficult to provide definitive answers on the reasons for the rapid price increases in the major cities or the impact of the shifts in emphasis of the urban land policy and Daer land price inflation on low income housing provision in the main urban conurbations. We can however postulate that rapid price increases are due to a combination of circumstances from increasing housing demand due to continuing immigration and urban growth of the major cities, the high inflationary environment and lack of alternative investment opportunities that have played a major role in directing speculative investment into the uncontrolled Daer land market.
According to the Provinces for different years. Tehran: Central Bank of the Islamic Republic of Iran.


Okpala, D. C. I. 1982. The Nigerian land-use decree revisited. Habitat International 6(5/6)


THE NUEVO USME AND PEREIRA PROJECTS: MOBILIZATION OF LAND VALUE INCREMENT FOR PROVISION OF SERVICED LAND FOR SOCIAL HOUSING

María Mercedes Maldonado Copello *

Introduction

The national housing policies developed in Colombia since the beginning of the 1990s are based on three strategies: direct subsidies, mechanisms to facilitate access to credit to low-income families and the promotion or stimulation of the construction sector. This last strategy is shown particularly in the reduction in the size of lots and housing and in development standards. In addition, incentives are given to the banking sector for them to award credit to social housing.

Over time, the main bottleneck faced in developing social housing programs has become the lack of serviced land at prices accessible for the lower-income population. This problem is the result of the long-existing gap between housing and land policies, despite the fact that Colombia is one of the countries in Latin America with the most developed legislations regarding regulating the urban land market - a result, paradoxically, of the awareness of the need for the poorest people to be able to access serviced land.

The Colombian experience shows that focusing strictly on housing has not managed to solve the problem of generating adequate conditions for urban life and of social integration for the majority of city dwellers. It has, however, also shown that informal settlements continue to be both the predominant mechanism to access land, and housing for the majority of our cities’ inhabitants. This happens within a process where being outside of the urban regulations is not the most important consideration. Instead, other factors – in particular, social exclusion and vulnerability, the effects on the environment and the fiscal impact for both the least-protected families and for the public budget - have greater importance.

Sector policies now focus on the financial aspects of building through subsidies. However, the subsidy mechanism is facing growing difficulties. These problems involve the low proportion of the total price of the housing that the subsidy represents, the eligibility and handover procedures and the general situation of unemployment, underemployment and poverty, in which families have constantly more difficulty in obtaining the remaining resources necessary to complement the subsidy and, thus, to access housing¹. Despite the poor performance of this mechanism, national government continues to persevere with the subsidy approach, and some municipalities, such as Bogota, have even adopted their own direct-demand subsidy initiatives, producing poor results. Meanwhile, informality and the occupation of high-risk areas continue to grow.

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¹ The total of the subsidy is enough to finance approximately a third of the price of the housing. Each family must contribute a programmed saving that represents a little over 10% and the rest should be covered with credit. This is one of the main bottlenecks, given the financial system’s reluctance to manage this type of low quantity and supposedly high-risk credit, and the families’ reluctance to get into debt with the financial sector.
Thus, policy appears to be trapped within a tight framework of alternatives limited to awarding individual titles or cash subsidies in market conditions. The different actors in this situation defend this approach uncritically, although they are aware of the problems in generating the collective elements and spaces that allow the long-term construction of the social, material and symbolic relations that define a city (connection to utility networks, accessibility, public spaces, large and medium-scale collective amenities, green areas and particularly, equity in distributing social resources).

Alternatively, regularization and upgrading programs have been considered for a long time as the privileged expression of urban social policies and the mechanism of public action to attempt to address a problem with almost no solution: informal urban development.

This article examines a different approach taken by two large urban operations designed by the municipal administrations of Pereira and Bogota in Colombia. These projects apply housing and land policies based on the integral application of the land management instruments found in the Urban Reform Law (Ley de Reforma Urbana, Law 9 of 1989) and the Territorial Development Law (Ley de Desarrollo Territorial, 388 of 1997) and, especially, on public participation in land value increments resulting from administrative actions (participación en plusvalías derivadas de la acción urbanística del Estado).

Basis and Context for the Design of Operación Usme and of Pereira’s Gonzalo Vallejo Restrepo Macroproject

The basis for the structure of these Operations consists of the following:

1) Illegal development is characterized by the existence of large areas of cities that receive neither public nor private resources for their development and in general, by the persistence of marked difficulties in accessing road infrastructure, services and collective amenities

2) Secular tolerance of illegal development, together with palliative upgrading programs, transmit the clear message that sooner or later the public sector will give these new areas appropriate infrastructure and amenities, and contribute to perpetuating illegality.

3) Illegal development is not only explained by poverty, by informal-sector employment, or by restrictions in the supply of developed land. It can also be explained by the practices of the urban population regarding habitat and housing. In contrast, policies and official plans tend to impose models, standards and homogenous patterns linked to the logic of the profitability of the building sector or to aesthetic and functional conceptions of housing, and not to the habitat decisions of the poor influenced by family composition, survival strategies or the need to combine work and housing, among other elements of daily life in the popular sectors.

Operación Usme is a project of the Municipal Administration of Bogota as well as a demonstration project developed by the Lincoln Institute of Land Policy, in association with the Universidad Nacional de Colombia-Instituto de Estudios Urbanos and Fedevivienda. This document includes the Operation’s design, as well as that of the Gonzalo Vallejo Restrepo Macroproject from Pereira. The latter is that which has advanced most at the time of publishing this article, and does not necessarily use the official positions of the respective municipal administrations, but rather the land policy proposals made in workshops, publications and work carried out with the entities directly involved.

As regards these two points we again have support in the reflections of Martim Smolka on illegal development in Latin America, Cfr. Smolka, M.O. 2003 and 2002.
4) The purchase of land by municipal administrations is not necessarily the best option. Municipal housing programs often resort to buying rural or undeveloped land on the outskirts of cities. When these actions have no land policies to guide them, there is the risk of buying at a high price that reflects expectations about the future urban use of the land that increase the price while the municipality assumes all the costs of the development. This is clearly the case of the programs developed by Metrovivienda, the municipal entity created in Bogotá in 1998 to offer serviced land for social housing, which operates as a land bank.

In addition, due to the availability of public resources, each land purchase operation can cover only isolated portions of land. This does, however, send a signal to the market about the presence of an important buyer, which increases the prices in each transaction. This is without taking into account that the land purchase and stock on the part of public entities tend to generate problems of management, control and even of corruption.

5) Alternatively, popular housing organizations purchase land on the periphery at high prices and then pressure municipalities to convert it into urban land by providing it with infrastructures, services and amenities, paid for using the public budget.

6) One of the strategies used to stimulate the production of social housing has been the often excessive reduction in lot sizes and green areas as well as in those areas reserved for recreation and social amenities (i.e. reduction in development standards). The end result is high densities and habitability problems, which in turn affects the conditions for social integration and co-habitation. Colombia has reached the point where the indices of land occupation and densities have reached higher levels in formal developments than in informal ones. Also, with this type of measure, the opposite effect is often reached: an increase in land prices.

On the other hand, the popular neighborhood has begun to be replaced by the enclosed residential complex, transferring the maintenance costs from the local jurisdiction to the poorest. The quality of the housing has fallen significantly, and uniform designs have been imposed without any sense of place. This generates resistance among families who, paradoxically though it may seem, end up preferring the option of informal or pirate developers, in spite of everything this implies in terms of the absence of infrastructure and amenities, overpricing and social exclusion.

It is essential to understand the role played by informal development that allows progressive, self-built housing that accommodates the work and resource-shifting strategies of people who belong to the informal workforce and that provides them with housing adjusted to the needs of their family in the long term.

7) We must understand the problem from the perspective of social mobilization of public and private resources. That is to say, show who benefits and how, from the resources invested in the transformation of new urban spaces and housing construction, whether in the form of public or private production, direct or indirect subsidies, or any other mechanism. The starting hypothesis is that both direct-demand subsidies and the reduction in development standards, as well as the programs for regularization and upgrading, end up transferring substantial resources to landowners, and feeding the vicious circle of
The search for alternatives is also linked to the achievement of greater efficiency in the processes for producing serviced land for social housing.

**Nuevo Usme and the Pereira Gonzalo Vallejo Macropoject:** Usme is an area in the southeast of Bogota, which currently has around 450 thousand inhabitants, occupying some 1,000 hectares, 90% of which have been subdivided in the form of raw lots by pirate developers. In June 2000 the city's master plan (Plan de Ordenamiento Territorial - POT) allocated another 800 hectares land for urban expansion.

The municipal company for Water and Drainage (Empresa de Acueducto y Alcantarillado de Bogotá -EAAB) for the first time in the city's history and in the context of upgrading programs has developed the water supply system in this area ahead of settlement, with the specified purpose of serving popular housing. Metròviviendd is developing a project of around 6200 houses and Transmilenio, the system of public transport by buses recently adopted in the city, reaches the developed area nearby via feeder routes.

**Operación Usme** involves the planning and management of 800 hectares, of which 432 hectares are for collective uses such as roads, protected areas, green and recreation areas and amenities, and 368 hectares for building development. Here 56,000 houses are planned; 43% will be developed plots that will be combined with housing for higher-income families and 674,892 m2 of will go to commercial and agro-industrial uses.

Pereira is a city of 488,839 inhabitants in the so-called Coffee Zone (Eje Cafetero), with a strong commercial economy and an important public institutional development. The Gonzalo Vallejo Restrepo Macropoject is in the urban expansion area in the southwest of the city, strategically located between two important regional highways. This location facilitates the area's socioeconomic connection, both at a national and regional level where it is possible to carry out an operation on a large scale, with facilities to connect the city, combining housing projects for different socioeconomic strata, as well as for other uses.

The total area of the intervention of the Macropoject is 160.3 hectares, of which 99 hectares will be for collective uses such as roads, protected areas, green belt and recreation areas and amenities, 61 hectares are for

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4 These ideas are taken from the work of Martim Smolka. This article is partly based on another, written jointly by: MALDONADO, M.M., SMOLKA MO (2003). On the impact of subsidies on land prices in Chile, see: ARRIGADA Camilo, 2005, BRAIT Isabel, SABATINI Francisco, 2006 in Colombia, in the reconstruction process of the Eje Cafetero (Coffee Zone) after the 1999 earthquake, the analysis developed in the Centro de Investigaciones del Desarrollo-CIDS (Centre for Research into Development) at the Universidad Nacional de Colombia bring us to the conclusion that at least 30% of the important resources for subsidies assigned at the national level were taken by the landowners (See the article by CAMARGO Santiago, GONZALEZ Jorge Iván, SANCHEZ Marla del Pilar, 2004).

5 As is known, in Colombia, the predominant development mechanism “outside the law” is not the invasion or taking of lands, but rather has been the subdivisions carried out by developers who buy up large areas of land at rural prices to sell without any infrastructure or services (the term developers is, in fact, a contradiction in terms) before indifference or impotence, when there is no open complicity with the municipal and national public administrations.

6 Public company of the municipality in charge of producing developed land for social housing that sells plots of minimum 1 hectare to builders, controlling housing prices.

7 The Metrovivienda projects begun during the administration of Mayor Peñalosa show a weak application of the land management instruments. First, land parcels were bought and then passed on to associated projects at high prices that included expectations about the future use of the land. Then, the land is sold to other public entities for infrastructure, and finally as developed land to private builders, under certain conditions to control the final price of the housing. The projects have significant surcharges within the indirect costs, and in concentrating the public intervention in relatively small pieces of land bought by the municipal administration, the land rises in price at the cost of investment and state management. In addition, the type of housing Metrovivienda offers does not respond to the needs of families, and, therefore, pirate development continues to dominate. In addition, the financial scheme is based on a combination of direct-demand subsidies joined with credit, which the families cannot easily obtain, thus affecting the commercialization of the plots produced.
construction development, with 7,194 residences, 60% of which will be developed plots combined with housing for higher-income strata and 34,607 m2 of construction for commercial and industrial uses.

**Outline of the Land Management Scheme**

The base strategy used in both Operations is that of municipal government participation in land development, with the aim of replacing pirate development — i.e. the purchase of land and subdivision of land into raw lots and irregular occupation. This is where the technique of land readjustment comes in, complemented, as we shall see further on, by other land management mechanisms to recover “socially created” land value, geared toward supporting a social housing policy.

According to Doebele, “...the primary objective of Land Readjustment (“LR”) has been the assembly of small parcels when required for more efficient agriculture, for better urban development, or for other public purposes related carrying out an urban plan”.

Based on a review of the use of LR in several European and Asian countries, Doebele points out that when we talk about LR, we refer to “(1) its role in providing a method of more efficient and equitable assembly of suitably large parcels of land, or (2) its role of also recovering “socially created” value from landowners in order to recover the costs of infrastructure associated with a project”.

**Box 1: Six Steps of Land Readjustment**

1. Designation of a specific area of land as a LR Project. This is normally done by a public agency under appropriate enabling legislation, or by a private association of landowners. (…)

2. The preparation of a master plan for the site showing the layout of streets and public areas, as well as the plots allocated for private development.

3. Measurement of the areas shown by the master plan as being needed for streets and other public areas.

4. Estimation of the total market price of all saleable plots when the project is completed.

5. Estimation of the cost of construction all of the needed infrastructure, including administrative, interest and every other cost and the determination of the percentage of saleable lots that must be allocated to ownership of the agency carrying out the project. These plots are called “reserve” land or “cost-equivalent” land. They will be sold by the agency as the project proceeds, and — if its calculations are correct — the proceeds from their sales will completely cover the cost of providing infrastructure. The sale of these plots is generally by advertisement and public auction.

6. Reallocation of plots back to landowners, fully serviced and ready for sale as urban lots. Per square meter, this serviced urban land will have a very much greater value than the un-serviced rural land that owners “put into” the project.

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8 As mentioned, the purchase of land by public entities tends to raise its price, has a great impact on public budgets and reinforces the inequities derived from the urban planning.


10 Doebele suggests LR may be reduced to six steps:
In this text, Doebele refers back to the work he carried out in 1972, at the request of the World Bank, aimed at exploring alternatives to provide serviced land for poor families and highlights the potential of LR when it includes the capture of additional socially-created value that could be used to subsidize low-cost housing, or, indeed, any public purpose. He also points out that this approach “appeared to be better than land banking or special assessments, since it theoretically provided funding for infrastructure, as that infrastructure was being built, and thus eliminated the problem of the public making a large investment in infrastructure, and then attempting, as it were, to tax back (“claw back”) the increased values that were already “in the pockets” of the beneficiaries. It was somewhat akin to the highly successful “withholding tax” which taxes income before it is received”. This is the same conclusion often discussed in Colombia regarding the formulation of Operacion Nuevo Usme and the Pereira macroproject.

In the cases of Usme and Pereira, the municipal governments are formulating an area plan (plan zonal) from which several subdivision maps (planes parciales) will be derived that define the rules for the readjustment(s) of originally rural land, where the steps above are carried out. The process is guided and regulated by the local government, which, as is explained below, controls the prices from the beginning of the process. In addition, in substituting the landowners, it provides the resources for the construction of infrastructure, services and amenities, and in exchange for its investment, receives an important portion of fully-serviced plots to develop self-managed and progressive social housing programs. Within LR, the rural land contributed by the landowners is paid with serviced land, which allows public resources to go toward provision of infrastructure rather than land purchase. This scheme also allows action to be brought forward to protect the peasant population from the area11, who are normally displaced by pirate subdividers who buy up the land at very low prices.

The serviced lots (or sites and services) will be sold or assigned to previously identified and registered beneficiaries of social housing programs12, as the infrastructures and services are built, through a trust (fiducia commercial, patrimonio autonomo) managed by a private financial entity, and controlled by an Administration Board made up of the public entities and the landowners and investors involved in the Operation. There has been some discussion regarding the possibility of awarding the subsidy in serviced land instead of in money, so that the resources available to the families are aimed toward building the basic housing units.

In this way, the municipal governments immediately resolve the main expression of informality - the absence of infrastructures, amenities and services - and avoid the drawbacks of land banking (long-term holding of unserviced land by government, characterized by high costs and inefficiency).

The scheme also contemplates several control mechanisms for land prices and the mobilization of the value capture in favor of the public:

1) **The designation of a specific area destined to social housing**, which is based on regulations derived from Colombian law, which obliges master plans (Planes municipales de ordenamiento territorial) and subdivision plans (planes parciales) to establish percentages or quotas of land for social housing in any zone for urban expansion or renewal, in proportion to the social composition of the population.

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11 This is the case of Usme.
12 They ideally belong to housing organizations. The programs should be aimed at those families that are not being attended to by the subsidy programs plus bank credit.
This Colombian legislation, adopted to support social housing policies, allows the control of land prices from the beginning, as a consequence of the use assigned to the land.

One of the main factors in social exclusion comes from the municipal master plans, which tend to raise the price of private land. It is not uncommon to find zoning that prioritizes profitable uses and does not plan land for social housing in proportions appropriate for the population and its expected growth. From the beginning, these decisions push the price of land upward and affect the development of social housing programs.

An important share of the total developed acreage resulting from L.R. in these projects goes to sites and services or serviced lots, which reduces land prices even more. This is a decision that also contemplates the real socioeconomic conditions, that is, the payment capacity, of the majority of the population of Bogota or Pereira.

2) The announcement of the project to control land prices: Law 388 provides that in the case of public land acquisition or expropriation, the land's commercial value (for compensatory purposes) cannot include the amount corresponding to the price increments (plusvalias) generated by the project, which justifies the expropriation. This provision freezes the land price at its level prior to the announcement of the project, and therefore is an expedient instrument to reduce the cost that the local administration would otherwise pay for land for its own urban development projects.

In addition, this becomes a tool to encourage landowners to participate in the land readjustment on which the Usme and Pereira Operations are based, as it establishes a starting price for the land before the public interventions begin (Plan Parcial management and especially investment in roads and public service infrastructure). If the owners do not join voluntarily, they may be expropriated at the price of the land before the project's announcement - in this case, its rural price. Their voluntary participation in the land readjustment allows them to benefit from the price of the land that comes out of the system of equitable distribution of costs and benefits.

This tool was applied in both Bogota and Pereira, and there are official valuations at rural prices (which is the current legal and physical condition of the lands), without taking into account the expectations about the future urban use of the land, as has, unfortunately, been the norm in the municipalities' or national land purchase.

3) The scale of the operations facilitates the equitable system of distribution of costs and benefits and the mobilization of resources to produce serviced land.

Instead of concentrating public efforts on buying up land which, however large the area may be, is always an isolated parcel, the public administration deals with large areas of urban expansion (800 hectares in Bogota, 160 in Pereira), thus directly facing the challenge of controlling speculative retention of lands or sub-divisions and occupations caused by pirate developers. Working on a large scale makes it easier to have general impact on land prices and to finance operations, as well as mix social housing with higher-income housing and with non-residential uses, in an attempt to break the vicious circle of socio-spatial segregation of the city and to generate employment within the same area.

4) Participation in land price increments as a tax mechanism (tributo participación en plusvalías) Law 388 of 1997 also establishes a tax called participación en plusvalías, that allows the Municipality to
recover between 30% and 50% of the increment in land prices derived from the normative authorization for more profitable uses or the increment of development and building rights. In Bogota, this participation was agreed through the Municipal Bill (Acuerdo del Concejo Municipal) No. 118, issued in December 2003 y in Pereira through the Acuerdo No. 65 of 2004. In both cases, the Municipality may recover 50% of the increase in land price. This agreement raises the municipal administration’s power of negotiation in formulating and carrying out the subdivision map (plan parcial) and land readjustment, since 50% of the increments in land prices produced by the Operation belong to local government, in any case. This could also serve to obtain resources in the processes of urban development in the more profitable areas of the city and give them to the production of serviced land in areas like Usme or the macro-project of Pereira.

5). Regulation of the new urban land with a relevant percentage of serviced plots (lotes con urbanismo). This process is carried out by emulating the actions of the pirate developer, but ensuring the provision of the collective elements such as public service networks and roads, green spaces, recreational areas and amenities, which he does not usually provide. The housing would be built by the final users, through programs of self-management and progressive construction. In this case, the building rights are, effectively, assigned to the beneficiary of the social housing program, who builds their housing through their own effort over the years.

It is hoped that regulation of land uses will be flexible enough to allow recognition of different alternatives for land and popular housing, without creating subsequent irregularity, such as productive activities within the houses, combinations of uses, progressive housing, and several houses per plot. However, at the same time, different payments for the land are predicted, knowing that, for example, the business located on the main road will produce increases in land prices. One or two families could even join together to build on the same plot and share the payment for the land and the future rights to build, or encourage the production of popular housing for rent.

Mobilization of Resources

As shown, the central point of the scheme analyzed is the participation of the municipal administration in guiding the process, in controlling land prices, and particularly in their role in the land readjustment as an investor and contributor of resources for the construction of infrastructure and services, which allows them to participate in the serviced plots.

The Subdivision Map (Plan parcial) defines the urban and regional planning objectives for the expansion area and its links to the existing city and to the rural areas; stages of temporary development are established for the different areas, in harmony with the program of public investment. It also includes the strategies and programs of social housing and establishes it as a priority. As already mentioned, those landowners who refuse to enter voluntarily into the land readjustment may be expropriated at a rural price, due to the effect of announcing the project, missing the opportunity to participate in any development or building rights.

Following is the sequence, broadly speaking, of the mobilization of resources involved in the projects, for which I shall use data from Operación Usme:

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13 This may be paid in cash, in land, in infrastructure or as a percentage of participation in the project or in building rights generated by the same project.
An illegal plot in Bogota measuring 72 Mts$2 easily sells for US $2,000 - that is, at almost US $28 per square meter. In comparison, for the rural land in Bogota in the areas where illegal occupations dominates, the commercial price is not more than US $1.80 per Mt$2. A formal but still non serviced plot designated for development in the popular areas sells for US $14 per Mt$2 and Metrovivienda sells land with trunk infrastructure to building companies for between US $34 and US $44 per Mt$2.

If the process of informal occupation that is currently dominant in Usme were to remain the same, a transfer of resources would be produced from the lowest-income families to the pirate subdividers of approximately US $150 million\(^{14}\). This high cost of the land derives, first of all, from the price of the solution that the pirate subdivider offers informal families, and secondly the inefficiency that comes from the long processes of occupation, the payment mechanisms, and the forms of management. On the other hand, as Martim Smolka points out, the problem of informality does not necessarily lie in the impossibility of paying for access to housing. In fact, families are already paying high amounts for lots without any infrastructure, and that are badly located and illegal in terms of urban municipal laws.

At the same time, to develop (that is, to provide water and drainage networks, roads that form 4-hectare blocks and the basic provision of parks) the 800 hectares of expansion mentioned above, has a cost of US $115 million\(^{15}\). Of this value, according to Colombian legislation US $70 million correspond to development charges for which the landowner is responsible.

The total price according to the rural uses of the land is US $11,200,000\(^{16}\) and the estimated price of the developed land (that includes a significant percentage of serviced plots for progressive housing programs) is US $138,900,000\(^{17}\). Even so, this price is higher than the development cost and 12 times higher than the rural cost. The price at which the pirates would sell is even higher.

The following table shows a summary of the comparison between land values and development costs, calculated upon the total land and shown in Mt$2:

<table>
<thead>
<tr>
<th>Description</th>
<th>US/Mt$2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial price of the rural land</td>
<td>0.60</td>
</tr>
<tr>
<td>Price at which pirate subdividers buy from the peasants</td>
<td>0.85</td>
</tr>
<tr>
<td>Average value at which the land was valued once the project announcement mechanism was applied</td>
<td>1.87</td>
</tr>
<tr>
<td>Value at which the land will be recognized for the landowners who participate voluntarily in the land readjustment</td>
<td>5.00</td>
</tr>
<tr>
<td>Price at which the pirates sell the land to low-income families</td>
<td>21.00 - 28.00</td>
</tr>
<tr>
<td>Cost of the investments in exterior development per Mt$2</td>
<td>16.40</td>
</tr>
<tr>
<td>Average value of the urban serviced land in the L.R.</td>
<td>21</td>
</tr>
</tbody>
</table>

\(^{14}\) Supposing the pirate reaches a 70% occupation of the total land.

\(^{15}\) Without the investment in local roads and home connections, whose cost is estimated at US 9,55/Mt$2.

\(^{16}\) Contando con que el pirate subdiviser logra ocupar hasta el 70% del total de la tierra.

\(^{17}\) The price of the serviced land is calculated using the residual technique, based on the determination of the predicted uses and potential development and building rights, and is distributed equally among all of the landowners (regardless of the final destination of the initial lands) once the cost of the development charges has been taken away.
Through the different land management mechanisms described, the municipality develops the parcel instead of the landowners, and therefore participates in the land readjustment, meaning that local government gets, as well as the land for public use, an important proportion of the serviced plots. 25% of the developed land is enough to pay for the land “put into” the project. (Reallocation of plots back to landowners)

With an investment of US $115 million over a period foreseen as 8 years, the development of an 800-hectare area will be achieved, distributed as follows:

432 Has for public use, distributed as follows:
- 110 Has Environmentally-protected areas
- 163 Has main roads and intermediate road system
- 72 Has for green spaces and recreation areas
- 87 Has for Social amenities

368 has for private development, of which 184 has, at least 50% will be for serviced plots for social housing programs for low-income families, who have not been attended to by the conventional programs of direct-demand subsidies. As we can see, we are dealing with an area that will be well integrated into the existing city, accessible to the public transport system and that, if it goes ahead as planned, will have a great development potential in the future. The idea is that the Municipality stimulates the occupation of non-residential uses that also generate employment for the population, including rural uses or urban agriculture in the transition areas.

Three overall results stand out: 1) The municipality obtains land for collective uses (areas for environmental protection, roads, public facilities, amenities, green spaces) and land for priority-interest social housing programs through mechanisms other than the public purchase of land; 2) control of speculative land prices; and 3) equal “remuneration” for land to all of the owners, regardless of the final destination of the land - be it protected areas, social amenities or profitable uses. That is, a fair price is recognized for all, including peasants, pirate sub-dividers, owners of a lot of land or other entities.

The serviced land that the Municipality receives for its participation in Project Usme or Pereira under the equitable distribution of costs and benefits system will have the following consequences: 1) contribute financially to some of the necessary investments 2) regulate developed and undeveloped land prices in the whole city 3) reach social objectives by awarding subsidies on serviced land, and so breaking dependency on subsidies to buy housing and, especially, breaking dependence on bank credit.

If Operación Nuevo Usme were not to occur, this area would be developed by pirate subdividers at occupation rates of 70%; that is, 560 has, instead of the 368 has that are planned within the Project. Afterward, the Municipality would have to invest in upgrading programs, and spend almost three times more than the investment predicted initially when the land was still empty. And this is without even thinking about the environmental and social effects of this type of urban development.

Conclusion

The Usme and Pereira Operations show that it is possible to offer serviced land accessible to the families of lowest incomes and, especially to those who depend on informal work, competing with the informal settlements that in countries such as Colombia continue to predominate. It is clear that neither control nor repression –
which have been tried with little effect - nor remedial titling and up-grading programs manage to overcome the problem of informal settlements, with their high social, environmental and financial costs. They also show the urgency of putting public initiatives into action regarding land management, to complement and guide social housing policies.

The scheme of the mentioned Operations proposes that, where public resources are low, they should be focused on producing collective elements to support urban uses. That is, they should be concentrated on shared infrastructure and the subsidies should be awarded to access developed plots - that effectively fight the pirate sub-dividers - or to access low-cost materials and technologies and help the processes of social and habitat production - self-help construction.

This alternative also shows that the solution does not necessarily lie in targeting subsidy programs, but rather in a strong public action directed at mobilizing value capture, to develop large areas where, while still prioritizing social housing uses, for-profit and non-profit and residential and non-residential uses may be combined, generalizing the supply of serviced land with good quality and assuring better conditions for social integration. To achieve this goal, it is crucial to control land prices and apply value capture redistribution mechanisms on a large scale.

Access to public services, public transport and green areas and amenities is an important element for access to citizenship, at lower costs, both for poor families and for the public budget, without having to wait for years and decades to pass by before these elements become available to define urban life.

One of the main objections to these operations in the Colombian debate is that they are conceived as a simple return to the problematic “sites and services” programs of the 1960s and 1970s. It has been argued that this approach is inefficient compared to producing housing on a large scale with high density - for example through high-rise housing.

However, it is undeniable that self-management programs and the construction of progressive housing have not disappeared from Latin American, due to the abandonment, or weakness in many cases, of the official housing programs or because of problems linked to policies based on direct-demand subsidies combined with bank credits. In many cases, though having obvious difficulties, at the end of the process, families get housing with better conditions than those offered by formal builders.

It is necessary to understand and accept the survival strategy for shifting resources of the poorest families. Faced with the instability of work and income, the building of progressive housing allows gradual access to the security of a home, without being subject to the demands or uncertainty of a bank loan or even a formal lease. In addition, families tailor and enlarge the size of their houses as need and resources permit, in contrast with the uniformity of production and the low standards of the housing offered by formal social housing development. These elements facilitate the installation of small businesses, sharing with family and friends or renting a part of their property, all within the economy of reciprocity.

The key lies in breaking the intermediation of the pirate subdividers, because of the impact generated in terms of the quality of life of the population involved during long periods, the extra costs and the slowness of

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18 The saving linked with housing construction, the work cycles linked with investment in housing, credits through popular solidarity networks and recently, emigrant fund transfers.
progressive building by making the process of informal housing construction positive, by flexibility in development norms, and by accepting the aesthetic and cultural conception of housing in the popular world. It is, therefore, essential to re-examine subsidies. Subsidies can be an important social policy mechanism, but the question must be ‘How are these subsidies awarded, and whom do they ultimately benefit?’ Different experiences and studies show that a policy of direct-demand subsidies unaccompanied by solid policy for land management ends up transferring an important percentage of (public and private) resources to landowners. On the other hand, once the increments in land price has been captured or redistributed from the beginning of the operation, public programs may be developed to support the processes of popular habitat production. Here, different social services mechanisms can be developed. However, this can only happen when land prices have been controlled from the beginning, ensuring that the personal and community effort in the housing building and the public investment do not translate into increases in the land prices, collected by the landowners, in formal or informal processes.

Another worry that comes up with these types of Operations is their complexity versus the institutional capacity of the municipal administrations. Certainly, a certain level of institutional development is needed to go ahead with such land policy mechanisms, complementary technical assistance programs and guidance with the self-management processes, but no greater than that needed for the titling and upgrading programs or even for managing direct-demand subsidies. Cities such as Bogota and Pereira have shown they have had this ability in many aspects of urban management, and it therefore seems strange that stronger and more coherent action has not been taken regarding informal settlements. On the other hand, supporting the recovery of community organization in this field will be, without a doubt, an additional factor in social integration. These mechanisms of solidarity and self-management have served as a cushion for the crises caused by the deterioration of working relationships that result in the average worker no longer receiving a stable salary, and, thus, promote social protection.

Operations such as that of Nuevo Usme or the Pereira Gonzalo Vallejo Restrepo Macroproject show the tight nexus between housing and land policies and the necessary strategies to fight informality: expropriation-sanction (at rural prices), controlling prices for public land purchases, equitable distribution of costs and benefits, the return to the public of land value increments resulting from administrative actions.

This approach represents a fundamental change in solving the problem of the supply of social housing. Establishing the governmental role in land development - from a large-scale perspective and not from that of a simple individual project - and in the design and implementation of instruments to control the price through applying the traditional technique of land readjustment accompanied, as Doebele points out, by capture mechanisms could be the beginning of a new phase of urban development where it is possible to finance the costs of urbanization through a more equal distribution of its benefits among the municipality, the landowners, the investors, the builders and the final users. If these mechanisms can be consolidated, in spite of the resistance that still exists, stable conditions will be assured for regulating land price, making access easier for the poorest families to serviced land and urban integration, in a more efficient way for the different public and private actors.
References


SMOLKA M.O. “La Regularización de la ocupación del suelo urbano: El problema que es parte de la solución, la solución que es parte del problema”, the Spanish version of an article published in Portuguese in FERNANDES E., ALFONSIN B “A lei e a ilegalidade na produção do espaço urbano”. The Spanish version was taken from: LINCOLN INSTITUTE OF LAND POLICY “Curso profesional sobre mercados informales, regularización de la tenencia y programas de mejoramiento urbano”, November 2002, Cambridge, MASS, CD-ROM.
LIMITS TO LARGE-SCALE RECONSTRUCTION: LAND DEVELOPMENT FOR THE POOR IN INADEQUATELY FUNCTIONING LAND MARKETS

Glenn Pearce-Oroz*

Abstract

Inadequately functioning land markets will have an impact on urbanization that can lead to inefficient and even high-risk settlement patterns. In developing countries where weak regulatory regimes and institutions exist, regulations for shaping the behavior of the land market, if they exist at all, often times are not enforced. In this context, the acquisition and development of land tends to be affected by non-regulatory market forces that benefit a relatively limited number of actors. Under this scenario, the majority of economic actors are forced to resolve their needs for land through alternative mechanisms outside the formal land market. When confronted by a natural phenomenon (hurricanes, earthquakes, floods, land slides, etc.), the inefficient and high-risk settlement patterns that result from inadequately functioning land markets can lead to disastrous consequences, as occurred in Honduras following Hurricane Mitch in 1998.

Reconstruction efforts that respond to wide spread destruction provide an opportunity for land market corrections, but should not be expected to structurally affect land and housing markets unless deep-rooted policy reforms take place. As demonstrated by the analysis of three large-scale human settlements reconstructed in Honduras as a result of Hurricane Mitch’s destruction, positive short-term impacts (e.g., unprecedented access to the formal land and housing markets by thousands of displaced, low-income families) are not automatically followed by improved long-term performance of the formal land market. Ultimately, the nature of reconstruction programs (i.e., fast-tracked investments) are incompatible with the nature of political reform processes (i.e., long consultative processes and coalition-building). In the interim, local governments need to introduce permanent systems that manage land market data in order to inform local policy makers and private investors alike.

Introduction

The constantly evolving and dynamic use of land by human activity has been an object of study for more than a century. From the earliest observers of how society allocates land uses differently (J.H. von Thunen, George Perkins Marsh) to more recent attempts to understand the principles driving land use change (William Alonso, Manuel Castells, and Allen Scott) the performance of land markets continues to be influenced by many variables with varying degrees of impact. Increasing our understanding of land market behavior requires the consideration of each moving part separately, all moving parts collectively, and the context within which they must operate. Particularly in developing countries, because of the discord that exists between legal provisions and practice, the institutional context within which the land market must operate is an overarching variable that will influence other aspects of land market functionality. Accordingly, as would be advocated by structuralist-institutionalist theorists, an accurate analysis of the land market in development countries must first and foremost take stock of institutional realities.

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The most basic manifestation of a poorly performing formal land market is one where the supply of land does not satisfy the demand. Over time, this type of land market failure becomes a driving force in shaping the city because it forces economic actors to adopt strategies outside the formal market for obtaining and using land. In many developing countries these alternative strategies evolve into full blown parallel land markets which sometimes threaten to overshadow formal mechanisms. The prolonged systematic development of these settlements in the context of an unregulated land market leads to inefficient land-use patterns where the construction of infrastructure and the delivery of services become costly and where settlement patterns are more markedly segregated by economic power.

In the context of long-term inefficient, high-risk settlement patterns, natural phenomena (hurricanes, storms, floods, land slides, earthquakes, etc.) can quickly multiply their disastrous consequences. The pattern of destruction is greatly increased when a storm strikes settlements in environmentally high-risk areas such as natural drainage channels, unstable hillsides, and floodplains. To a certain degree, reconstruction after large-scale destruction offers a unique opportunity for land market corrections. Urban dwellers in high risk zones are temporarily displaced (or longer) from these areas, an instant high demand for homes and buildings materializes, special financing for infrastructure may become available, and new urbanization patterns can be influenced. There are also formidable obstacles with which to contend as a result of these phenomena including human suffering, delivery of basic services, control against public health epidemics, and the increased urgency for quickly resettling displaced families. As the following analysis demonstrates, immediate opportunities for land market corrections and impact are short-lived and limited by the same institutional and structural constraints of the land market that existed before the emergency; the same constraints that contributed to market inefficiencies in the first place.

By focusing on three of the larger human settlements built during the reconstruction period following Hurricane Mitch (October, 1998), an opportunity exists to understand how these urban land markets respond to large-scale public sector interventions and how this type of land development has shaped urbanization patterns, if at all, six years later. Three variables that have driven change in these land markets will be addressed: lack of enforcement of planning regulations; poorly functioning non-regulatory components of land markets; and agent-based choices and strategies. Corrective measures, policy incentives, and the appropriate role of local governments will also be discussed.

The consequences of unenforced regulations and poorly functioning land markets

In their most rudimentary expression, land markets are shaped by the amount of land supplied by owners and the amount of land demanded by users. Therefore the mechanisms and systems that facilitate these transactions are fundamental for the functioning of the land market. If legally sanctioned mechanisms operate well for all types of actors that wish to participate in the land market, then the majority of transactions between supplier and demander will be transacted in the formal market. If these factors are weak or not easily accessible to all economic agents, whether on the supply or the demand-side, the functioning of the formal land market can become obstructed at best or obsolete at worst. The extent to which mechanisms outside the formal market become a viable alternative will depend on the success, or lack thereof, of potential supply and potential demand resolving their needs. Ultimately, market forces will adapt to both the regulatory as well as the non-regulatory environment. In developing countries such as Honduras, regulatory measures may be legislated to function in a certain manner, such as the urban boundary or infrastructure requirements for residential areas, but in practice may prove to have unintended impacts.
Local governments have mechanisms available with wide-ranging effectiveness to influence the behavior of land markets. Land use regulations, zoning ordinances, subdivision standards, concurrent infrastructure requirements, land taxation schemes, and the imposition of urban growth boundaries are all tools that affect the supply of land with varying degrees of success. The effectiveness of these regulations is predicated largely on the administrative and coercive capacity of the local government to manage and enforce them. When land market analysts cite the relevance of land use regulations for shaping the behavior of the land market, they are implicitly assuming that local governments are effectively enforcing existing regulations. In developing countries with weak institutions, this is a false assumption. Most of these regulations, if they exist at all, go unenforced and thereby provide no real limiting impact to the functioning of the formal land market. Local government ineffectiveness is a driving factor that leads to a de facto under-regulated land market where even the most basic regulatory measures, such as prohibiting development in environmentally high risk zones or limiting urban growth to an established urban boundary, remain unenforced. Within this context, the acquisition and development of land tends to be mostly affected by non-regulatory market forces. In Honduras, as in other countries in the developing world with a closed or captured economy, these non-regulatory market forces are accessible by a relatively limited number of actors who manipulate public and private institutions for their own benefit (Hellman et al. 2000). In this respect, formal markets that resolve the transactions of a limited number of privileged economic actors are no longer viable systems for the public-at-large to efficiently fulfill its needs for land.

The limitations in effective governance at the local level in Honduras are mirrored by the poorly functioning non-regulatory components that underlie land market dynamics: financing mechanisms, the property rights regime, and the provision of infrastructure.

In the case of Honduras, both supply and demand are faced with limited financial mechanisms and products to finance their activities in the land market. When financing mechanisms are not sufficiently diversified and competitive, or are limited by a fragile financial system, financing becomes scarce and prohibitively expensive for most developers (supply) and buyers (demand) of new land. In part, the fragile state of the Honduran financial system and vulnerability of its relatively small banking sector is due to the way in which the country has handled agricultural credit and losses (IMF 2003). The government bail-out of debtors has negatively impacted the financial system by encouraging moral hazard and damaging market discipline. The consequences for land market transactions are further complicated by banks' reluctance to provide mortgage-backed credit where property rights are uncertain and when court proceedings for foreclosure are lengthy. These factors and a higher non-performing loan to total loan ratio in Honduras as compared to other Central American countries has made the banking sector more conservative in its loan-making.

Most consumers of land and housing, especially the largest sector of the population, do not qualify for mechanisms offered by the formal banking sector. For this consumer cohort, mechanisms outside the banking sector are also limited. One promising outlet for low-income families is the Fundación para el

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1 A deliberate distinction is being made between urban boundaries and urban growth boundaries (UGB's). The former is a perimeter commonly established in Honduras by municipalities to determine the concentration of urban land uses. These boundaries, however, tend to be geometrically identified and exist for long periods of time, but are not designed or updated, as the case of UGB's, to promote smart growth.

2 Collective assets of the banking sector were estimated at US$3 billion in 2002 (IMF 2003).

3 According to UNDP (2003) 63% of the national urban population lives below the poverty line.
Desarrollo de la Vivienda Social y Rural (FUNDEVI), created in 2002 to provide financing to those households with monthly incomes of between two and six baskets of basic goods. During 2003 and 2004, FUNDEVI authorized a total of 1,499 credits and subsidies in Tegucigalpa, Choluteca, and El Progreso (FUNDEVI 2005), still well below the existing demand and representing only a fraction of the post-Mitch housing boom.

Consumers are also confronted by a deficient property rights regime that encumbers the legal transfer of land and the commodification of property. In Honduras, an estimated US$8 billion of real estate property in urban areas has been identified as dead or inactive capital (ILD 2001), that is, capital which is not captured by the formal market and cannot be utilized as a source for generating additional wealth or economic activity. Inaccurate land registry systems, complicated registry practices that produce long delays, and a weak judicial system that does not adequately enforce property rights and resolve disputes in ownership all contribute to the inefficiency and weakness of the formal land market. The nominal-based registries, in place from 1906 through 2004, provided titles linked primarily to the owner and described by imprecise measurements, rather than linking title more explicitly to the physical property as described by objective measurements. In this type of system, the purchase and sale, subdivision, or assembly of land becomes difficult to transact without disputes. This was the system under which the explosive urbanization of the 1970’s and 1980’s took place in Honduras.

Infrastructure provision is also an important input to ensure that raw land is available for appropriate residential, commercial, industrial, or public uses. The intensive land use that accompanies urban areas makes the provision of infrastructure all the more critical for cities experiencing growth. The ability to provide serviced land at a reasonable cost and rapidly enough to accommodate urban growth is necessary in order for the supply of land to satisfy the potential demand. The two important obstacles that impede the efficient development of public networks of water and sanitation in Honduras, financing and operation and management, are closely linked. If there are few or no viable financing mechanisms available, it becomes difficult to finance the repair and rehabilitation of existing systems or construct new ones. Similarly, when the internal management systems of the service provider are not operationally and financially sustainable, the provision of existing services, not to mention the needs of an expanding urban population, is further complicated.

Because the components that make up the land market function poorly or include structural barriers that limit access to the formal market, individuals who utilize these scarce mechanisms are afforded highly privileged positions within the economic system. They become economic elites not because of their competitiveness but because of their access and ability to maneuver within the captured formal market. The privileged access to limited information, as well as financial and legal systems, creates a high level of inequity in the patterns of land occupation and human settlements within the larger city.

Throughout Latin America this type of inequity is manifested in well-known urbanization trends characterized by the proliferation of irregular land development. Without access to the formal land markets and in the absence of enforced regulations, low and even some middle-income groups throughout the region have

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4 For example, a typical deed of sale specifies the following, “seller is owner of a lot located in Aldea Remolino, Municipality of Puerto Cortés, which has the following measurements and boundaries: to the north 44 feet and bounded by the property of Mrs. A. Paz; to the south 44 feet and bounded by the property of Mrs. N. Sánchez; to the east 29 feet and bounded by the highway to La Lima; and to the west 23 feet and bounded by the property of Mrs. A. Paz and Mrs. A. Membreño.”
opted for settlement strategies outside the formal land market. Because of the inability of land markets to provide sufficient supply for the ever increasing demand for urban land, many cities now have significant portions of their inhabitants living in irregular settlements: an estimated 59% of the urban population in Bogotá, 50% in Caracas, 50% in Quito, 40% in Mexico City, and 50% in Tegucigalpa (Clichevsky 2000, PADCO 1998). These irregular settlements can be characterized by their origins: land invasions, illegal subdivisions and purchases, and incremental expansion of existing settlements (Angel 2002). Whereas invasions were characteristic of early generation solutions to the land crisis (1960's and 70's), this type of occupation of space is now rare. In Honduras, for example, the evidence suggests that more and more, irregular land development and occupation is being conducted through some type of market transactions albeit outside the formerly established mechanisms.

As a result of the existing financial, property rights, and infrastructure constraints, only a small sector of the population can benefit from the formal market. Land development occurs in the formal sector, but only in a limited form by few actors with large capital reserves or privileged access to land. Consequently, a great deal of potential demand for land remains unresolved in the formal sector and is directed to informal market mechanisms. In Tegucigalpa the formal land market produced 24 residential subdivisions (for all income groups) between 2000 and 2004 for an approximate total of 4,600 housing solutions (METROPLAN 2005). However, during this time period the city increased by an estimated 18,457 households (INE 2001). The remaining 13,857 households not covered by the 24 residential subdivisions produced by the formal land market were forced to resolve their needs through irregular mechanisms or by overcrowding existing units, both of which tend to lead to substandard living conditions.

An important and direct consequence of the poorly functioning land markets has been the equally inadequate performance of the housing sector. In Honduras, housing deficits have historically remained high while the production of housing units has been consistently low. An estimated average of 3,500 new housing units were built annually on a national level by the formal market (both public and private housing starts for all income groups) in the 1980's, and 5,100 new housing units produced annually by the formal market from 1994-1996 (Pisani 1997). This is compared to the 46,700 units per year that need to be built or renovated to satisfy existing deficits. Unquestionably more housing has been produced during this time period, just not within the formal sector.

**Reconstruction for displaced families**

For many years before Hurricane Mitch, poor practices of land management in the country's largest cities took place. During the period of low urbanization rates, the inefficient land use patterns produced in the absence of regulation and enabled by poorly functioning land markets were manageable. As the rates of urbanization picked up in Honduras (1970-1990), the consequences of previously deficient land markets became compounded. In the unregulated land market, land supply was not providing enough for the land being demanded, the property rights regime could not address the influx of transactions, and the lack of infrastructure financing caused deficits in basic services. Under this paradigm, those who were able to overcome these constraints, possess sufficient financing, or access to scarce information, were able to participate in the formal market. The majority of the population that did not have easy access to financing or for whom land was not available were forced to adopt alternative strategies.
In each of the three cities included in this analysis, informal settlements began to spread in areas not optimal for the provision of services or in environmental risk zones. Hurricane Mitch, a 100-year storm, did significant damage to these areas. Destruction would have been great because of the magnitude of this storm, but was all the greater because of settlement patterns that took place in a poorly functioning land market with unenforced regulations.

Nationwide, approximately 33,000 homes were destroyed and 50,000 were damaged by the hurricane. In the three-year reconstruction period that followed (1999-2001), an estimated 27,000 homes were rebuilt within the constraints of the formal land and housing markets (UPPV, 2001), representing the largest boom in land and housing development for low-income families in the country’s history.

The seemingly endless amount of funds provided by donor countries and other relief organizations helped to level the playing field (at least temporarily) in terms of access to land and housing markets by low-income families, but not in any permanent or structural way. As a result of the injection of economic and political resources, existing barriers were overcome and access to the formal land market was achieved on behalf of the poor. Financial viability was no longer a constraining factor, nor was the absence of infrastructure financing since the reconstruction efforts included funds for the development of raw land. The barriers inherent in land ownership continued to represent a constraint but were ultimately resolved by political and economic influence, the type not available to the common low-income dweller under normal circumstances. Beneficiaries were offered an unprecedented opportunity to receive legal title to newly constructed homes connected to basic services in environmentally risk-free zones. Despite the substantial gains in land development and housing production, this type of donor-led approach is not an efficient or sustainable way to build low-income housing because of high per-unit costs and the size of subsidies that far out-strips the national capacity. Six years after the hurricane, housing and land markets continue to function poorly even though urbanization trends were appreciably influenced in some localized cases.

Three of the cities hardest hit by the effects of the hurricane were Tegucigalpa, Choluteca, and El Progreso.

**Tegucigalpa**

In Tegucigalpa (pop. 980,000) (INE 2001a), the Honduran capital located in mountainous terrain, torrential rains caused large-scale destruction, landslides, and flooding. The long-standing urban growth of Tegucigalpa, with limited enforcement of zoning regulations, had led to an inefficient settlement pattern prior to the hurricane that expanded along hillsides and in high-risk zones. This type of uncontrolled growth made the delivery of basic services as well as the construction of roads and drainage systems very costly. In the absence of sufficient financing programs, most of this infrastructure has not been adequately addressed by the public authorities and has been left to the initiative of the dwellers. Due to the ineffectiveness of the formal land market, most urban dwellers have opted to resolve their residential needs through the informal market. By 1998, an estimated 225 of the 340 neighborhoods in the city were occupied by informal or irregular settlements often times located in high risk areas (PADCO 1998).

Urbanization in Tegucigalpa was highest in the seventies and eighties, rising at an estimated 7.0% annually (INE 1974, 1988, 2001a). Figure 1 provides a comparison of the three cities analyzed in this study. Tegucigalpa is the most urbanized municipal district in a country that is still undergoing important demographic
shifts from rural to urban areas.\(^5\) Nationally, the Honduran population is roughly evenly divided between urban and rural dwellers, contrasting sharply with high levels of urbanization across Latin America. The growth of the urban population in Tegucigalpa is expected to continue to grow albeit at a reduced rate, with medium-sized cities such as Choluteca and El Progreso experiencing greater rates of urban growth over the coming decade.

**Figure 1:** Urban Growth Rates (1975-2015)

An estimated 2,500 families from 12 neighborhoods were permanently displaced in Tegucigalpa as a result of Hurricane Mitch without any other housing option available (IOM 1999). These families were first temporarily housed in macro-shelters in two locations in the city, both with similar access (or better) to jobs and markets than they had in their original neighborhoods. The consolidation of these families in these macro-shelters allowed for NGO's and other housing developers to easily identify potential demand for their projects.

Most of the funds for housing reconstruction pledged by donor governments were implemented through (mostly international) NGO's. Almost immediately it became evident that the largest obstacle to this reconstruction effort was the availability of land on which to develop 2,500 housing units. Despite the generous urban boundary established in 1979, a large percentage of which is still raw land, large tracts were scarce. Many potential parcels had disputed tenure, were not in risk free zones, or were not large enough to generate the necessary economies of scale required by the number of displaced families and the funds available.

\(^5\) CELADE (2000) identifies Honduras as one of four countries in the region with delayed urbanization rates. Consequently, these countries are now experiencing high levels of urban growth (3.0 to 4.0% annual growth) whereas other countries in the region with more stable urban populations are experiencing more modest rates of urbanization (1.0 to 1.9% annual growth).
In addition, the Central District's municipality, Tegucigalpa's local government, lacked the ability or the political will to maneuver within the existing constraints of the land market and provide coordination assistance to the NGO's. Confronted with limited options within the urban boundary, NGO land developers began to widen their search and located within the Amarateca Valley land with free and clear title, in environmentally safe areas, and in the dimension needed. Eventually six housing projects were built in this valley extending between 12 and 26 kilometers from the city's northern outskirts but within the Central District's municipal limits (see Map 1). This valley, with two rural villages and a population of 3,200 inhabitants prior to Mitch reconstruction, had been designated as an area for industrial expansion in 1976, but still remained largely unpopulated and undeveloped at the time the new settlements were built. The resettlement of a large urban population to this area far from the urban core has proven economically challenging for many dwellers, most of whom depended on the urban economy for jobs and commerce. Whereas in their previous locations, both before the hurricane and during the time they occupied the macro-shelters, displaced families maintained a reliable connection to prospective places of employment, there are now additional hurdles to an already difficult job market. For example, a worker commuting six days a week from the new towns to Tegucigalpa would spend US$5.16 (10-16 percent) of a median weekly household income estimated between US$33 and 50 (IOM 2001). The employed population of the new towns must therefore either absorb the transportation costs (time and money) to remain active participants in the Tegucigalpa economy or retool to become more competitive in the local job market.

By 2004, approximately 3,700 housing units and accompanying social infrastructure such as primary schools and community centers had been built in the Amarateca Valley, representing a resettled population of approximately 18,500 inhabitants. Although systematic surveys are lacking, anecdotal evidence suggests that a number of the dwellers of these new towns of Tegucigalpa have sold their new homes and returned to the city, or have established dual households, one in Tegucigalpa and the other in Amarateca.

6 In the absence of municipal government leadership, the central government played a large role in the development of the reconstruction sites.
7 Preliminary estimates indicate that families (with a median household income of US$133 to US$200 per month) are spending US$ 0.86 per person per round trip for public transportation to Tegucigalpa. Travel by public transportation can take up to 45 minutes to arrive at the city's outskirts.
The absence of police and public safety as well as sustainable services further differentiates the new settlements from the rest of the urban population. One of the most negative developments has been the increase of crime and gang activity in some of the reconstruction settlements creating a serious obstacle to community development and further segregation of these citizens from the rest of the city. In similar terms, the lack of sustainable basic services is another factor which segregates these formal urban dwellers from other inhabitants of the city's formal sectors. Independent water and sanitation systems have been built to service these new settlements that are geographically outside the scope of the national water authority that provides services to the rest of the city. Given this institutional limbo, the long-term operation and maintenance of the newly constructed water and sanitation systems remains unclear.

**Choluteca**

The effects of the hurricane also ravaged the southern city of Choluteca located along the Choluteca River in the lower part of the watershed. This medium-sized city with 76,000 inhabitants (INE 2001a) was affected not only by the rains that fell, but also by the accumulated sediment and materials that drained down from Tegucigalpa and other parts in the upper watershed. The flooding that took place along the banks of the Choluteca River destroyed an estimated 25 neighborhoods and displaced approximately 3,000 families.
(CEDAC 1999a). Although many of these original homes had running water and electricity, most families did not have free and clear title to their land.

The settlement pattern in Choluteca, currently the sixth largest city in Honduras, was also shaped by a poorly functioning land market and unenforced regulations. However, the extent of widespread disputed land rights in and around Tegucigalpa did not materialize in this medium-sized city and the land demanded by a growing urban population, most pronounced in the 1970's and 1980's, in real terms did not exert the same type of strain on the formal land market as in Tegucigalpa (see Figures 2 & 3). While the urban area experienced high growth rates over the past 30 years, this represented an estimated demand of 30.9 hectares for residential use in any given year, compared to ten times as much (314.0 hectares demanded annually) in Tegucigalpa. In addition, the existing urban limit in Choluteca provides ample room for incremental growth for a municipal district whose urban/rural population (64% urban and 36% rural) follows closely the national trends. The type of development pattern that ensued produced intensive residential land-use along the banks of the river and within the floodplain.

**Figure 2**: Estimated demand for urban residential land (1974-1988)

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**Source**: Estimates based on census data (INE 1974, 1988), estimated land use requirements (Urban Institute 2004), and household income distribution (UNDP 2003)

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8 The estimated demand for urban residential land is based on estimated densities calculated by the Urban Institute (2004) for Villanueva, the fourteenth largest city in Honduras. Low-income settlements are estimated to have a density of 158 persons per hectare, middle-income settlements 83.5 persons per hectare, and high-income settlements 43 inhabitants per hectare. The demand for land for public use was estimated using simple ratios of 15% dedicated to streets and rights-of-way and 20% for community infrastructure. The estimated proportion of what percentage of the new population would be low-income, middle-income, and high-income is based on the UNDP Human Development Report (2003).
Unlike the experience in the country's capital, the municipal government in Choluteca assumed a direct role in coordinating the emergency relief and housing reconstruction. Because it was one of the hardest hit areas nation-wide, a great deal of relief and aid was directed to Choluteca resulting in five major housing developments that benefited a total of 2,928 families. Similar to the case of Tegucigalpa, the amount of reconstruction resources available for land and housing development presented an opportunity without precedent for the displaced low-income population. For the first time well-financed, viable demand for low-income housing entered into the formal land market. The largest of the projects to benefit displaced families was Limón de la Cerca (or Ciudad Nueva Juan Benito Guevara) consisting of 2,400 individual plots just outside the urban boundary (see Map 2). The municipality assumed an active role in contributing to the solution of homes by coordinating the purchase of this parcel from a local bank and serving as the co-signer of loans to beneficiary families. New infrastructure had to be provided, but unlike the case of Amarateca, the three-kilometer distance between the city and the newly constructed settlement made it feasible to connect the residential infrastructure to the existing urban network. In particular, trunk lines for the sewerage system were built to connect Ciudad Nueva's internal network to the city's existing wastewater collection and treatment system.
The families who now live in Ciudad Nueva benefited from housing units with access to basic services and the potential to obtain free and clear title to their property, a situation that was not readily available in their original neighborhoods. Because the settlement is located along a major roadway leading to many of the largest agro-businesses in the area, accessibility to jobs was also enhanced by this location. One of the potential factors, however, that may encourage an out-migration from the project is public safety. Similar to Amarateca, Limón de la Cerca has become a magnet for increased delinquency and gang activity.

**El Progreso**

El Progreso (pop. 94,797) (INE 2001a), one of the most affected cities in the northern part of the country, first began to experience significant growth in the early part of the 20th Century as a result of international investments that financed the large-scale banana production and exporting industry. Over the past 25 years, agro-exports have been complemented by an increase in maquilas, or assembly-for-export factories, that have taken root along the corridor between Puerto Cortés, Central America's largest port, and Villanueva.

As the fifth largest city in the country, El Progreso's urbanization rate has jumped drastically in recent decades. Prior to 1988, only 55% of the municipality was urban, but by 2005, an estimated 81% of the population lived in the urban area (INE 2001b). This type of growth, more accelerated than that experienced by Choluteca,
combined with the constraints of a poorly functioning land market and unenforced regulations resulted in the occupation of public and private land along the river. Despite having received certain services, the families that inhabited this stretch were not connected to the public water or sanitation systems, nor did they have legal title to their land. As in Choluteca, flooding caused by the massive rains accounted for the displacement of approximately 1,000 families in neighborhoods that had expanded along the Ulua River and its tributaries (CEDAC 1999b).

The reconstruction of homes in both urban and rural areas of El Progreso received substantial investment from many donor and relief organizations. Similar to Choluteca, the municipality of El Progreso played an instrumental role in identifying, assembling, and purchasing tracts of land for reconstruction projects to take place. The largest of these projects was Colonia San Jorge, a 500-home development located adjacent to an urbanized part of the city’s southern periphery well within the established urban limits and with close proximity to the main highway (see Map 3). In this regard, the development of this area is very similar to what may have naturally occurred without the emergency of the hurricane. Infrastructure systems in Colonia San Jorge were built, remain independent and are operated by a local water board providing a good example of decentralized management to community entities. This arrangement also reflects the distrust between inhabitants and service providers that resulted in the community’s stated preference for managing its own basic services.

Map 3: El Progreso Urban Boundary

Source: base map 1980, elaboration by Jaime López Z.
This 500-home project was developed by a single NGO, the Comité de Reconstrucción de la Iglesia Católica (CRIC), which was recognized for having implemented one of the better practices during hurricane reconstruction for building an integrated subdivision. The land use plan of the subdivision was innovative and addressed many existing social and community priorities, such as a home for the elderly, ample open space, and additional community infrastructure. In addition, the inter-institutional coordination between the NGO, the municipality, and the beneficiary community was considered exemplary (CEDAC 2002). Because of its participatory approach, the community has consolidated with more success than other settlements as evidenced by the improvements made to most of the homes. The location of the development and easy access to urban markets by its residents is another factor that contributes to the long-term sustainability of this neighborhood.

**Understanding land market responses to large-scale public sector intervention**

In all three examples, the reconstruction settlements contributed to satisfying unmet demand for land by families without access to the formal land and housing markets. Beyond satisfying needs for housing solutions, these projects have the potential to make a larger, more strategic impact on the evolution of each city, its economic development, and competitiveness.

The varied land market responses to the large-scale public intervention in each of the three cities provide some insight for understanding what factors may or may not promote change in land markets of developing countries. In comparing land market behavior during and after the reconstruction efforts, three phenomena distinguish the cases of Choluteca and El Progreso with that of Tegucigalpa: (1) the role of the municipal government, (2) the ability to assemble large tracts of land within or close to the urban boundary, and (3) the development of infrastructure.

As discussed above, the local governments in both Choluteca and El Progreso assumed pivotal roles in responding to the emergencies that arose after the hurricane, both in terms of organizing clean-up efforts and serving as catalysts for reconstruction activities. This type of leadership not only illustrates the potential of local governments in medium-sized cities, but also demonstrates that municipalities can be protagonists in the land market and land development process. In contrast, no significant coordination effort was provided by the Central District’s municipal government. The result, as discussed earlier, was a combined effort by a multitude of NGO’s and relief organizations to identify tracts of land suitable for the resettlement of displaced families.

Since the end of reconstruction, both of these medium-sized municipalities have reduced their participation in the land market and have focused on other priorities. Although they stay engaged in the consolidation process of the resettlement projects, development of new housing is no longer considered pressing. The Central District has yet to define its role regarding the new housing settlements in Amarateca.

The ability to assemble large tracts within or near the urban boundary, the second element distinguishing these cases, is the result of the particular dynamics in each of the three land markets. In the cases of Choluteca

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9 Significant disagreements have taken place between the projects (Ciudad Nueva and Colonia San Jorge) and their respective municipal governments since the end of reconstruction, but these dynamics are more closely related to the local political process and local political discourse rather than land market forces.
and El Progreso, undisputed property was available at a reasonable distance from the city. In both these cases, the cities' urbanization trends have been enhanced by the settlement of low-income populations in safe conditions and with reasonable access to labor and urban markets. Continued urban growth in Choluteca and El Progreso has been influenced by these projects and continued land development has occurred in and around both reconstruction settlements.

In Tegucigalpa, however, a long-standing problem stemming from invasions during the 1970's and 1980's of private, communal and public lands increased property insecurity and made land with free and clear title even more scarce. Development that takes place in this context assumes these risks and includes them in their final costs, effectively pricing out a large sector of the population. As a result of this market imperfection, the large tracts of land needed in the capital for the reconstruction of homes were not easily located within the urban boundary. The human settlement expansion north of the city in Amarateca has proven to be contrary to prevailing market forces which are currently channeling urban growth towards the southern part of the city.

The third phenomenon that promotes change and differentiates these cases is the development of residential infrastructure (especially water and sanitation). This variable illustrates the importance of the availability of serviced land and its effect on the land market. In terms of basic services, the central water and sanitation authority (Servicio Autónomo Nacional de Agua y Alcantarillado, SANAA) manages service delivery in both Tegucigalpa and El Progreso. Of these three cities, only Choluteca has a local service provider. Regardless of this difference, each of the systems is historically ill-equipped to generate their own infrastructure investment. As a consequence, investment plans and infrastructure development in anticipation of demand for land is virtually nonexistent and highly dependent on donor funds. In the case of the SANAA system in El Progreso, for example, all large infrastructure investments over the past five years have been made with donor funds, while the Tegucigalpa SANAA water system damaged as a result of Hurricane Mitch was rehabilitated with funds from official bilateral cooperation. Similarly, Choluteca's local service provider has received significant investment over the past years via donor funding.

Consistent with this pattern, donor funds were again the principal source of investment for reconstruction settlements' infrastructure needs. In each of these three cases and as a consequence of large amounts of funding, land availability, not infrastructure costs, was the determining factor for subdivision development. For El Progreso's Colonia San Jorge, the most strategic land development of all three in terms of incremental urban growth, a decision was made by the CRIC to pursue an independent water delivery and wastewater collection system. As part of the community approach advocated by the NGO, the residential infrastructure would be managed by a local water board made up of community members. Nevertheless, the expansion of the city to the south has since given rise to additional developments in and around Colonia San Jorge. The case of Choluteca's Ciudad Nueva may be the most strategic investment of the three for promoting medium-term growth. Its proximity to the urban area allows it to be connected to the city's existing sanitation system via sewer trunk lines. Ciudad Nueva now serves as one pole of a land development corridor and provides a strong incentive for the development of tracts of land between the city and Limón de la Cerca. As demonstrated by increased investment and new subdivisions in this land development corridor, the land market is already reacting to this important investment.

Despite its legal mandate, the only sewerage system managed by SANAA is that of Tegucigalpa. In other cities where SANAA manages the urban water system, such as El Progreso, the municipality owns, operates and maintains the sewerage system.
The least strategic and most isolated infrastructure investment of all three cases is that of the new towns of Tegucigalpa in the Amarateca Valley. In this case, the land market was not effective enough at providing serviced land close to existing infrastructure and required the construction of independent water and sanitation systems for each new subdivision. The infrastructure developed in Amarateca is isolated and stand-alone to serve the resident population and minimal expansions. Without significant investment it will not provide incentives for new development. As for the sustainability of the infrastructure, the Amarateca system will need to overcome a very serious obstacle. Unlike the projects in Choluteca and El Progreso where the infrastructure provided to the housing settlements was either integrated into the larger network and annexed by the service provider or was supported by a technical assistance institution that permanently advises the local water board, in Amarateca there is no clear service provider to assure the sustainability of the system. Because SANAA owns and operates the water and sanitation system for the capital, the municipality has not had the need to develop institutional capacity or institutional arrangements to operate and maintain a water and sewerage system. The possibility of SANAA assuming responsibility for the system is not realistic since its institutional mandate is limited to the urban networks of the city. The alternative of having the municipality manage the services would first require institutional and organizational reforms within the local administration. The option of creating another local provider would also imply significant institutional reform and development. As a result, the constitution of a local water board is the most realistic option currently available although significant obstacles still exist and a great deal of capacity building would be required. Unlike San Jorge, no NGO has maintained a meaningful presence in these housing projects to advise and provide technical assistance to the local water board.

New policy instruments

Two recent legal reforms, the Property Law (2004) and the Territorial Organization Law (2003), have the potential for providing a sound and updated legal framework to improve the functioning of the land markets. In the case of the Property Law, the new framework provides a watershed opportunity to create a single property registry institution, modernize the adjudication of property rights, and increase secure tenure for many titles currently under dispute. The Territorial Organization Law complements and enhances the regulatory authority of local governments provided for in the Municipal Law (1990) while at the same time introducing new coordination mechanisms and requirements for integrating territorial organization at the national, regional, and local levels. While the Property Law has the potential to make more far-reaching and structural changes than the Territorial Organization Law, the key limiting factor for both will be the implementation and enforcement capacity of their provisions. A number of exogenous factors exist that will determine the type of impact each law will have on land markets. These factors can be separated into two general categories of “setting up the system” and “making it operational”.

In order for the provisions of the Property Law to be adequately enacted and enforced, two key variables must be addressed. First, the central government must provide an adequate budget for the creation of the new Instituto de la Propiedad (IP). Unlike other laws that create new institutions or commissions, this is likely to occur since the IP will be amalgamating existing property registries and offices under one single institution causing a net budgetary impact close to zero. Second, the crucial aspect of instituting the real-based registry

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11 Six disparate registry entities and one cadastre institution from both the executive and judicial branches of government.


(folio real) is paramount to the modernization of the registry and the improvement of property rights. The wholesale transition from one registry system to another that, for the first time, links legal information to a geo-referenced land cadastre will be a formidable challenge to undertake. The full impact of the Property Law may depend on the success of this transition and the effective implementation of the folio real.

In terms of making the new property rights system operational, three factors will be pivotal. First, the law provides for decentralized decision-making by registrars to resolve a specific set of issues rather than submitting every problem to the court system as was required under the previous system. While this measure aims to streamline the process, its success will depend on the professional capacity of the new cadre of registrars. Second, for those issues requiring resolution through the court system, a functioning judicial system must be in place in order to adequately address these disputes. Finally, an important coordination effort must exist between the IP and local governments regarding land cadastre information. Municipalities currently have the most updated and legitimized information on real estate properties that they use for assessing and collecting property taxes. The de facto ownership recorded in the municipal cadastres needs to be compared and merged with the IP’s cadastres. The mere legislation of this coordination is no guarantee; a concerted effort needs to be made to link the municipal cadastre database and the IP’s cadastre.

In contrast to the Property Law, the Territorial Organization Law does not establish new institutions; rather, it more specifically defines the legal attributes of municipalities in terms of land use planning regulations and establishes coordination mechanisms at the regional and national levels. In terms of the Territorial Organization Law, its effectiveness also depends on “making it work”. In the best case scenario, municipalities will continue to exercise their leadership and decision-making ability in establishing and enforcing land uses within their jurisdictions, while the National Commission for Territorial Organization and its representatives at the departmental level (Departmental Commissions for Territorial Organization) focus on coordinating policies through the regional hierarchy as necessary. Inasmuch as the implementation of the Territorial Organization Law does not contradict or undermine the authority of local governments to make land use decisions in a decentralized manner, the result will be positive. However, should the provisions in the Territorial Organization Law be utilized to undermine local authorities or should the national and departmental commissions be seen as an appellate body to resolve issues that are not agreeably resolved at the local level, then greater confusion in regulating land use will result.

As in other countries, the best way to test the limits of each law will be through the courts. Unfortunately, for countries such as Honduras that have a weak judicial system that offers highly unequal access to its citizens, extra-judicial factors are often brought to bear in the resolution of legal disagreements. A legitimized and transparent rule of law is important for land markets in particular, and for an open economy in general. Even though both of these laws has the potential to clarify transactions and increase transparency in the land market, without an efficient, effective, and impartial judicial system to support their enforcement, little positive advances will be made in eliminating the barriers that exist within a closed market.

Future roles and behaviors of key land market actors

As demonstrated with the cases of El Progreso and Choluteca, local governments are capable of playing a unique role in contributing to land development for low-income housing. In their most aggressive posture, evident during post-Mitch reconstruction, local governments can become deal-makers or partners in the land development process. The positive impact of municipality-as-partner or deal-maker notwithstanding, a
larger, more strategic role for local governments should be encouraged. As shown by the three cases, the development of the larger housing projects produces an immediate impact in fulfilling sorely needed housing solutions, but also results in a more strategic impact with regards to shaping urbanization patterns of the city. To fully and successfully address this longer-term impact, local leaders in developing countries must begin to view land markets and land development not only as an exercise to satisfy basic residential needs, but also in terms of economic development and economic competitiveness. This paradigm shift has occurred in some places, but needs to be promoted more effectively in cities which will be absorbing the largest portion of urban growth over the coming years. Each new land development project needs to be evaluated for both its immediate social impacts as well as its long-term impact on the city’s competitiveness.

As part of this goal for local governments to take a more strategic view of land development and the growth of their cities, they have an opportunity to promote open information regarding the land market. A large volume of scattered information exists in Honduras regarding the market, including zoned land uses, growth plans, infrastructure specifications and carrying-capacities, risk areas, areas designated for public use, transportation plans and road network hierarchy, demographic trends, assessment of property values, etc. However, because of partial access to information indicative of a captured economy, these figures have not been collected and analyzed systematically or used to their full potential. More equitable access to this type of aggregate market analysis can improve decisions made by public sector policy-makers as well as private sector consumers and investors.

Given the accessibility of technology, even small- and medium-sized cities in developing countries now have the ability to create, manage, and update large databases of geo-referenced information. Local governments can also serve as focal points for coordinating information and projections with other entities such as infrastructure providers, large public landholders (national government) and other institutional actors (universities, health and education centers). The opportunities for local government to meaningfully contribute to the non-regulatory aspects of the land market are reflected in the land market monitoring methodologies emerging from the National Center for Smart Growth Research and Education (Knaap 2004) in the United States. Land market monitoring, although conceptually simple, is a complex process to manage. The institutional obstacles existing in developing countries will require the adaptation of these models, but this type of permanent system would be preferable to the approach of taking periodic inventories of supply and demand. In Honduras, a permanent monitoring system has the potential to succeed if it is linked to other permanent systems that are already being used, consciously or not, to manage land. The permanent updating that occurs with the municipal cadastre system or the type of construction and subdivision permits being awarded by the municipal public works department are two examples of on-going efforts that could be enhanced by a land market monitoring system. The approach of performing analyses based on static inventories at certain periods in time runs the risk of becoming a periodic exercise disconnected from the dynamics of on-going land development. Especially in fast growing urban centers, such as the medium-sized cities in Honduras, land market analysis needs to be an integral part of local government activity. In a captured economy with deficient information systems, a tool such as the land market monitoring advocated by National Center for Smart Growth Research and Education would be valuable not only for the local government but also for the private sector investor as well.
Under the promising new Property Law, private investment in the land market should increase as confidence in secure land tenure grows. The successful implementation of this law should produce an increase in land development activity, especially in large markets such as Tegucigalpa. As noted above, an important assumption in this scenario is that an effective judicial system will enforce these provisions. Even with more secure tenure, an ILD analysis of the land market indicates that the permitting process being implemented by the Central District and other public entities is complex and time-consuming. An estimated 1,080 days is currently required to legally purchase private property, subdivide and construct, at a cost of US$1,083 (ILD 2001). Without specific reforms, these bureaucratic impediments will continue to restrict effective land development in the larger markets.

Low-income families also have a greater opportunity to participate in the formal land market because of the regularization activities that are outlined in the law. This regularization program may realistically become limited by the state’s capacity to process all claims and its ability to compensate for takings. A great deal of regularization activity should be expected in Tegucigalpa and along with it, the conversion of dead capital to active capital. If De Soto’s hypothesis (2000) is correct, poor families will be able to use their land holdings to leverage additional credit and create new opportunities for creating wealth. The underlying assumption that the banking sector will be sufficiently diversified and have the management capacity to reach out to this new market of consumers will be tested and may not hold true. Access to formal title by informal sector dwellers alone cannot be the sole focus for expanding the credit market and eventually leveraging formally dead capital into new sources of wealth. Financial institutions need to have the capacity to innovate and introduce financial products and systems to meet the needs of the new consumers, while new formal sector actors will require additional capacities (e.g., small business development, job training) in order to succeed in inserting themselves, surviving, and thriving in the formal economic market. The potential for greater insertion into formal markets by owners of dead capital exists, but new economic relationships and systems beyond the regularization of land titles need to accompany and cultivate this transition.

**Conclusions and Recommendations**

Poorly functioning land markets have wide-reaching consequences. In the immediate term, they constrain formal markets for land development and may even force economic actors to rely on alternative mechanisms to satisfy their needs. Over an extended period of time, inadequately functioning land markets can cause inefficient and ineffective urban growth and land-use patterns, forcing many of the poorest economic actors into high risk areas or into locations where services are costly to provide. As in the case of Honduras before and after Hurricane Mitch, the injection of significant quantities of capital during the reconstruction period helped to temporarily level the playing field on behalf of low-income city dwellers, but did not necessarily produce any structural or long-term improvements. In Tegucigalpa, even the generous levels of aid were not able to overcome certain barriers that existed in the land market, resulting in the development of housing projects in areas with little or no relationship to the expansion of the city.

The functioning of land markets, however, is not so much an independent system as it is a dependent market that reflects other types of institutional, legal, and economic systems. Because these systems may not be effective in developing countries, a careful analysis of the institutional capacity and framework is required to understand the factors that drive change in these land markets. In order to improve this context and contribute
to the on-going debate that affects many fast-growing medium-sized cities throughout the developing world, the following recommendations are offered.

1. **Reconstruction efforts are helpful to satisfy immediate housing needs, but not as useful for affecting structural constraints.** In Honduras, the reconstruction efforts that followed Hurricane Mitch produced important impacts. In the housing sector alone, reconstruction was responsible for the largest housing boom of low-income dwellings in the country's history. It would be inappropriate, however, to expect that any reconstruction effort, which, when not accompanied by deep-rooted reforms, will not have an appreciable impact in terms of structural constraints to land and housing markets. *Ultimately, the nature of the political reform process (i.e., long consultative processes and coalition-building), and the nature of reconstruction programs (i.e., fast-tracked investments) are incompatible.*

2. **Local governments can be valuable partners in the land development process, but have a more important strategic role to play.** When forced to address land and housing shortage, as happened after Hurricane Mitch, medium-sized municipalities provided valuable leadership as well as financial contributions. Municipalities, however, can (and should) play a much more strategic role in the growth of the city. With this objective in mind, *municipalities should adopt a more integrated and long-term approach to land management that emphasizes the economic competitiveness of their territory.* By relating land markets more closely with economic benefits, key management tools and methods for monitoring the performance of the land market should have a better chance of being implemented. *Permanent systems that help manage land market data need to be introduced* as part of the local government’s daily activities and could be easily complemented by existing databases and data collection practices. *Increased awareness and capacity-building must take place among locally elected officials, policy-makers, and managers.*

3. **Public information can help liberate a captured economy.** Important market distortions occur in a captured economy where economic and political elites manipulate market variables for their own private gain. As the economic costs associated with captured markets are being understood so too are counterbalancing measures that promote more competitive practices in the private sector (Hellman et al 2000). *One important contribution to limiting the captured economy is the availability of public information and market analyses.* For the land market, local governments are prime candidates for collecting the wide-ranging variables that impact land market behavior. This information will not only prove valuable for local policy-makers, but also with private sector investors as well.

4. **Non-regulatory aspects are determinant factors for land markets in the developing world.** When land regulations exist, but are unenforced because of weak institutions, they have little or no limiting effect on land market behavior. For many countries with similarly weak institutions such as those found in Honduras, non-regulatory aspects will be determining forces in the land market. *The importance of underdeveloped financial and judicial systems should not be underestimated.* In order to make a long-standing impact in the way in which land markets operate, reforms in both the financial and judicial sectors need to be pursued vigorously.
References


INSTITUTIONAL CONSTRAINTS ON THE PROPERTY TAX
AND SEMI-AUTONOMOUS MUNICIPAL TAX AGENCIES IN PERU

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Abstract

Local governments across the world are struggling to raise revenue to supply and maintain municipal services and to develop necessary infrastructure for development. In developing countries, the property tax is the most important tax in terms of potential revenues collected locally. Internationally, over 130 countries have some form of property tax, albeit the relative importance in terms of revenue varies substantially between countries. Unlike transfers, which dominate municipal revenues in differing degrees, the property tax can promote the broader objectives of local accountability and efficiency by linking the provision of municipal services to their financing.

Property tax revenues in Peru are extremely low due to institutional constraints at the central and local level. Recently introduced legal changes in the Municipal Tax Code have improved potential property tax revenues, but further steps are needed that take into account the broader contexts of a recently initiated decentralization process and a legacy of weak local institutions.

In Peru, there are innovative examples of how municipalities can increase local revenues. The creation of semi-autonomous Municipal Tax Agencies (SATs) was the result of adaptation processes in the 1990s to bypass the negative impacts of national policies. These successful initiatives in the provincial municipalities of Lima, Piura and Trujillo have now been replicated in other municipalities.

Urban financial resources should not be seen as an optional matter, but rather as an important and urgent development issue.

“Les institutions communales sont à la liberté ce que les écoles primaires sont à la science;...
Sans institutions communales une nation peut se donner un gouvernement libre, mais elle n’a pas l’esprit de la liberté.”

Introduction

Throughout history, cities have been synonymous with modernization, economic development, social progress and cultural innovation. Rapid urbanization seriously challenges the viability and productivity of cities, especially in developing countries. The biggest challenge to municipal governments in Peru and elsewhere is the funding of the development of urban infrastructure and of the provision of urban services.1 As a result, the fiscal gap between financial resources and municipal expenditure requirements is widening as urban populations expand (Lohse 2003).

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1These services differ from country to country and from one local authority to the other but they can be broadly categorised into water provision, solid waste disposal, physical infrastructure provision and maintenance (roads, drainage), sewerage, health facilities, education, etc.
The property tax is the single most important local tax in developing countries in terms of potential revenue collected. Internationally, over 130 countries have some form of tax on property, albeit the relative importance varies substantially across countries (World Bank 1999). Property taxes are generally used to charge for the generalized benefits of public services provided by local authorities. The underlying rationale for the property tax is to confront taxpayers with the cost of municipal services they consume in the pursuit of efficiency objectives (Dillinger 1991). Moreover, regarded as a relatively stable revenue source, especially when compared to other potential local sources like wage or turnover taxes, the property tax is the only direct tax that is paid by a broad section of the population (even part of the informal sector).²

Peru is a latecomer in the worldwide move towards more decentralized government. Only in 2002 did it start a decentralization process, dismantling the Ministry of the Presidency, developing legal frameworks, electing regional governments and transferring projects to the regional and local level. The extremely centralist Fujimori regime (1990-2000) was very harmful to local institutional development. Following a transition government, the new democratic regime has re-established some municipal capacities (formerly dismantled by the Fujimori regime³).

In theory, a decentralization process requires subnational governments to gradually assume responsibility for services and to raise a substantial portion of the revenues to pay for them. Strengthening local taxes as a source of funding for local spending is therefore a basic necessity. Most tax experts suggest a bigger role for property tax (enhancing accountability and democratic control), even if this tax is believed to be unpopular and difficult to reform, (cf. Heady 2002; Shah 1999; or Ahmad et al. 1998). Others believe that the conventional case for property taxes is to some extent flawed and that it is put forward partly on account of the reluctance of central governments to provide subnational government access to more lucrative sales or income taxes (Bird 2000).

Property tax yields in developing countries are significantly lower than in other more advanced countries (some developed countries raise significant revenue from property taxes), in terms of their overall contribution to local budgets, relative to domestic revenues and compared to Gross Domestic Product. Property tax yields are on average – unweighted - 4% of tax revenues in OECD countries and 2% in transitional countries.⁴ In Latin American countries property taxes have been poorly developed and are, relative to GDP (fiscal year 2002): 0.6% (approx) in Argentina, 0.47% in Brazil, 0.6% in Chile, 0.71% in Columbia, 0.13% in Nicaragua, and 0.21% in Mexico.⁵ Property tax in Peru is, at less than 0.2% of GDP, extremely low, even compared to the Latin American average.

The property tax in Peru has re-emerged on the political agenda starting in 2002, exemplified in the “Carta de Intención” to the IMF for years 2002-2003 which addressed the need to strengthen the property tax

² Local administration has a better chance of bringing the population into the system than would administration imposed on them from the distant national capital which may help create a compliance tradition (Mikesell 2003).
³ the 1990s different laws and executive decrees gradually cut into the competences and resources of municipalities. Cf. Blume, Ernesto: La Defensa de la Constitución a través de la Ordenanza Municipal. In: D'Acevedo, Martin (ed.): Temas Municipales, Gazeta Jurídica- CAL, 1998. Mayors of Lima who opposed the Fujimori regime were deprived of finances, while those which were non-critical of central government received extra infrastructure projects.
⁴ UK, USA, Korea and Japan all yield over 10% of overall tax revenue. In 1965 the average for OECD countries was still 8%, meaning that property tax has declined in relative importance.
The then finance minister Pedro Pablo Kuczynski was well aware that local revenue collection had to be improved. The policy-based loan DECSAL II (Decentralization and Competitiveness Loan) of the World Bank (co-financed by the German KfW) has triggered increased property tax revenues for provincial municipalities.

Property tax administration in Peru is shared between central and local government: the first setting rates and valuations, the latter then applying parameters and collecting the tax. In theory a cooperative division of functions should combine local autonomy and familiarity with local conditions and central technical skills (cf. Mikesell, 2003).

Although Peru is categorised as a lower middle income country, having an average GDP of 2,100 US $/per capita, poverty rates are now back to those last experienced in the mid 1990s due to a 4 year long recession between 1997 and 2001 and the extra costs of a transition period after autocratic rule. Approximately 50% of the population live in poverty and 25% in extreme poverty, with poverty most concentrated in the mountain highlands (Sierra) and the Amazon basin (Selva).

The 1,824 municipalities of Peru are characterized by big differences in size, high concentrations of economic activity and high fiscal heterogeneity. Of note is the rapid growth of newly created municipalities, and that besides municipalities, there are more than 1,600 smaller registered settlements (centros poblados menores). It is estimated that 72.2% of the population now lives in urban areas (INEI 2002).

Revenues of Local Governments

Municipalities in Peru are able to raise taxes on property, on property transaction (called "alcabala", 3% of transaction values), on vehicles less than three years old (1% of value going to the provincial municipality), public gatherings like concerts, movies etc. and gambling. Total revenues for municipalities were 3,772 million Soles in 2000 and 4,940 million Soles in 2003.

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7 Kuczynski, Pedro Pablo. Interview in RPP, Enfoque de los Sábados, 22/01/05.
8 Property tax systems in international comparisons span the whole range from: a) Central Valuation, Central Collection, b) Central Valuation, Local Collection, c) Local Valuation, Central Collection, d) Local Valuation, Local Collection.
9 Peruvian territory is divided in 25 regions, 194 provinces and at the smallest jurisdiction, districts (provinces and districts make up the municipal level).
10 Which is rather a negative incentive, punishing less environmental damaging cars.
It is noteworthy that the revenue from user charges (mostly local security, garbage collection and maintenance of parks) is, at 16% of total revenue (2003), higher than that from taxes. About two fifths of total revenue comes from transfers (Canon, FONCOMUN), tariffs and the earmarked food program (“Vaso de Leche”). If one discounts metropolitan areas, this ratio is even higher (Carranza/Tuesta 2003). Credit, at 9%, is still not significant but rising (see World Bank 2004).

While local government revenues during 2000 to 2002 were rising at an average rate of 4%, there was a massive increase of 20.5% in 2002/3: with transfers and credit rising more than proportionally. The revenue from local taxes also rose at an impressive 13.5%. Local government revenues rose due to strong overall growth and because the FONCOMUN is based mainly on a two percent surcharge on VAT. The other main transfer, the Canon, also registered its highest levels due to a boom in the international mineral and hydrocarbon markets. The increase in discretionary budget allocation was somewhat smaller because a large proportion of the increased revenues were earmarked.

Tax revenues for Peruvian municipalities are quite low. Figure No 1 shows that municipal taxes are only 12% of total revenues. Of the overall tax revenue received by local governments, the property tax is by far the most important, and responsible in 2003 for about 66% of all taxes levied; the property transaction tax is about

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1 Statistical data is not available for all local governments, the ratio included is anyway close to over 90%. Apparently rural municipalities are having problems transferring data to the Contaduría Pública de la Nación.

13 Perhaps yields are higher because the legal framework provides local governments with more discretion over charges compared to taxes. The rate for a particular user charge is linked to the valuation of property and not to the cost of the service provided. In mid 2004 the Constitutional Court was challenging this practice: municipalities are obliged to take into account cost of services (property valuation might be only one of several parameters).
10% and the tax on vehicles about 9%. Taxes on public gatherings and gambling account together for 7% (see Figure No. 2).

The property tax is regulated by Executive Decree No. 776 which came into force in 1994 streamlining the local tax system by eliminating some of the previous 21 different taxes - some of which were more costly to administer than the revenue they generated. In 1994, the impact of this decree was that urbanized municipalities and especially Metropolitan Lima, which was at that time in the hands of the opposition, lost out to rural areas (Alvarado 1994).

Total property tax revenues nationwide have risen from 308 million (2001) to 333 million (2002) and then to 367 million (2003) Soles, reaching approximately 8% of total municipal revenues. The property tax collected by all provincial municipalities is together 111.5 million Soles (2003) and for all district municipalities 255 million Soles (2003).

Not taking into account the metropolitan area (the two provinces of Lima and Callao and 45 districts), provincial municipalities were able to collect only about 78 million Soles in 2003 and the district municipalities were able to collect about 61 million Soles (there are roughly 10 times more districts than provinces), or the equivalent of 38% of the total property tax collected. Even though the property tax outside the metropolitan area was not very substantial, it was still possible to raise collection from 119 million (2001), to 130 million (2002), and then to 139 million Soles (2003).

The property tax yield in Peru excluding the Lima Metropolitan Area (which includes metropolitan districts, the districts of Callao, the harbour etc.) is about 139 million Soles (2003), or US$ 40 million, in total. This is very low considering the vast territory and the 1,700 districts and provinces involved. While property tax collection is highly concentrated in the metropolitan area, the picture there is not favourable either: the greater metropolitan area of Lima with approximately 8 million inhabitants was only able to collect around 227 million Soles in property tax (US$ 70 million) in 2003.15

Of district municipalities, 25% are collecting less than 200 Soles (60 US $, sic!) per year. Half of district municipalities have revenues from the property tax of less than 2,000 Soles/year (600 US $); and 75% raise less than 25,000 Soles/year (7000 US $) which is the (monthly!) minimum transfer from the FONCOMUN (National Compensation Fund) to each district.

Of provincial municipalities, 50% are collecting less than 55,000 Soles and only 12% of provincial municipalities are collecting more than 1 million Soles.

The data shows that property tax is highly correlated within urban settlements: while in the case of the biggest municipalities where property tax has a share of total revenues as high as 20%, this share decreases the smaller the town and more rural the area is. Rural municipalities have almost no revenue from property taxes.

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14 From the property transactions tax, districts were able in 2003 to levy 32.1 million Soles (excluding Metropolitan Lima 13.2 million), provinces 23.5 million (excluding Metropolitan Lima 15.5 million) and from the vehicle tax 53 million Soles (but highly concentrated in the provincial Government of Lima and to a lesser extent Callao: without these two provinces the revenue for the rest of the provinces is only 5.4 million). The property transaction tax is even more concentrated than the property tax (the number of municipalities which do not have any revenue from this tax is very high). If provinces have an established provincial development fund, 50% of the property transaction tax collected by districts should go into this fund. But in reality districts seldom comply with this legal obligation.

15 Metropolitan benchmarking would be a helpful exercise.
Law 27616 of December 2001 improved finances of local governments by re-establishing the obligation that notaries make sure respective property taxes have been paid before registering a property transaction.  

**Figure 2: Structure of Tax Revenues of Local Governments (2003)**

- **Property Tax**
- **Vehicle Tax**
- **Other**
- **Property Transaction Tax**
- **Public gatherings and gambling**

Source: MEF

**Property Tax Rates**

The identification of taxable properties is based in theory on “self assessment” principles (“autovaluación”) – the taxpayers are legally responsible for providing all relevant data - but in practice the municipalities determine the value of a property by using the official index provided nationwide by the “Consejo Nacional de Tasación” (CONATA). The value of a property consists of the sum of the value of the land and the building, based on various parameters (construction material, floor material, WC and doors, age of the property, energy, water connection...).  

CONATA, which is functionally part of the Ministry of Housing (Vivienda) and which operates without offices outside Lima, is the technical organization that calculates the valuations of buildings and land parcels for the whole country in the form of an extensive geographical based index (for urban areas about 1,629 square kms are included in this index, with 629 square kms alone for Lima/Callao). The budget of CONATA for 2003 was about 4.3 million Soles (3.4 million Soles were self-collected, on account of a legally fixed share of 3/1000 of the

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16 The property transaction tax was fixed by the same law at a percentage of the value of the commercial transaction, which is generally a much higher figure than the indexed value of CONATA. The property transaction tax is levied in the month after the transaction was legally endorsed, so that the legal changes highly correlate with higher tax collection. Whereas in 2001 the property transaction tax for the provincial municipalities was around 7 million Soles, this jumped in 2002 and 2003 to three times this level.

17 Other countries have shown favorable results when they have introduced a simplified valuation methodology.
collected property tax — although few municipalities are complying with this transfer: some municipalities are several years in arrears and CONATA has looked for extra income through providing services.

In the 1990s, CONATA struggled — for the already mentioned political reasons — to keep the index in line with inflation (see Figure N°3).

**Figure 3: Average Adjustment of Property Valuation in Comparison to Inflation**

![Graph showing average adjustment of property valuation in comparison to inflation]

**Source:** CONATA and INEI

CONATA's main goal has been to increase rates progressively. In 2003 there was an ill-thought-out attempt to adjust valuations drastically, which, for some properties, would have raised tax payments by more than 20%. After pressure from the media and from organized lobbies, CONATA had to make do with a much more moderate increase. Nevertheless, in 2003 the adjustment was not based on a unique rate for all property. In fact, the rise was higher for high value properties, and the average rate was reduced by 16.7% outside Lima. The overall adjustment in 2004 was about 4%, which is close to the inflation rate of 3.5%.

CONATA has up to now elaborated around 360 district maps with property rates for a total of 194 provincial and 1,634 district municipalities, concentrating on the municipalities with the biggest potential tax base (every few years these are updated, e.g.: investment in infrastructure leads to a rise in valuation). ¹⁸

A figure of 40% to 60% for the general ratio between the appraised CONATA valuations and real market values has often been quoted (although no systematic evidence to back up this estimate is available), offering big potential upwards.¹⁹ There are no estimates of the market value of the property tax base in individual municipalities or for the nation as a whole.

¹⁸ As a self introduced incentive CONATA is giving preference to updating those maps of municipalities that are complying with the transfer of the share of 3/1000 of the property tax. However, it seems that local governments — with some exceptions — do not show very much interest in the technical work of CONATA, apart from applying their indexes.

¹⁹ For example the most expensive spot in Lima is the area of the Hotel Marriott (waterfront) valued by CONATA at ca. 170$ the m², with the residential areas behind at 80$. Market values are based on actual sale transaction data. Sales values are widely believed to be "adjusted" downwards before reported.
Local governments are applying progressive tax rates to property values (cf. Table N°1) fixed by the Municipal Tax Code (Ley de Tributación Municipal), meaning in practice that tax rates and the index for the valuation of property are settled centrally while the tax is administered locally. Nominal tax rates look rather low. As in most countries, some taxable properties are exempt by law such as charities, property related to education activities, international organizations etc.

**Table 1: Scales of property tax**

<table>
<thead>
<tr>
<th>Scales of property valuation (AUTOAVALUO)</th>
<th>Tax rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Until SI 15 UIT</td>
<td>0.20%</td>
</tr>
<tr>
<td>More than 15 UIT until 60 UIT</td>
<td>0.60%</td>
</tr>
<tr>
<td>More than 60 UIT</td>
<td>1.00%</td>
</tr>
<tr>
<td>Minimum Amount which might be established by the municipality</td>
<td>0.5% of one UIT</td>
</tr>
</tbody>
</table>

One UIT (Unidad Impositiva Tributaria) is in 2004 the equivalent of 3200 Soles (roughly 950 US $).20

Revenues from the property tax are rising faster than adjustments by CONATA, meaning there are less tax arrears and that the ratio of properties subject to paying tax has increased. Property tax on agricultural land is very low, limiting tax yields in rural areas. The value of land is decided by CONATA according to the quality of the soil and access to irrigation. The maximum value is about 12,000 Soles/ha ($US 3500) but goes down to $US 10/ha, cf. attempts to raise rural property tax (Garzón & Vasquez 2004).

**Transfers to Municipalities**

The Peruvian property tax cannot be analysed without considering various special features of the transfer system. The two major national transfer programs are FONCOMUN (mainly composed of a 2% surcharge on VAT) and the Canon (composed of 50% of income tax on enterprises extracting natural resources like oil or minerals). The aim of FONCOMUN is to secure the functionality of all municipalities in Peru, distributing to them for compensatory and equity goals. Distribution occurs in two steps: in the first step the total amount is distributed to the 194 provincial municipalities according to an index of a) population and b) infant mortality. In the second step, in each province the amount is distributed between the provincial municipality (20%) and district municipalities (80%) based on population (rural population is weighted double).

The Canon benefits only the municipalities of the region where the exploitation of natural resources is undertaken, meaning that it is concentrated in particular regions/municipalities. Because of the boom in the international mineral markets, the Canon now includes large amounts of money: in 2004 the total amount increased to almost 900 million Soles - about half of the transfers due to FONCOMUN (see Figure N°4). Law 27616, passed in 2002 and restated in 2003 under ministerial resolution 076-2003, states that every

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20 In 2005 it will be 3300 Soles, about 1000 US$.
municipality should get a minimum assignment of 8 UITs/month, totalling up to 25,600 Soles, in order to benefit poor rural municipalities, and, at the same time, reduce the share that urban areas receive.

Due to there being as many as 1,824 municipalities in the territory, about a third of the total FONCOMUN is transferred in minimum assignments. Every municipality is given at least 300,000 Soles, a large amount compared to the very low revenue from the property tax: for those 25% of district municipalities with a property tax yield below $US 60 a year or those 50% below a yield of $US 600 the minimum transfer means there is little incentive to raise local revenues from taxes due to the huge difference – (although it cannot be said that the municipalities are content with the situation as they are often in the poorest regions).

Some investigations suggest that the Peruvian transfer system has a substitution effect for local revenue collection (Alvarado, 2004). While in the past there existed the legal obligation to spend FONCOMUN transfer amounts on investment, the percentage was reduced to 70% in 2003, and from 2004 the expenditure allocation has been entirely at the discretion of municipalities (100% of transfers from the Canon have to be invested in infrastructure). It is highly likely that this is another disincentive because it reduces local governments’ need to collect property tax as a source for discretionary financing.

Figure 4: Transfers from FONCOMUN (in million Soles).

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21 Article 87 of Decreto Legislativo 776 foresees from January 2006 an incentive for municipalities concerning the transfer distribution of the FONCOMUN, with those who invest more or improve property tax collection receiving extra cash. In Columbia Law 68 from 1993 foresaw that 2.4% of total transfers to local governments were linked as an incentive to property tax collection, apparently without much success, so that the law 715, Art. 79 from 2001 raised this share to 10%.

22 In July 2004 the Accreditation Law (Ley del Sistema de Acreditación de los Gobiernos Regionales y Locales, Ley N° 28273) specified that only those local governments who spend at least 50% of FONCOMUN transfers on investment will get certified - the certification is linked to transfers of competences and resources - which in practice will work as a legal restriction due to the high interest of local governments in getting this certification. Municipalities with only minimum transfers are exempted from this condition.
Box 1: Institutional Constraints

The property tax has to been seen as part of a fiscal system with dependencies and interactions with institutions, laws and regulations (Congress, Ministry of Finance (MoF) and sectoral ministries). 23

From the macroeconomic point of view, municipalities in Peru are, up to now, hardly significant (in terms of revenues, transfers, expenditure, and debt). As in most shared administration systems, central government gives little priority to the property tax as proceeds are received locally rather than centrally.

MoF, Sector Ministries, Congress (legal framework and regulation):
- little interchange of views with municipalities and legislative surprises (residual centralist approach).
- incentive structure of transfers may produce substitution effects.
- limited interest in giving municipalities more policy choices.
- no real supervision as to whether municipalities are complying with the law (e.g. share of property tax to be invested in cadastre).

Specialized Central Institutions
- SUNARP (property registry): exchange of information with municipalities is suboptimal.
- CONATA (valuation index setting): valuation does not reflect commercial values and does not increase in line with inflation.
- PETT and COFOPRI (land/property registry) does not have much contact with municipalities.

Municipalities
- Low administrative performance (poor local civil service, tax amnesties, bureaucracy etc.)
- Cadastres are often absent or seldom up-to-date. Municipalities have not complied with legal requirement to invest 3% (now 5%) in maintenance of cadastres.
- Some municipalities are not complying with the requirement that 3/1000s of property tax revenues should go to CONATA.
- Disincentives caused by political cost of property tax.

23 Just to mention some recent impacts of national legislation on municipal income: a) Reductions for some municipalities in transfers of Canon by adapting a new distribution index through the MoF; b) Ministry of Transport and Communication regulating that traffic fines have to be linked to personal identification rather than being vehicle specific, resulting in a big loss of revenues for municipalities; c) an exemption of 10 UIT being introduced in the Property Transactions tax; d) the tax on leisure ships/boats (embarcaciones de recreo) which was administered by municipalities being taken away from them and being transferred to SUNAT (going then to FONCOMUN), with little consultation – with some maritime municipalities being the losers.
Poor Performance at the Local Level

There are shortfalls in the capacity and technical expertise of local government to handle the property tax. The tax collection ratio, which compares the share of the property tax levy (property tax bills sent to taxpayers) to that which is actually paid, is in most municipalities below 50% (the same is true for charges). In following years overdue payments bring the ratio close to 90%, meaning that about 10% of the property tax is still not collected. Annual tax amnesties have become a customary and expected practice, with non-payers not financially punished (no fines or interest rates).

Poor performance and little authority mean that citizens perceive local taxes as a financial obligation of least importance.

Local administrations tend to be characterized by apparent incompetence, high turnover, non-merit based selection of professionals (the tradition continues that an incoming mayor changes much of the municipal personal) and salaries not competitive relative to the private sector.

Mayors more devoted to populism than to long term goals are prone to avoiding the collection of taxes due to the political costs involved, such that poor performance also reflects local government’s greater vulnerability to local political pressure - a case of political responsiveness acting in the guise of technical incompetence (Dillinger 1991).

Peruvian municipalities show poorly maintained property records. Many municipalities that are officially responsible for the local cadastre do not possess one, apparently unwilling to spend resources and effort on this. According to the National Registry of Municipalities (source INEI) there are 367 municipalities with a cadastre, with a lot of these out-of-date (also due to a high rate of transactions).

There is no exact information available concerning the coverage ratio, which is the proportion of actual property included in tax records (often called cadastral records): there is still no legal obligation to register property (even if the cost seems accessible for most citizens).

As in many other Latin American municipalities there has been up to now no connection between property and fiscal cadastres. Law N° 28294 of July 2004 created an Integrated National Cadastre System which will be connected progressively to the national property register. The self-set goal is to have a fully functioning national system of cadastre by 2011.

There are problems concerning the interchange of information between the National Register entity (SUNARP) and municipalities. This has also been the case with two special projects: PETT (registration of rural property, funded by IADB) and COFOPRI (registration of informal urban property, funded by WB).

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24 Nevertheless in recent years municipalities have been obliged to spend three percent of the collected property tax on a cadastre, a legal obligation which many municipalities haven’t complied with. The amount of this earmarked share was raised to five percent by the amending of the Municipal Taxation Law (Ley de Tributación Municipal) in 2004 (in the early 1990s this share was even 1%), dictating the creation of a Distrital Cadastre Fund (“Fondo de Apoyo al Plan Catastral Distrital”) in every provincial municipality for the period 2005-2006. Municipalities are arguing that the cost for employees, office etc. should be taken into account under this requirement. Impacts will largely depend on the will of central government to oversee this legal requirement.

25 A very challenging issue related to the cadastre is how to resolve the large amount of litigation concerning borders between districts, provinces and regions. According to the Dirección Nacional Técnica de Demarcación Territorial (DNTDT) there are about 320 registered territorial conflicts but the real number is believed to be as high as 1,500.
At the central level, investment as a share of expenditure has been diminishing continually in recent years. Investment of 1,320 million Soles was 33% of total municipal expenditure in 2003, positioning the municipalities in percentage terms of total expenditure as the state entities with the highest share of investment (helped by different legal obligations to use transfers for investment). Local politicians understand that their political success depends on public works ("obras"). The functional distribution of the expenditure is concentrated with 44.4% on administration and planning, followed by 16.2% on social assistance, 13.9% on health and related issues, 11.9% on transport and 5.4% on housing/urban development.

Innovative Strategies in Peruvian Municipalities:

While policy choices for local governments concerning the property tax are somewhat limited by the given legal framework compared with other countries and the more general perception that municipalities make little effort to raise property tax collection above a certain level, there are some encouraging local experiences:

Innovative strategies in resource mobilization are expected to either improve the efficient use of a local government's current base or expand the fiscal base of subnational government (Campbell/Fuhr 2004).

Tax Management Services

- Favourable performance has been shown by three existing independent tax collection agencies, Servicio de Administración Tributaria (SATs) of three provincial municipalities: SAT of Lima starting in 1997, SATT of Trujillo (1998), and SATP of Piura (2000). Municipalities such as Cajamarca, Ica, Chiclayo and Huancayo have recently tried to replicate the perceived success of these SATs by installing similar agencies.
  
  Detracting from this apparently strong growth performance is the fact that growth has been from an extremely low base and that some other "traditional" municipal tax offices, notably in Lima, have also demonstrated improvements.

Tax Incentives

- The municipality of Surco (Lima) has not had a tax amnesty for 8 years now, while "typical" Peruvian municipalities give an amnesty on an annual basis. The districts of Surco, Villa El Salvador, El Agustino and San Borja are giving incentives (premiums, special offers in restaurants or hotels etc.) for citizens to stay up to date with their tax obligations. In the last few years these municipalities have been able to increase the timely receipt of tax revenue by double-digit figures. The municipality of Surco has increased overall tax receipts over the same period by a factor of four. Other municipalities are giving punctual payers incentives in the form of tax rebates.
  
  - Some municipalities in Peru such as Ilo and Villa El Salvador have introduced, with some success, a scheme that allows poor tax debtors to exchange their debt for community work.

Online Payment

- To reduce the compliance costs for taxpayers and the collection costs for tax administration it is becoming increasingly possible (mainly in the districts of Lima) to make property tax payments online.
Selective Assessment

- Some municipalities are copying the success of SUNAT by concentrating on the big taxpayers (selective assessing).

Cadastre Outsourcing

- Outsourcing of cadastre development and maintenance as do the provincial Municipality of Arequipa, and the districts of San Isidro and San Borja.²⁶

SIAF-GL

- The Ministry of Finance is integrating into the financial management software system SIAF-GL (which is compulsory for municipalities), a cadastre component (essentially a database), which may raise property tax collection. At present this cadastre component is being assessed at a pilot stage in some municipalities.

Box 2: Semi-autonomous Municipal Tax Agencies

The creation of semi-autonomous Municipal Tax Agencies in Peru (Servicio de Administración Tributario - SAT) can be seen as a management innovation within an adaptation process to the changing institutional environment created by national policies, in this case the reduction of revenues of urban municipalities in the mid 1990s and consequently the necessity at the local level of pursuing enhanced revenues by local resource mobilization. The Peruvian example might be an interesting subject for Technical Cooperation.

SATs are copying the best practices of the Peruvian national tax agency (SUNAT) which also functions on a semi-autonomous basis. Concerning an international comparison of semi-autonomous revenue authorities at the national level, see: Taliercio, Robert: Designing performance: the semi-autonomous revenue authority model in Africa and Latin America (World Bank Policy Research Working Paper 3423, October 2004). His paper argues that from a public management perspective autonomy can be used to enhance bureaucratic performance in low capacity public sectors but remarks that the issue of autonomy should not be dealt with as a question of principle.

The favourable performance shown by the three existing SATs of the provincial municipalities: SATL of Lima starting in 12/1996, SATT of Trujillo (12/1998), and SATP of Piura (12/1999) has been replicated now by recently-installed similar agencies in municipalities such as Ica (SATIca), Cajamarca (SATCaj), Chiclayo (SATCH) and Huancayo. The common patterns in each of these SATs are that they are being separated from the local administrations and granted the legal status of semi-autonomous authorities. They are responsible for the collecting of all local revenue (taxes, charges and fees). SATs are designed to have a number of autonomy-enhancing features, including self-financing mechanisms, which are derived from a share of its gross collections plus its own-income from user fees. This share varies from 5% for the SATL and SATT, to over 6% for SATP and the SATIca 6%, and to 10% for the SATHuancayo.

Property Tax collection has been raised from 2001 to 2005 annually by double digit figures. Overall collection has risen even faster (fees, charges, fines). Detracting from this apparently strong growth performance is, however, the fact that growth has been from an extremely low base. SATs are selecting staff according to merit and are paying salaries more competitive with the private sector. The use of electronic interaction has been broadened, and a favourable client culture vis-à-vis the citizenry has been introduced (quality of service provision has increased).

²⁶ In Latin America, unlike experiences in countries like Japan, cadastres remain primarily in the hands of public institutions; the private sector normally participates in the processes of implementing cartographic updates and information systems, but not in the administration itself.
Conclusions

An evolving local institutional environment - as manifested in new laws, stronger public awareness towards local administration, increases in responsibilities - is confronted by serious flaws – disincentives due to the structure of transfers, institutional parallelism, poor local administrative performance, and no real voice for municipalities at the central level, which results in legislative surprises (residual centralist tradition). The current decentralization process in Peru will strengthen the position of municipalities and challenge local administrative capacities through the transfer of new responsibilities and resources.

The fiscal base of municipal governments in Peru remains low for various reasons. These include insufficient local capacity for revenue generation in the majority of municipalities, limited revenue bases, excessive central control over bases and rates, and a possible substitution effect through central government transfers.\textsuperscript{27}

Up to now the revenue from property tax is, at 8\% of total local revenues, low in itself and also compared to other countries. Peru should therefore give serious thought to raising more revenue from the property tax, especially in view of the difficulties of raising other local revenues. The property tax can enhance accountability at the local level and is also significant in that its use is discretionary, unlike most charges or transfers, which are earmarked.

Property tax revenues are highly concentrated in urban areas and especially metropolitan areas (high heterogeneity of municipalities). Areas in the mountain highlands and the Amazon basin have, on average, much lower revenues from property tax (correlating with the higher incidence of poverty). Rural properties might not have a big potential, in fact these are often taxed on a marginal rate or even excluded (due to informality in peri-urban and rural areas).

For the time being it might be understandable, if unfortunate, that local authorities in Peru do not devote more resources to the collection of property tax because bases are narrow and have modest yield prospects. Passively accepting whatever revenue happens to come in might be the most reasonable approach. However, underlying poor local governance are political liabilities from the autocratic Fujimori regime (1990-2000), where municipalities were neglected or poor governance was encouraged at the local level. The Fujimori regime was providing in parallel (partly with financing from international institutions) essential local service provision by specialized agencies (FONCODES, PETT, COFOPRI, PROVIAS, PRONAA etc.).

While the blocking of a stronger role for the property tax in the current system by vested interests is not detectable, there is what could be described as relative indifference from various institutions. Even if the legal changes in the Decreto Legislativo 776, introduced in 2002 and 2004 have potentially improved municipal tax revenue, there is still plenty of scope for reform. Concerning the property tax, the following changes are important: (i) the abolition of exemptions, (ii) the obligation of notaries to verify the payments of local taxes before the registering of a new owner (iii) the creation of a District Cadastre Fund, and (iv) making municipal local revenue collection one parameter for the transfer index (still to be applied). Further steps are necessary to increase the role of property tax.

\textsuperscript{27} Some evidence suggest that a substitution effect is/was widespread eg. Colombia, Guatemala, Bolivia, Ecuador, Venezuela among others (Peterson 1997; Cadena 2002; Sanchez et al. 2002).
The institution responsible for the valuation of property, CONATA, has made various attempts to increase rates (up to now with little success). Modern techniques of valuation such as the manual mass-valuation approach, and the use of CAMA (computer assisted mass appraisal) techniques are still not used in the Peru but have shown that they can produce more equitable, up-to-date valuations in a transparent, cost effective, timely and sustainable manner.28

Disincentives at the local level must also be addressed. Given the inherent political liabilities of the property tax, sustained improvement is unlikely as long as more politically attractive means of increasing resources are available. The recent policy change to reduce/abolish former spending restrictions for the FONCOMUN transfer might not be a good idea and may be counterproductive for local resource mobilization as in some municipalities a high share of these transfers are used for recurrent expenditure.

Given the reduced policy options for municipalities, the central government is responsible for enabling conditions (promoting and facilitating revenues from property taxes). But because municipalities have only a restricted voice at the central level, central government institutions are changing time after time the rules of the game (Canon, Foncomun distribution and use, regulation concerning fines).29

Willingness by citizens to face their fiscal obligations is not the subject of this paper, but it is essential for local politicians to show positive impacts through the quality of investment and reduced administrative costs.30 Because charges and fees are collected for almost every service provided by the municipalities, it is especially difficult for citizens to identify benefits for which they are paying the property tax.31

Notwithstanding the reduced policy options at the local level, there exist a couple of innovative examples of how municipalities can increase their own revenues. Positive innovations at the municipal level (not only SATs but also some traditional municipal tax offices, or the successful reduction of administrative barriers in the municipality of Piura and Lima) are now copied from other local authorities. Through the decentralization process there will be in future even more room for increased innovation.

The particular experience of the creation of semi-autonomous tax agencies can be seen as a result of an adaptation process in the 1990s to bypass negative impacts created by national policies. The successful experience in the provincial municipalities of Lima, Piura, and Trujillo is now replicated in some municipalities.

A newly included disposition in the Municipal Tax Code stating that from 2006 that the FONCOMUN must be distributed on the basis of municipal efforts on tax collecting/investment is a major improvement but is still not operative (the incentive is not to harm those municipalities that have already been practicing local revenue collection for some years).

28 A change of calculation for the assessed value from a multi based index to a more simplified valuation method based on m² and area index have been successful in some cities, e.g. Santa Cruz in Bolivia (Rojas 2004).
29 The latest legislative surprise came in 2004 when the distribution of the Canon was changed in the middle of the budget year, benefiting some and harming others.
30 Quality of investment is in Peru a big issue: municipalities have made abundant investments with little impact, little sustainability and/or overpriced (as is the case at the central level). A national system for public investment (the so called SNIP) protects against majors flaws; however, local governments first were exempted until a certain level from this process, but will progressively be integrated. Concerning administration costs, in Peru the local council members get significant amounts of money, e.g. a provincial town like Chiclayo with 15 parliamentarians (so called regidores), each with an assignment of about 5000 Soles a month, meaning almost 1 million Soles/year or about 15% of property tax yields.
31 Municipalities' charges in Peru do not usually cover the real cost of the service provided. In any case, relying too much on user charges can lead to inefficient levels of service provision, because of their "public good" nature, as some municipal services would be underprovided.
Considering that it is usually not recommended to increase municipal resources while the given revenue remains unsatisfactorily used, it should be noted that in some selected circles it is discussed whether the small business tax (Régimen Único Simplificado - RUS) should go to municipalities to enhance local revenues beyond property tax, transfers and charges.

Moreover, betterment levies (taxing gains in property value stimulated by urban development), which some countries use successfully at the local level, could also be an option for Peruvian urban areas.

References


Sánchez, Fabio; Smart, Michael & Zapata, Juan Gonzalo 2002. *Intergovernmental transfers and municipal finance in Colombia*.


Part II

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INTRODUCTION TO SECTION II

SECURE TENURE, PROPERTY RIGHTS, AND INFORMAL LAND DELIVERY SYSTEMS

Bruce Ferguson

As the pressures on urban land increase, secure tenure has become the fundamental housing issue for the poor. Urban economic growth brings jobs and rising incomes. However, it also stimulates escalating land prices that make centrally-located plots occupied by low-income households highly attractive to other users. Government often bulldozed informal low-income urban communities during the 1950s and 1960s, when officials typically viewed these settlements as “blighted” areas.

A number of trends have joined to reduce such “forced evictions” throughout the developing world. Perhaps most fundamental, as elections have replaced overt authoritarian rule in many countries and cities, the substantial share of the electorate in these low-income settlements has gained the power necessary to protect and consolidate these areas. International and local NGOs have also led a campaign to focus the attention of the international community on forced evictions generally and in particular countries, which has resulted in many official declarations (e.g., of the United Nations) against this practice. Finally, a wave of research (such as Perlman’s *Myth of Marginality*) starting in the late 1960s came to view these areas as more of a solution than a problem. Unable to offer alternatives, many local governments and politicians have either bowed to the seemingly inevitable or began promoting informal settlement in return for political support and, sometimes, for cash in their own pocket.

But what kind of “secure tenure”? Hernando de Soto’s path-breaking book, *The Mystery of Capital*, published in 2000 argues that individual full legal title can unlock the massive amounts of “dead capital” contained in the informally-held real property of low-income households through stimulating investment and credit, and—thus—detonate economic development. This view holds strong appeal from a number of perspectives. From this standpoint, the poor already possess the wherewithal to build wealth and make a better life. In particular, the potential value of this asset far outstrips donor assistance. Government—it is argued—needs to legalize this asset, and then the other pieces of the puzzle—especially credit—will naturally follow. Individual private property is the cornerstone of this process, which can replicate the economic success of the affluent West in the developing world.

Although appealing and insightful in its analysis of the different modes of informality, this view has proved too simple. Building a working capitalism for the poor, in general, and for low-income settlement, in particular, has turned out to be a much more nuanced process. The experience of De Soto’s native Peru with massive land titling programs of low-income communities serves as a case in point (Morris). Massive titling seems to have had a modest economic impact on the beneficiary households and infrastructure investment, and has led to smaller increases in access to credit in these Peruvian areas (Morris) than expected. The paper by Morris suggests that Peruvian households value full legal title as much as other forms of secure tenure that, in theory, would give a lower degree of property rights (Morris). Although the Peruvian titling program has greatly reduced the cost of full legal title—from over $2,000 to less than $100—many fully-titled properties lapse into the informal sector again on sale.
Indeed, in the absence of mitigating measures, many authors (Payne; Durand-Laserve) have argued that full legal tenure can contribute to displacing low-income households rather than building their assets. In this other view, most low-income households neither want nor can afford full legal title. A ladder of property rights and – thus – many forms of “intermediate title” much better suit these families and communities (Ferguson, 2003). From this other perspective, policies that accept and formalize traditional land-delivery systems hold much greater importance than titling programs.

The “secure tenure” debate provides the framework for the papers in this section. Although forced evictions have declined, the first paper (Durand-Laserve) documents how commodification of shelter and settlement in emerging countries has increased “market evictions. As land values increase, low-income communities with rights to their property short of full legal tenure often face difficult negotiations. In such cases, everything depends on the balance of power at the local level. Sometimes, these communities and households are able to achieve compensation sufficient to replace their current property. Other times, their disadvantage in knowledge and power contribute to arrangements that – although not “forced” eviction - result in a move that worsens their housing situation and welfare. Such “market evictions” from centrally-located land typically fuel new informal settlement on the periphery and increasing density in the remaining centrally-located low-income informal communities. The paper documents how these realities have played out in Kigali, the capital of Rwanda and Phnom Penh, Cambodia, and calls for policies that protect against market evictions.

The second paper (Mooya and Cloete) applies the tools of the New Institutional Economics - in particular, that of transaction costs - to the secure tenure debate in an analysis of Namibia’s “extra legal” urban settlements. “Transaction costs” consist of the costs of measuring the valuable attributes of what is being exchanged and the costs of protecting these rights and of policing and enforcing agreements. These include search and information costs, bargaining and decision costs, and supervision and enforcement costs. Well-defined property rights minimize transaction costs, and are the sine qua non for the emergence and function of markets and, it is argued, poverty alleviation. In this context, De Soto’s thesis essentially applies these principles of the New Institutional Economics in emphasizing the importance of full legal tenure.

Although they share this theoretical framework, Mooya and Cloete argue that full legal tenure does not necessarily optimize markets, and that clearly-defined property rights short of full legal tenure can also reduce transaction costs, spur markets, and reduce poverty. The paper examines the proposed “Flexible Tenure System” of Namibia and concludes that it is potentially a powerful tool in fighting urban poverty. The authors also carry out a survey in two informal low-income settlements in Namibia – one with substantial security of tenure and the other without. They find increased investment, property values, and opportunities for capital gains and rental income in the settlement with secure tenure. Against expectations, sale activity was higher in the settlement with less secure tenure. This and other puzzles require further research.

The third paper (Fernandes) describes and analyzes the recent efforts of the Brazilian federal Ministry of Cities to develop a comprehensive approach for regularizing land title and settlement. Such irregular settlement accounts for more than 50% of new housing in Brazil. The new comprehensive regularization effort – the “National Program to Support Sustainable Urban Land Regularization” - is a great pioneering advance in political action by the federal government, which deserves respect and encouragement. However, at present, it is still mainly a declaration of intentions. A key challenge consists of integrating the regularization efforts of
the federal government as a whole – both within and outside the Ministry of Cities – and to assign substantial budgetary resources to them.

In the fourth paper, Pedro Abramo gives a theoretical over-view of urban and informal development in Brazil mentioning three broad processes that have shaped them – the logic of State action, the logic of the market and the logic of need (occupation). The analysis then compares residential mobility in favelas and consolidated areas.

In the final paper of this section, Rakodi examines traditional land delivery systems in five medium-sized Anglophone sub-Saharan African cities. In the past, poor households could often obtain land through non-commercialized delivery channels in these cities. Today, however, the poor can no longer find plots on which to settle in these urban areas, either through formal or informal markets, with limited exceptions. Informal delivery systems offer the most affordable method of settlement. Hence, these systems should be tolerated and built on. Policy and programs should also identify and correct the weaknesses of traditional systems. In particular, government should work with subdividers to ensure early provision of the most basic services and incremental upgrading of the service package.

References


MARKET-DRIVEN EVICTION PROCESSES IN DEVELOPING CITIES
THE CASES OF KIGALI AND PHNOM PENH*

Alain Durand-Lasserve**

Abstract

Eviction mechanisms and trends must be analysed with reference to the global context of the persistent imbalance between demand and the supply of land for housing, and commodification of informal land markets. Although no reliable figure is available, in most cities the scale of market-driven displacements clearly overrides that of forced evictions. Current dynamics accompanying the liberalisation of land markets in many developing countries are increasing the market pressure on urban low-income settlements, although they are not recorded as evictions, many market-driven displacements can be considered as forms of “market evictions”, either because they do not require the use of force, or because some form of compensation is paid to the displaced households, regardless of how fair and equitable this compensation may be. This issue is discussed on the basis of observations made in developing cities over the last decade. Emphasis is put on two case studies: Kigali (Rwanda), and Phnom Penh, (Cambodia).

In Kigali, more than 80% of the urban population are living in informal settlements, with no formal security of tenure. The adoption of the new Land Law in November 2004 recognised private land ownership, and opened the way for tenure regularisation. Expropriations and evictions result from the combined intervention of public authorities and private investors, in a context where liberalisation of land markets and restrictive planning regulations and constructions standards exclude the vast majority of urban households from legal access to land and housing, as well as from the benefit of tenure regularisation. Low compensation and lack of resettlement options are pushing the majority of the urban population into illegality, which itself justify further evictions.

In Phnom Penh, after a phase of forced evictions, followed by the implementation of concerted resettlement policy, the attitude of the public authorities towards informal settlements gradually evolved under pressure from local and international NGOs. The new in-situ upgrading policy implemented from May 2003 onwards, although seen as a major success by poor community federations, had in fact an unexpectedly perverse effect by restricting access opportunities to alternative resettlement sites, while the pressure of private developers on poor inner-city settlements located in prime areas increased drastically. Over the last five years, intense land speculation and a spiralling increase in the market price of land in urban and suburban areas have accelerated large-scale market evictions at the city level and forced sales on the periphery of the city.

Market eviction processes are now tending to replace the forced evictions that prevailed in the 1990s. Yet, these forms of market-driven displacements are considered a normal phenomenon, as long as they result from market mechanisms and are not “illegal” with regard to international legislation. It is necessary to

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identify those mechanisms and legal and regulatory frameworks and tools that could help to limit or streamline market eviction processes, emphasis being put on three main sets of issues: access to land for resettlement programmes, compensation, and accompanying measures for communities benefiting from in-situ upgrading programmes.

**Forced Evictions and Market Evictions**

**The global context: urban poverty and slum populations**

According to recent UN estimates, 924 million people - nearly one out of three urban dwellers - were living in slums in 2004. Of these, 874 million are from low and middle-income countries (Millennium Project, 2005). Urban poverty as a proportion of total poverty is clearly increasing; 43% of the population of developing cities are living in slums (28% in North Africa, 71% in sub-Saharan Africa, 42% in Asia and 32% in Latin America) (Lopez Moreno, 2003 and UN-Habitat, 2003 b). By 2020, this figure is expected to increase to 1.5 to 1.7 billion, depending on estimates. Recent estimates (Cohen, 2004) suggest that about 2.8 billion will need housing and urban services by 2030. The slum population is expected to increase from 32% of the world population in 2001, to about 41% in 2030.

So far, no satisfactory solution for addressing the challenge of slums has been found. Conventional responses are usually based on the combination of three main types of intervention: (i) in situ upgrading in existing informal settlements; (ii) evictions followed by resettlement on serviced sites on the periphery of cities; (iii) the preventive provision of low-cost serviced plots for housing (UN-Habitat, 2003 b). These responses have achieved limited results. Despite some major successes at national level where political will and continuity, economic development and mobilization of resources in sufficient quantities have made possible the implementation at national level of innovative policies for housing the poor (South Africa, Brazil, Tunisia, etc.), scaling up remains a major problem. Most slum policies are simply treating the symptoms and cannot be considered as structural and sustainable policies. The Millennium Development Goal is to achieve a significant improvement in the lives of 100 million slum dwellers by 2020 (Millennium Project, 2005). This target would represent only 6% of the slum population in 2020.

**Negotiated displacements and market-driven eviction processes**

This paper, based on a series of observations made in a large number of developing cities throughout sub-Saharan Africa, South and South-East Asia and Latin America over the last two decades, emphasizes two recent case studies in Kigali, Rwanda, and Phnom Penh, Cambodia. It does not deal with “forced eviction” processes, but with particular forms of displacements, usually under the pressure of market forces.

Current dynamics accompanying the liberalisation of land markets in many developing countries, (World Bank, 2003) are increasing the market pressure on urban low-income settlements, and this in a global context where resources generated by economic growth are rarely allocated to housing and resettlement projects for the low-income groups.

Many of the evictions that are resulting from these dynamics are not recorded as such either because they do not require the use of force, or because some form of compensation is paid to the displaced households, regardless of how fair and equitable this compensation may be.
This frequently results in a deterioration of their economic and housing conditions, and ultimately in the formation of new slums. This is what we call “market-driven displacements” or, in some circumstances, “market-driven evictions”. It concerns primarily informal settlements, and especially “slums” as defined by the United Nations (UN-Habitat, 2002). It encompasses all situations where displacements are the direct or indirect consequences of a development aiming to make a more profitable use of the land.

Forced evictions as well as negotiated “market-driven displacements” are closely linked with market pressures, except in cases where evictions are the consequence of expropriations for public interest (need for land for infrastructures), or are justified for safety or public health reasons (sites exposed to hazards and/or unsuitable for urbanization). Although no reliable figure is available, in most cities the scale of market-driven displacements or evictions clearly overrides that of forced evictions.

In the case of formal settlements, whether the occupant is a tenant or the owner of his dwelling unit, evictions may take place if the occupant does not comply with an administrative or a court expropriation decision. In such cases, expropriated owners are entitled to receive compensation corresponding to the market value of their property as assessed by the administration and, in case of dispute, by a tribunal.

Occupants in informal settlements are in a different situation: their irregular situation regarding planning, development and/or construction norms (in the case of informal commercial land subdivisions) and, more importantly, their tenure status, means that they are not entitled to claim compensation for the replacement cost of their land and dwelling unit. They can be evicted with or without compensations or resettlements options. Evictions may follow formal/legal procedures. However, empirical observations show that many evictions do not have full legal basis, or are not carried out according to legal procedures.

The level of tenure security depends on evidence the occupants of any settlement can provide. Occupants in informal settlements do not usually have any real rights such as a property title or a lease. In many cases, other documents such as administrative permits, deeds of sale, receipts, invoices, and ration cards may be accepted as evidence of quasi-ownership, but with a lower value than real rights or leaseholds.

In some cases, the terms of the negotiations between communities living in informal settlements, public authorities and landowners or developers can be considered as being fair: compensation paid or alternative resettlement options offered to the households concerned do not result in any significant deterioration in their housing conditions or expenditures. This is usually the case when concerned communities enjoy already some form of de facto security of tenure, have access to information, benefit of political protection, and is able to mobilize resources to protect their interests.

In many cases, however, especially when the tenure status of households or communities does not provide them with sufficient protection against eviction procedures, or when their incomes, their cultural background, asymmetry in access to information, social status, or the prevailing political environment do not provide them with sufficient protection, the terms of the negotiation are distorted; their negotiating/bargaining capacity is weakened and they tend to accept arrangements that will result in a deterioration of their housing situation and welfare.

This may be also the case when households have been allocated land under the administrative “permits to occupy” (PTO) regime, which are still the most common occupancy status in sub-Saharan West African cities. With few exceptions, PTO are temporary documents, granted conditionally, and they can be unilaterally
revoked by the administration whenever it considers that the permit holder has not fulfilled his obligation and/or that it can make better use of the land.

In short, those who have settled on land whose value has increased over time, and who cannot provide sufficient evidence as to their rights on the land are exposed to "market evictions", as they are not necessarily entitled – in strictly legal terms – to be paid compensation corresponding to the replacement cost of the dwelling unit in case of eviction. In such cases, everything depends on the balance of power at the local level, and ultimately on political decisions.

Informal Settlements, Market-driven Displacements and Evictions: Current and Trends at Global Level

Eviction mechanisms and trends must be analysed with reference to the global context of the persistent imbalance between demand and the supply of land for housing, the scarcity of prime urban land for development, increases in the market value of urban land, and increasing commodification of informal land markets (Durand-Lasserve and Royston, 2002). Although there is a continuum between forced evictions and market-driven displacements or evictions, each has its own specific characteristics.

The most common cases of forced evictions in developing cities are commonly observed in the following situations:

- A landowner who has, in the past, authorized tenants to settle on his land now wants to develop it or to sell it to a developer. He refuses to collect rents and asks the occupants to move out (case of inner-city slums in Bangkok during the last thirty years).

- An investor buys land suitable for development from a private landowner with the intention of developing it. If tenants or squatters already occupy the land, and if the investor cannot persuade them to leave through negotiation, he may obtain an eviction order from a court.

- Public authorities launch an expropriation procedure, by power of eminent domain, in order to build infrastructure or carry out urban renewal, or a redevelopment scheme, or a beautification project.

- Public authorities sell to private investors land from the State private domain, which is already occupied by tenants or squatters (case of cities in transition where land is being privatized, with pressure of emerging land markets). The sale of public land aims to increase their revenues in the absence of land taxation and other fiscal resources. The Kigali and Phnom Penh case studies are a good illustration of such methods.

- Public authorities recover land that had been allocated to occupants under a temporary PTO regime, in order to carry out a development project, usually in partnership with private investors (case of sub-Saharan African cities where the PTO regime still prevails).

In all these cases, occupants of the land will be ultimately exposed to forced evictions. However, de facto security of tenure in informal settlements usually provides protection against forced evictions, which may compromise the success of legal actions to evict occupants, and may force private investors or public authorities to negotiate.

Negotiated market-driven displacements or evictions are usually the result of an actual or anticipated investment in a property that is already informally occupied, and that cannot be developed as long as it is occupied. The
aim of the investor is to buy the land or immovable property at a price, which is below market price, and to sell it back at a higher price with or without development. Four main factors bring down the market value of the land: tenants or squatters already occupy the land or the immovable property (this is the most common case); the tenure status of the land being transferred is uncertain, and obtaining a real right may require time and financial resources; the land is not suitable for development because of its physical characteristics, or existing land use regulations preclude development. If the investors succeed in obtaining the required land rights or manage to carry out the land development, or can expropriate or evict occupants (tenants or squatters), such transactions may produce a higher profit/return than that obtained in conventional development projects, where vacant land suitable for urban development is purchased at normal market price.

Market-driven displacements may also result from in situ tenure regularization, settlement upgrading and basic service provision without community organization or appropriate accompanying social and economic measures (such as credit facilities, advisory planning or capacity building at community level), and this may give rise to increases in housing expenditure that the poorest segment of the settlement population is not able to meet. When combined with increases in land values and market pressures resulting from tenure regularization, the poorest households will be tempted to sell their property and settle in a location where accommodation costs are less. This commonly observed progressive form of displacement results in the gradual gentrification of inner city and suburban low-income settlements.

Market-driven displacements are frequently observed when several types of property rights coexist, and each has a different value, depending on the type of protection it affords, with the result that the economically weaker households are exposed to market pressures. This usually happens when tenure situations are covered by a dual legal system, with various forms of reinterpreted “customary” laws and practices inherited from the pre-colonial period coexisting with “modern” law (e.g. in Rwanda and many other sub-Saharan African countries (Kreibich and Olima, 2002, Durand-Lasserve, 2003), or when multiple forms of tenure status and occupancy rights coexist (legal titles coexisting with other types of document with varying degrees of legitimacy, such as administrative permits to occupy, deeds of sale, bills, ration cards, registration books, etc.).

Such situations are common when there are no appropriate land records or land registers, or when existing land-related information systems are not available, or no longer operate because they have not been updated or have been destroyed), thus leaving the way open to arbitrary interpretations as to the legal basis of tenure rights. This happens, for instance, when urban land and houses have been occupied in a post-war emergency context by refugees or returnees without proper government control, and when private ownership rights have been introduced with insufficient regulatory measures following years of State monopoly on land, as can be seen in former socialist countries (Cambodia, Vietnam, China, etc.).

Compared with forced evictions, market evictions are usually a longstanding process. However, they may also take place in a very short period of time. The systematic land titling and registration programs currently being promoted in many developing countries, with the objective of setting up mortgage finance systems, securing investments and mobilizing “dead capital”, may accelerate market eviction processes if they are not incrementally implemented or accompanied by appropriate measures to provide protection for the poorest households.

Settlements exposed to market eviction may be located on private or public land. Those living on prime land or land located in areas suitable for profitable housing or commercial development projects are particularly
vulnerable to pressures from the administration or investors, especially if they do not have full security of tenure. Poverty and weak community organization usually increase the risk of market eviction. In all cases, households headed by women are more vulnerable to market-driven forms of displacements or evictions than those headed by men.

Although forced evictions are well documented by an efficient network of NGOs and slum dwellers' associations – the Center on Housing Rights and Evictions' Global Survey on forced evictions in 60 countries found that 6.7 million people were evicted from their homes between 2000-2002 and that 6.3 million were under threat of forced eviction in 2003) (COHRE 2004) – there are no figures for the scale of market-driven displacements. Yet in cases that have been documented, the number of market-driven evictions is much higher than the number of forced evictions. Market-driven evictions are usually seen as a normal consequence of urban development, as a kind of "creative destruction", as defined by Schumpeter, which necessarily accompanies economic development and modernization processes. Another set of problems encountered in attempts to identify the scale of market-eviction is the lack of agreed definitions. As long as negotiations between the involved parties take place, whatever the terms of the negotiation, eviction is usually considered as a voluntary removal. To illustrate this, we shall refer to recent observations made in two different urban, social, cultural and economic contexts: Phnom Penh (Cambodia), and Kigali (Rwanda).

Two Case Studies: Kigali (Rwanda) and Phnom Penh (Cambodia)

Historical, social and economic backgrounds are different in the two cities, but they share some similarities

Cambodia and Rwanda have a national population of respectively 13 million and 8 million, which is predominantly rural. Urban population represents only 20% of the total population of Cambodia, and 16% in Rwanda. Currently (as 2004, at the time of much of this research), the capital cities of these countries have a population of 1.2 million (Phnom Penh) and 0.7 million (Kigali). The rate of urban population growth is around 3.5% to 4% in Phnom Penh and 7% Kigali.

80% to 85% of the urban population are living in informal settlements in Kigali, and 25% in Phnom Penh (250,000 people, scattered among 500 settlements: squatters on public land and in the urban-rural fringe, slums on private land, rooftop dwellers). Tenants represent more than 50% of the population of Kigali and about 20 to 25% of the population of Phnom Penh.

The two countries are characterised by the gradual re-introduction of property rights in a post-war / post-genocide context (Cambodia between 1971 and 1975, Rwanda in 1994), which resulted in both cases in the destruction of land registers and records. Following the war and the genocide, these two cities have been confronted with the massive arrival of "returnees"/war refugees. This phenomenon has had a major impact on the tenure and occupancy status of the population. In both countries, the emergence of a land market was accompanied by the implementation of a nationwide land titling and registration programme. The cadastre of Phnom Penh is currently being set up and is expected to be completed within 5 to 6 years. In Kigali emphasis is being put on the creation of GIS, for planning and fiscal purposes.

In Kigali, the land remains the exclusive property of the State. The right to use, develop and occupy the land is granted by the government under the "permit to occupy" regime. The State retains the eminent ownership of the land and is entitled to take it back if leaseholders of plots of land for housing in urban or suburban areas cannot develop the land within 5 years, according to construction standards set out by public authorities. In
rural and suburban areas customary rights were recognised, and the subdivision and allocation of land by customary owners was either recognised or tolerated. Combined with self-help housing construction, this gave rise in the 1980s and early 1990s to the rapid extension of large urban low-income settlements. In 1994, 80% to 85% of the population of Kigali was living in these so-called “precarious” settlements. The adoption of the new Land Law in November 2004 did not put an end to the State monopoly of land, but recognised private land ownership, and opened the way for a privatisation of land markets.

In Phnom Penh, private property was abolished by the Khmer Rouge regime which was in power from 1975 to 1979, and the population of Phnom Penh was forcibly displaced in rural areas. From 1979 onwards, following the fall of the Khmer Rouge the city was gradually reoccupied. All property rights prior to 1979 were abolished. Those working for the new government were allowed to settle in vacant land and abandoned buildings in Phnom Penh with their families. They were granted only a right of use but were allowed to transfer their land or dwelling unit by inheritance. They did not have to pay rent, but they had – in principle – to register with the government authorities and they received a “card” that authenticated the legitimacy of their occupation. The land and house remained the property of the State. According to the 1981 Constitution, “no one is permitted to buy, sell, mortgage or lease a land” (Art. 17). However, during the 1980s, one could observe the development of an informal property market, which included the subdivision and sale – without titles – of apartments in city centre buildings. Increased population pressure, combined with insufficient land and housing supply, led to the accelerated development of squatter settlements in Phnom Penh.

**Market-driven displacements and evictions in Kigali**

Between 1991 and 2002, the proportion of the urban population jumped from 6% to 17% of the total population of the country. This increase is due to the combined effects of natural growth, rural urban migrations, and the return to the country, mainly to Kigali, of Rwandan refugees living in the neighbouring countries (Perouse de Montclos, 2000).

Each year, during the last five years, about 48,000 people have settled in Kigali. This would require an annual provision of 8,500 dwelling units, in addition to the units that would be needed to cope with the existing backlog.

Before 1994, the supply of urban land for the low-income population was mainly provided by “customary owners” on the urban fringe. Government authorities tolerated these practices and, especially in the late 1980s and early 1990s, tried to streamline and regulate them by implementing some regularization projects (République Rwandaise, 1987). The new Government that came into power following the 1994 genocide did not recognise the customary land market but did not suggest any alternative policy for housing the poor, and took a series of actions to prevent the formation of new slums. This situation is now resulting in a growing pressure on existing informal settlements, mainly for rental housing (République du Rwanda, 2004 b).

The land and housing development policy currently implemented by the City of Kigali is pushing the majority of the urban population into illegality. Until the new Land law adopted in November 2004 is implemented, land remains the property of the State or, if it lies within the City of Kigali administrative boundaries, of the City of Kigali, which allocates land required for any development project (République du Rwanda, 2004 c).
Development and construction norms and standards are an obstacle to the provision of land and housing for the low-income groups. According to the National Housing Policy defined by the government (République du Rwanda, 2004a), the only settlements recognised as legal are “planned” settlements, as opposed to “spontaneous” ones (République du Rwanda, 2004d).

In urban areas, any development must be based on an approved “development plan”. Any other development is considered illegal. Individual housing constructions are authorized on land leased by public authorities, provided they conform to the same set of norms and standards. Few households can manage this, and most have no choice but to rely on informal land markets, and are thus exposed to eviction. At present, restrictive planning and development standards are directly responsible for the exclusion of 75% to 80% of households from legal access to land and housing.

Although upgrading projects are envisaged in a limited number of settlements, most are not entitled to regularisation because they have not been developed according to formal norms and standards, especially regarding the minimum plot size required. The main objective of the City Council is rather to carry out urban renewal projects in order to make prime land in the central and peri-central area available for development (Republic of Rwanda, 2002).

Expropriations and evictions result from the combined intervention of public authorities and private investors. The city of Kigali evicts households from irregular settlements in order to carry out infrastructure, development and urban renewal projects, especially in the central part of the city. Expropriation can also take place in formal settlements that have not been developed according to official norms and standards.

To tenure insecurity, due to the risk of expropriation by the public authorities, can be added the insecurity caused by the pressure of the market on urban and suburban land; informal settlements may be the target of a development project initiated by private investors (individuals, associations, cooperatives, developers) who can obtain approval from City Hall for a development project on a site already informally occupied, and negotiate the “voluntary departure” of the occupants or their eviction. City Hall only intervenes if the parties cannot reach agreement on the amount of compensation to be paid. Compensation paid by private investors will later be deducted from the price of the land investors will have to pay to obtain a land title, after the development project is completed.

This practice generates a large number of conflicts; in 2003, 96% of conflicts brought to the attention of the national ombudsman concerned land tenure, and of these 75% concerned Kigali.

Eighty percent of households in Kigali are thus potentially exposed to this form of expropriations or market-driven evictions.

According to official sources, about 1,280 households were evicted and paid compensation by City Hall in 2003 and 2004. If the number of households evicted by City Hall represented only 1/3 to 1/4 of displacements following private investor interventions, as estimated by the City authorities, then the total number of evicted households over the last two years would be in the range of 3,840 to 5,120, corresponding to a population of 17,300 to 23,000 persons.

The compensation issue is a key dimension of market eviction processes. The compensation paid to households corresponds to the cost of the dwelling unit built on the plot, as assessed by the City Council, but not the cost of land, which remains the property of the State or of the City of Kigali. In the case of eviction by public
authorities, or of displacement initiated and negotiated by private investors, the compensation paid is based on the rate laid down by the City Council in 1996, and not updated in December 2004.

The resettlement of displaced or evicted households on serviced plots might be an appropriate response. However, the provision of serviced plots does not meet the demand. In cases where resettlement sites have been identified, the size of the plots, the administrative transfer costs incurred, and the amount of rents and the norms and time frame imposed for their completion are far beyond the ability of the displaced households to pay.

Low compensation is paid to households displaced or evicted from informal settlements, as it only takes account the cost of the development (buildings or crops). There is no compensation for the land itself. Moreover, only households who own their dwelling (42.7% of households in Kigali in 2002) can receive compensation. Those who rent (47.2%) receive nothing at all and are therefore in a much more precarious situation. The cost to the households of gaining access to another dwelling unit is very much higher than the amount of compensation they receive. For example, in 2004, the minimum cost of a dwelling unit constructed according to the minimal norms recognised by the authorities is 3 millions Frw\(^1\), to which must be added the annual land rent. Between January 2002 and July 2004, the average amount of compensation paid to evicted families was less than 0.7 million Frw.

If the rate were to be revaluated, the city of Kigali would not have the required resources to compensate and resettle expropriated households. The risks and negative impact of the land and housing policies currently being implemented in a context of land market privatisation must be highlighted, as they may result in the large-scale transfer of land that currently belongs to the State to high-income groups and investors, thus increasing the risks of massive market-driven evictions.

The current registration systems, which give a much higher priority to the question of tenure regularisation and access to ownership than to security of land tenure, tends to worsen the situation. There is therefore a risk that it will only be accessible to those who can afford it, thus benefiting the richer households while penalising the poorest, as registration is on a voluntary basis and depends entirely on the ability of the individual to bear the cost.

Limited resettlement alternatives offered to evicted households are worsening the impact of market eviction processes. The practice of eviction without fair compensation or without offering resettlement options is creating a population of homeless families. The current land and housing policy implemented in Kigali has resulted, in the last few years, in the departure of a large number of evicted families who have settled in small urban centres outside the City of Kigali administrative boundaries. However, there are a certain number of factors that limit the magnitude of the eviction drive: most urban land still remains the property of the State, thus limiting the development of a speculative land market; there are still limited investment capacities in formal housing development, and conditions for the emergence of a property development sector are still far from being in place; and, for social and political reasons, the city services do show a degree of restraint in carrying out evictions.

**Market-driven eviction processes in Phnom Penh**

During the Khmer Rouge regime, all private property was abolished in Cambodia and most documents were destroyed. After the fall of the Khmer Rouge in 1979, returnees to Phnom Penh were selectively authorized.

\(^1\) US dollar = 570 Francs Rwandais (Frw) in October 2004
to occupy buildings on a first come, first served basis and were given a “temporary permit” by the authorities, but all property remained in the hands of the State. (Fallavier, GRHS, 2003). The right to own land was reintroduced in 1989, allowing farmers to claim possession rights to plots of up to 5 ha, and households to obtain ownership titles to residential plots of up to 2,000 sq. metres.

From 1989 onwards, the government took a series of measures to address land issues and ensure efficient land privatisation and management: enactment of the 1992 Land law; recognition of right to ownership of legal private property by the National Constitution of 1993; decision to issue land titles, in 1995; and adoption of the Statement on Land Policy in May 2001 with the objective “to strengthen land tenure security and land markets, prevent and resolve land disputes” and “to promote land distribution with equity”.

There are in practice only two types of document used for claiming land ownership: receipts, acknowledging a person’s claim to land; and certificates, which are state authenticated documents certifying land ownership. However, “land transactions involving certificates constitute only a small proportion of total land transactions”. “Even though only a very small proportion of the population (at country level, both rural and urban) has official title to their land, people have been actively transferring land … on the market” (Sik, 2000). Sale agreements that are signed and stamped by District chiefs are considered by most people as official enough to certify the ownership transfer. Lack of clarity regarding land titles and rights is increasing the vulnerability of small landholders in the rural-urban fringe of Phnom Penh to market pressures. A recent housing situational survey (Ministry of Land management, Urban Planning and Construction, 2003), points out that, while 71% of those surveyed indicated that they owned their land, only 5.4% had a land certificate. A majority of people believe that if they are occupying land without conflict or controversy it is legally theirs, irrespective of whether they formally possess land papers.” (Chan and Sarthi, 2002).

Since 1992, the number of households living in informal settlements has rapidly increased, thus limiting their capacity to accommodate any additional population. Three surveys over the last ten years by Solidarity for the Urban Poor Federation (SUPF, 2003), a local Community Based Organisation (CBO), confirm this trend: 130,000 people were living in 187 poor communities in 1994; 375,000 were living in 569 communities in 2003. Poor communities include squatter settlements on public or private land, and settlements where low income families have a recognised occupancy status that gives them some security of tenure but no ownership rights.

Geoff Payne (2004) identifies, from the least to the most secure, nine types of land tenure in the current situation in Phnom Penh: (i) pavement / mobile dweller; (ii) unauthorised occupation of state public land; (iii) unauthorised occupation of state private land; (iv) unauthorised occupation of private land; (v) family registered book; (vi) court order after dispute; (vii) government concession; (viii) certificate of possession; and (ix) certificate of ownership.

Although most land and property transactions have taken place outside formal market procedures over the last ten years, free access to land and housing is becoming much less frequent than in the 1990s. All observations confirm the increasing commodification of informal markets. The survey carried out in 1994 by the Urban Survey Group (USG), a local Non-Governmental Organization (NGO), for the Municipality of Phnom Penh, indicates that 58% of the households in informal settlements had paid to be allowed to settle; and 42% had free access to the land or dwelling unit. Another survey carried out in 1998 indicates that 61% of households had to pay the previous occupants to buy or rent the dwelling unit (Clerc & Rachmuhl, 2004).
The first forced evictions carried out by the Municipality of Phnom Penh for the construction of infrastructure or city beautification projects accompanied the development of squatter settlements in Phnom Penh between 1990 and 1996. Evicted families were rarely given compensation or resettlement options. Evictions were also initiated by private investors/developers on land occupied by households who could provide some form of documentation. The land would then be sold to developers, but the price paid to occupants depended on the "value" of the documents they were able to provide. This procedure involved thousands of families, combining forced evictions and market-driven displacements processes.

The attitude of the public authorities gradually evolved under pressure from local and international NGOs. Between 1996 and 2001, more than 6,000 households benefited from 160 small-scale upgrading projects. A new "concerted resettlement policy" was gradually defined and implemented by the Municipality of Phnom Penh between 1998 and 2003. About 9,000 households were relocated to 21 sites on the urban fringe of the city. Land was provided by the Government or the Municipality of Phnom Penh, and infrastructure construction and service provision were usually funded by foreign aid agencies. Initially, concerted resettlement projects concerned only a few households. However, between 2001 and 2003, the number of resettlements increased drastically in order to respond to an emergency situation: 5,000 out of 7,000 households were relocated, without proper agreement, following fires of criminal origin in several poor settlements in Phnom Penh.

In quantitative terms, the concerted resettlement policy was unable to cope with the demand from low-income families: it resettled 1,800 households per year, but during the same period, informal settlements had to accommodate 5,000 additional households per year.

In May 2003, just before the elections, Prime Minister Hun Sen announced the Government's commitment to put an end to evictions and to launch an ambitious programme aimed at upgrading 100 urban poor settlements per year over a five-year period. This would mean that nearly all of the 569 poor settlements identified in Phnom Penh in 2003 would benefit from this programme. This announcement was enthusiastically welcomed by NGOs and federations of poor communities in Phnom Penh as a major political victory. (Community News. UPDF. Issue N°2, June 2003 a & b).

After nearly two years, the in situ upgrading policy has achieved very limited results. None of the four in situ redevelopment projects based on land sharing had been completed in January 2005. Negotiations between community representatives, public authorities and investors took much longer than expected. Profitability objectives were pushed to the fore, to the detriment of social priorities, and land sharing turned into a form of public-private development partnership.

Over the last five years, intense land speculation and a spiralling increase in the market price of land in urban and suburban areas have accelerated large-scale market-driven displacements or evictions at the city level.

The sub-decree on Social land concession would – in principle – enable displaced households to be resettled (Royal Government of Cambodia, 2003) and could be seen as an appropriate alternative for those households that could not benefit from in situ upgrading projects. However, implementation is not possible because no public land has been made available for such projects, and the public authorities do not have sufficient resources for land acquisition.

Market-driven displacements and evictions are taking place in a context where the Government and the Municipality of Phnom Penh have no defined policy regarding public land reserves, and where public land cannot be made available in sufficient quantities for low-cost land or housing development.
The Government of Cambodia and the Municipality of Phnom Penh own large tracts of land on the periphery of the city that could have been used for resettlement projects (Ministry of Land Management, 2003). However, the inventory of public land reserves—especially of land owned by Ministries—and their use for resettlement has always been problematic in Phnom Penh, with profit-making development projects competing increasingly with socially-oriented ones. In many cases, the proceeds of the sale of land of the private domain of the State by government administrations and government agencies are not returned to the Treasury. Sharp increases in urban land prices encourage these practices.

Poor inner-city settlements are usually located in prime areas with a high commercial value. For this reason, investors are exerting steady pressure on Municipal authorities to develop these areas. In some cases, development projects can be based on land sharing or any other form of public-private partnership.

In other cases, development projects will require the displacement of the community. This can be an eviction, but it is usually presented as a voluntary or negotiated displacement. The terms of the deal will then depend on the negotiating ability of the community or households concerned (including its organizational and lobbying capacity, its political protection, and its tenure status). A recent illustration of pressures brought to bear on informal settlements concerns the case of the Koh Pich area Community, which lives on public land that the Canada Bank and its parent company the Overseas Cambodian Development Corporation wants to develop: while independent appraisal indicates that the land on Koh Pich is worth a minimum of US $24-26 per square meter, the current offer by the city to compensate residents is at the rate of US $2.50 per square meter (East-West Management Institute’s Human Rights in Cambodia, 2005). With no public land reserves being made available for low cost projects on the urban fringe of the city, poor households do not have affordable resettlement options if they move out of their inner-city settlement. Thus, the new in situ upgrading policy implemented from May 2003 onwards, although seen and presented as a major success by NGOs and poor community federations, in fact had an unexpectedly perverse effect by restricting access opportunities to alternative resettlement sites.

Market eviction also concerns rural households on the periphery of Phnom Penh. Interviews carried out in Sangkat Chon Chao, Khan Dank Kor, in March 2004 confirm this dispossession process. Sangkat sources estimate that between 40% and 50% of the farmland in the Sangkat has already been sold off by small landholders to foreign and local investors, mainly during the last five years.

Cases of forced sales have also been reported in the Sangkat in cases where landholders were unable to provide a property title. This is a common situation, as many households who received land in the 1990s believed that they enjoyed sufficient security of tenure and did not apply in due time for a property title.

**Main Implications and Policy Responses to Market Evictions**

Market evictions are considered a normal phenomenon, as long as they result from market mechanisms and are not “illegal” with regard to international legislation. Yet they concern tens of millions of households in cities throughout the world (they also concern rural populations, especially when titling programmes are implemented).

Disguising a forced eviction as a “negotiated displacement” is usually seen as “good governance” practice. It is less risky, in political terms, than a forced eviction; it is less brutal and accordingly less visible as it can be achieved following individual case-by-case negotiations. Most observers consider that the very principle of
negotiating is more important than the terms of the negotiations, especially regarding the compensation issue, even when the compensation is unfair and detrimental to the occupant.

In this context, there is a need for a better understanding of the mechanisms and processes involved in market eviction or market-driven eviction. So far, a great deal of attention has been paid to forced eviction issues and the relationships between various forms of removal, evictions, and resettlements. In order to assess policy responses to market evictions, it is necessary to identify those mechanisms and legal and regulatory frameworks and tools that could help to limit or streamline market eviction processes.

Market eviction processes are tending to replace the forced evictions that prevailed in the 1990s, with similar effects on the poorest segments of the communities concerned. Although no figure is available at global level, empirical information clearly indicates that the magnitude of various forms of market-driven displacements now surpasses that of forced evictions. This can be seen and interpreted as a normal phenomenon: it forms part of the natural dynamics of change in every city. The arrival of better-off households in poor urban settlements may have a positive impact on local economic development, may generate new employment opportunities and increase potential for further community-driven development.

At city level, a high rate of economic growth may have two contrasting/conflicting types of impact on urban informal settlements. On the one hand, new employment opportunities and increases in earned income must be considered as a precondition for poverty reduction and consequently for improving the housing situation for the urban poor. On the other hand, it may have a negative impact as it is usually accompanied by rapid increases in land prices, and market pressures on informal settlements located in urban areas suitable for development, thus accelerating the pace of market-driven displacements or evictions. The land development strategies employed by property developers, land tenure and land market patterns on the periphery of the city, combined with the steady increase in the price of urban land are drastically restricting any room for manoeuvre available for housing the urban poor. If they have some form of secure tenure, they are in a good bargaining position and may be tempted to sell their property. If they do not, they are vulnerable to pressures from investors and will be in a weak position to negotiate and obtain fair compensation.

Without proper resettlement options, fair compensation and/or appropriate accompanying measures, market-driven displacements or evictions have two main impacts: (i) they lead to the establishment of new informal settlements on the periphery of cities, far away from city centres, where informal land markets still operate and can provide low-cost accommodation arrangements; (ii) they tend to increase population pressure and density in informal inner-city settlements that are not – or not yet – targeted for development. This usually results in a deterioration in housing conditions and/or increases in housing expenditure and commuting costs for displaced households. Thus policy responses to market-driven displacements and eviction processes should focus on three main sets of issues: access to land for resettlement programmes, compensation, and accompanying measures for communities benefiting from in situ upgrading programmes.

So far, little attention has been paid to making land for resettlement programmes available to displaced or evicted households. One major bottleneck is the availability of land – especially of publicly owned land – for resettlement. In most cities, lack of transparency in the management, use and allocation of public land reserves favours the upper segments of the demand, to the detriment of the low-income groups, through various forms of public-private developments where commercial objectives override socially oriented goals. The issue of compensation is at the core of market eviction processes and is itself linked with: (i) the market value of the titles/evidence provided, which determines the ability of poor households to resist market pressures
and negotiate fair compensation; (ii) the role and practices of government institutions involved in land management and administration; (iii) the role of courts and tribunals, and (iv) the role of NGOs and CBOs. The amounts of compensation paid should be reassessed in a context of accelerated commodification of land markets and increases in urban land values. In most cases, resettlement grants or compensation paid to displaced or evicted households do not correspond to the replacement cost of the dwelling unit, but on its value as assessed by government. This rarely incorporates the cost of land, nor does it take into account the actual market value of land in alternative resettlement sites in suburban areas.

Planning measures, procedures and tools can limit market pressures on informal inner-city settlements. These include various forms of protection against forced and market-driven evictions (such as the Special zones of social interest in Brazilian cities), simplified planning procedures and a revision of norms and standards. Especially in informal settlement upgrading (tenure upgrading and the provision of infrastructures and services), incremental processes should be promoted as they leave communities time to adapt to new situations and be less vulnerable to market pressures, (United Nations, 2003 a, Christiansen and Werner, 1999).

In both resettlement programmes and in situ upgrading, particular emphasis should be placed on tenure issues. Security of land tenure must be dissociated from access to land ownership, and a wide range of alternatives to individual land ownership should be made available in order to limit market pressure on poor settlements (Durand-Lasserve, Fernandes and al., 2002). In many cases, collective rights should be provided rather than individual rights, at least for a certain period of time, in order to limit pressure from investors on those settlements that are being regularized (Payne, 2002).

Community organisation is a key element for limiting the negative impact of market pressure on poor communities, as it usually gives them better negotiating or bargaining powers at settlement and the city level. It is a prerequisite for participatory planning and for the implementation of accompanying measures in cases of slum upgrading or of displacement and resettlement. In this respect, the action of national and international NGOs is of particular importance for the advocacy planning services and legal advice they provide to community-based organizations (Mitlin & Satterthwaite, 2004, Imparato and Ruster, 2003).

References


Solidarity for the Urban Poor Federation (SUPF), UPDF, URC, ACHR. 2003. *An information booklet on the city’s development and the settlements of the urban poor*. A summary of information collected as part of the CDS process conducted in Phnom Penh and jointly organised with the Municipality of Phnom Penh, supported by Cities Alliance in Association with UNCHS.


PROPERTY RIGHTS, LAND MARKETS AND POVERTY IN NAMIBIA'S 'EXTRA-LEGAL' SETTLEMENTS: AN INSTITUTIONAL APPROACH

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Abstract

This paper represents work in progress of ongoing and wider research of urban land and real estate markets in Namibia. The research attempts to apply the conceptual tools of the New Institutional Economics, principally the theories of transaction costs and property rights, to the analysis of land and real estate markets in Namibia's 'extra-legal' urban settlements and how these markets interface with poverty alleviation.

In the context of this wider research, this paper has a number of more limited objectives. Firstly, an attempt is made to clarify in conceptual terms the link between property rights, transaction costs, real estate markets and poverty alleviation. Secondly, the theoretical and empirical literature relevant to this subject is reviewed and critical knowledge gaps highlighted. Thirdly, the proposed Flexible Land Tenure System is briefly discussed and its potential contribution to the functioning of land and real estate markets in informal settlements in Namibia analysed. Fourthly, the paper presents preliminary survey information from some settlements in the City of Windhoek to illustrate the potential application of the institutional approach to analysing the interface between land and real estate markets and poverty alleviation. The paper concludes by articulating a research agenda.

Introduction

Despite the fact that land and real estates assets comprise a significant proportion of the national wealth of most countries, these assets remain dormant or are under utilised in most developing countries (World Bank, n.d.). Thus there is clearly a need to investigate how the potential of land and real estate can be unlocked to aid the process of economic development and poverty alleviation in developing countries.

This paper represents work in progress of ongoing and wider research of urban land and real estate markets in Namibia. The research attempts to apply the conceptual tools of the New Institutional Economics, principally the theories of transaction costs and property rights, to the analysis of land and real estate markets in Namibia's 'extra-legal' urban settlements and how these markets interface with poverty alleviation.

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and critical knowledge gaps highlighted. Thirdly, the proposed Flexible Land Tenure System is briefly discussed and its potential contribution to the functioning of property markets in informal settlements analysed. Finally the paper presents preliminary survey information from some settlements in the City of Windhoek to illustrate the potential application of the institutional approach to analysing the interface between property markets and poverty alleviation.

The rest of the paper is organised as follows. Section 2 sketches out some background issues for context. Section 3 develops a conceptual framework that links land and real estate markets to poverty alleviation. This is followed in section 4 by a brief survey of the literature. The proposed Flexible Land Tenure is discussed thereafter in section 5. Preliminary survey information from some settlements in Windhoek is then presented in Section 6. The paper concludes in section 7 by articulating the research agenda.

**Background**

In surveying the urban landscape in developing countries, Jones (2003) draws attention to three ‘transitions’ currently underway, transitions which he says will set the context for research activity and policy formulation. The first one is increasing urbanisation of the developing countries, with many countries expected to have over 80 percent of their populations living in urban areas by 2025. Namibia’s urban population is projected to rise to just under 60 percent in 2025, up from 41 percent in the year 2000 (Ibid, citing DfID 2000). This of course means that the orderly development of urban areas is going to continue to be problematic, with the historical explosion of informal settlements set to continue unabated. Currently in most developing cities in Asia, Latin America, Sub-Saharan Africa and the Arab States between 25 and 70 percent of the urban population is living in irregular settlements (Durand-Lasserve and Royston 2002, 3). These figures are likely to increase.

The second transition refers to what Jones calls the urbanisation of poverty. Increasingly poverty is becoming proportionally more in urban areas.

"The number of poor people in urban areas in some countries is now increasing at a faster rate than in rural areas .... By 2025, it is estimated that two thirds of the poor in these regions [Latin America, East and Central Europe, Central Asia], and a third to almost half the poor in Africa and Asia will live in cities or towns. More than 90% of the urban poor already live in the South" (DfID 2000, 3 cited in Jones 2003).

The scale of the problem is immense. Up to 500 million people in developing countries live in absolute poverty, representing about 40% of all poor and 25% of the urban population (Jones 2003). The World Bank reportedly sees urban poverty in apocalyptic terms as the most significant and politically explosive problem of this century (World Bank 1991, cited in Jones and Ward 1994). And within urban areas, the map of poverty can be superimposed on informal settlements with a fair degree of accuracy (Durand-Lasserve and Royston 2002).

The third transition according to Jones is the greater prominence given to property rights in the development agenda. This transition is a natural consequence of the ascendancy of new institutional economics within economics thinking, with its emphasis on property rights and transaction costs. Thus, the ideas of leading proponents of property rights in developing countries - such as the Chilean Hernando de Soto, the World Bank and UNCHS-Habitat - are symptomatic of this transition. As a consequence, for example, land titling programmes have been implemented in many countries in the last few decades (Payne 2002).
Namibia is classified as a lower middle income country with a 1997 per capita income of US$2,220 (Hansohm 1999). This is relatively rich by African standards. This statistic however obscures the great inequalities in the distribution of wealth which exist in this country. It has been estimated that 5% of the population earns more than 70% of the national income with the poorest 55% earning a meagre 3%. On the consumption side, the richest 1% of households consume as much as the poorest 50% (Schade 2000, 111). Schade further observes that Namibia’s Gini Coefficient of 0.701 (calculated in 1993/94) is the highest measured worldwide to date, indicating a highly unequal and skewed income distribution (see also Tvedten and Nangulah 1999). A large proportion of the population, therefore, live in abject poverty. Using food consumption ratio as an indicator, the incidence of poverty was estimated at 47% in 1993/94 (Schade 2000, 113).

Schade (2000, 119) attributes the causes of poverty to high unemployment and unequal distribution of assets, particularly land, which in turn reflects the legacy of apartheid. Under this system, Black people were prohibited from formally owning land. Tvedten and Nangulah (1999) argue that poverty reduction can only be achieved if there is an active public policy of redistribution of assets, including land. In this context, the Namibian Government has been engaged in an ambitious land reform programme since independence from South Africa in 1991. While this programme is motivated mostly by a desire to address historical injustices, it is regarded by many as essential to the alleviation of poverty (Hansohm 1999).

The focus of land reform efforts in urban areas has been to provide secure property rights to thousands of Namibians who were deliberately denied these rights under apartheid. Also seen as needing secure property rights are the thousands of residents of squatter settlements that have proliferated after independence (Jacobs and Egumbo, 1996). These often lead precarious lives amidst immense poverty on the periphery of urban areas (Peyroux, 1995).

A key policy innovation is the proposed ‘flexible land tenure system’, which has been piloted in some urban settlements. The system will be scaled up to the rest of the country as soon as the legislative framework is in place. Briefly, the flexible land tenure system is a three-tiered approach to granting of full (freehold) property rights. The system is expected to be quicker and cheaper in its procedures than the current formal system. It is conceived as a low-cost approach to the provision of full freehold rights to those Namibians who at present own property ‘extra legally’. The system is ‘step-wise’ and the entry level or movement between levels is dependent on one’s ability to pay for required services after agreement with other residents. It aims to be a bridge or ladder between informal and formal property rights, between collective and individual ownership. A fuller discussion of the flexible land tenure system follows in section 5.

**Conceptual framework**

**The New Institutional Economics**

In his path-breaking book, *The Mystery of Capital*, Hernando de Soto uses the analogy of nuclear fission to emphasize the enormous latent value of real estate, which can be unlocked to fight endemic poverty in developing countries, the trigger being appropriate formal ownership regimes. De Soto’s work is an example of the application of property rights theory, which in turn is a key part of what has been called the New Institutional Economics (NIE). The purpose of the NIE is both to explain the determinants of institutions,
such as property rights, and their evolution over time and to evaluate their impact on economic performance, efficiency and distribution (Nabli and Nugent 1989 cited in Kherallah and Kirsten 2001). A central proposition of the NIE is that institutions matter and that they are amenable to economic analysis (Mathew 1986, 903 cited in Williamson 2000, 595; Williamson 1990, cited in Pratten 1997, 782).

The NIE is based on a few concepts “that are logically coherent and that provide powerful tools for delineating the questions to be explained and for shedding light on a large set of facts and relationships among these facts” (Menard 2001, 86). The central ones (and those directly relevant to this study) are theories of property rights and transaction costs.

**Transaction Costs**

There appears to be no consensus in the literature on the exact meaning of “transaction costs.” There is however a lot of common ground. Eggertsson (1990, 14) defines transaction costs as the costs that arise when individuals exchange ownership rights to economic assets and enforce their exclusive rights. This is close to Demsetz’s definition where transaction costs are referred to as the cost of exchanging ownership titles (1988, 64) and to Barzel’s, (1989, 2), who see them as costs associated with the transfer, capture and protection of rights. North on his part (1990, 27) says that transaction costs consist of the costs of measuring the valuable attributes of what is being exchanged and the costs of protecting rights and policing and enforcing agreements. These definitions broadly capture the sense in which transaction costs are conceived in this study.

There are several types of transaction costs but in this study we are interested in those costs arising from the need to use the market system, such as in land and real estate markets. These market transaction costs arise principally due to information problems. As Eggertsson (1990, 15) puts it, when information is costly, various activities related to the exchange of property rights between individuals give rise to transaction costs. Eggertson lists these costs as follows:

- The search for information about the distribution of prices and quality of commodities..., the search for potential buyers and sellers and for relevant information about their behaviour and circumstances.
- The bargaining necessary to find the true position of buyers and sellers.
- The making of contracts.
- The monitoring of contractual partners to see whether they abide by the terms of the contract.
- The enforcement of a contract and the collection of damages when partners fail to observe their contractual obligations.
- The protection of property rights against third party encroachment.

Furubotn and Richter (1998, 44ff) condense the cost of using the market into three categories: search and information costs, bargaining and decision costs and supervision and enforcement costs.

High transaction costs cause market failure. In order for exchange to take place, the gains from the exchange must be significantly higher than the cost of exchange. Thus if the transaction costs are too high, exchange...
will not take place or will be severely constrained (Eggertsson 1990, 16), and we speak of market failure. Alternative ways of resource allocation, such as state provision, then become necessary. That is why the analysis of transaction costs is important to the understanding of markets and the role of the state.

**Property Rights**

Property rights of individuals over assets consist of powers to consume, obtain income from, and alienate these assets (Barzel 1989, 2). According to Furubotn and Richter (1998, 72) the rights to an asset “consist of the rights to use it, to change its form and substance, and to transfer all rights in the asset, or some rights, as desired”. Eggertsson identifies three basic categories of property rights. First there are user rights, which determine what an individual can legitimately do on his property. Second there is the right to earn an income from an asset and to engage in contracts with others for this purpose. Third, there is the right to alienate or sell ownership rights over an asset to others (Eggertsson 1990, 34).

Economists concerned with property rights often consider any restrictions on those rights, called ‘attenuation of rights’ to be undesirable (Barzel 1989; Eggertsson 1990). As Barzel goes on to explain a person’s ability to realise the potential value of property depends on the extent of their property rights, which as discussed above consist of the ability to use (and exclude), to alienate, and to derive income from the property. The ability, or power, to exclude prevents the property from becoming common property, and the ability to alienate and to derive income permits the realisation of gains from exchange. Since restrictions, in general, reduce freedom of action, restrictions on a person’s property rights reduce the value of the property to its owner (Alston et al 1996; Barzel 1989), making such restrictions appear to be harmful (Barzel 1989, 85). The implication of this in terms of real estate is the promotion of unregulated markets and of freehold ownership.

Well-defined and secure property rights are seen to be the *sine qua non* for the emergence and continued function of decentralised markets, and the efficient use of resources. Firmin-Sellers (1996, 1) notes that insecure property rights to land inhibit economic growth. Individuals demand or value property rights because they allow them to capture potential benefits accruing from resources. The actual benefits are a function of the property rights one possesses; the more property rights one possesses over a resource, the greater is the value of a resource. The argument for secure rights with respect to land, as an example, can be stated as follows (Alston et al 1996, 32): the more secure one’s property rights (1) the more secure is the future rental stream that the land produces, (2) the better one is able to use land as collateral and (3) the larger is the market for sale. Well-defined and secure property rights therefore stimulate demand for resources, encourage investment, promote markets and have positive effects on asset values.

Realising the potential value of an asset presupposes exchange. To the extent that high transaction costs prevent or severely constrain exchange, this potential cannot be realised. The conventional wisdom is that well-defined property rights lower transaction costs. Indeed there is a widely held view that high transaction costs arising from defective formal property rights account for the underdevelopment of most developing countries. North (1990, 67) puts it as follows:

“When we compare the cost of transacting in a third world country with that in an advanced industrial economy, the costs per exchange in the former are much greater- sometimes no exchange occurs because costs are so high. The institutional structure in the third world lacks the formal structure (and enforcement) that underpins efficient markets. However frequently there will exist in third world informal sectors (in effect
underground economies that attempt to provide a structure for exchange. Such structure comes at a high cost however because the lack of formal property right safeguards restricts activity to personalised exchange systems that can provide self enforcing types of contracts".

This is a key argument in Hernando de Soto's *Mystery of Capital*. De Soto (2000) argues that informal property rights in third world countries prevent the emergence of impersonal exchange systems he sees as necessary to unlock the 'dead capital' locked in the immense real estate holdings. He advocates a formalisation of property rights as a necessary condition for fighting poverty in these countries.

**Linking Urban Land and Real Estate Markets and Poverty- A Conceptual Framework**

One of the distinguishing features of land and real estate markets in comparison to other markets are relatively high transaction costs (Liu *et al* 1990; Clapp *et al* 1995). Transaction costs in property markets can be broken down into three categories (after Furubotn and Richter 1998, 44). These are search and information costs, bargaining and decision costs, and supervision and enforcement costs.

As we have argued above, realising the latent benefits of real estate presupposes exchange in the capital, rental or development markets. We have made the point that high transaction costs may cause markets to fail or not to function well. Well-defined and secure property rights for their part play an important role in creating incentives, lowering transaction costs, increasing demand for and investment in real estate. All these have potentially the effect of fostering exchange in real estate markets and enhancing social and economic welfare.

As Alston and others emphasize, real estate is often the major, if not only, asset held by the poor and "their ability to claim and sell land and then to move on to settle, claim and sell yet again and again is a critical element in social and economic advancement" (Alston *et al* 1999, 10). Through this process, according to the authors, individuals eventually accumulate enough wealth to stay on site permanently. The key in this process is property rights. The authors argue that secure tenure allows the development of wider markets, encouraging land to be used for highest-valued uses and allowing owners to capture capital gains from sales (Alston *et al* 1999, 3). The authors also make the point that if property rights are enforced, uncertainty of control is reduced, allowing individuals to focus on productive activities, instead of spending scarce resources on defending their claims. All this has salutary effects on poverty alleviation.

The context is settlement on the Amazon frontier, but the principle has clear relevance to the urban poor in most developing countries, where the desirable end-state may be full integration into the formal sector. Research in urban settlements of Ecuador, Hungary, the Philippines and Zambia for example show that housing is by far the most important productive asset held by urban poor (Moser 1998). In many ways, informal settlements can legitimately be conceived as frontier regions for new immigrants, being a point of entry into the formal urban economy (see for instance Berner 2000). While Alston and others emphasize property rights in their analysis, transaction costs are equally important as it is these which ultimately determine if markets will function well.

We concur with Jones exhortation that research based on robust theoretical and empirical platforms needs to demonstrate more clearly the links between land markets and poverty alleviation (Jones 2003). Conceptual tools of the New Institutional Economics (NIE), principally theories of property rights and transaction costs, provide an appropriate framework for such research.
The thesis of this paper is that both (relatively) high transaction costs and inappropriate and/or inadequate property rights configurations account for the failure to unlock the potential of real estate to create wealth. The contention is that relatively low transaction costs and secure property rights in real estate markets are a necessary (but not sufficient) condition for the unlocking of the potential of real estate to alleviate poverty. These two factors create conditions that make it possible for large numbers of secure and impersonal transactions in a decentralised market to take place.

Contrary to conventional wisdom, however, we argue that higher transaction costs and insecure property rights are not an inevitable feature of informal land and real estate markets. Antwi and Adams (2003, 69) put this argument succinctly thus:

"From one's understanding of the economics of property rights, there are no automatic reasons why insecurity and lack of clarity of property rights should result simply because transactions are organized informally. Indeed informal transactions may predominate precisely because this mode of organizing transactions may be better attuned to available opportunities. This would be the case if the costs of organizing transactions differently far outweigh the benefits."

Indeed, many studies (for example Antwi and Adams 2003; de Soto 2000; Omirin and Antwi 2004) have shown that navigating the formal system may be too costly for the poor. In the context of property transactions, the formal system prescribes the use of lawyers, conveyancers, and other professionals who come at a cost. In addition there are costs arising from bureaucratic procedures such as delays and corruption. If these costs are excessive, activities will be driven into the informal sector. Thus, informality may be an optimal solution to the complications of the formal legal process (de Soto 2000; Pamuk 2000).

On the other hand informal land markets are not without their own problems. Fekade (2000) for instance notes that participants in informal markets are faced with problems such as conflicting and unrecorded ownership claims, multiple sales of the same property and other costs arising from insecurity of property rights. In similar fashion, Kironde (2003) observes that while the informal land market is credited with supplying land at low cost, it exhibits a number of problems, principally high transaction costs and defective property rights. These, according to Kironde, include lack of information on land availability relying on communication by word-of-mouth, considerable possibility of fraud, and lengthy negotiations. In addition he argues that there is no general framework for setting land prices and that land acquired has no official title. Kironde offers no empirical support for these conclusions but nevertheless highlights issues that are of interest.

The question of the relative levels of transaction costs and security of property rights, as well as their effects on property markets and incentives, is therefore a matter of empirical investigation in each specific case. This forms the *raison d'être* for this research.

The link between property rights, transaction costs, real estate markets and poverty alleviation is illustrated in the figure below. As the figure indicates, there is a dynamic two-way relationship between property rights and transaction costs. Well defined, secure and well enforced property rights reduce transaction costs - by clarifying property boundaries, validating ownership rights and making those rights easily transferable (Lanjouw and Levy 2002). The need for extensive search of ownership is, thus, obviated (Pamuk 2000). Similarly it reduces resources spent on private enforcement (Field 2003). Low transaction costs for their part stimulate the demand for secure property rights as a prerequisite for engaging in market exchange.
Secure property rights and low transaction costs are predicted to increase market turnover, by expanding market depth and making it easier for exchange to take place. Increased market activity provides opportunities to realise capital gains, as well as gains from the letting and development markets. This, in turn, should increase aggregate wealth, resulting in increased demand for, and values of assets including real estate. Increased aggregate wealth and higher land values should stimulate increased general economic activity, increasing the demand for credit and therefore the need to use real estate as collateral. A self-reinforcing virtuous cycle should then kick in.

Crucially, all these outcomes are predicated on the existence of facilitative institutional arrangements/regulatory frameworks.

Figure 1: Property Rights, Transaction Costs, Land Markets and Poverty Alleviation: A Conceptual Framework.
It will be noted from our illustration that the demand for credit (and therefore the need to use real estate as collateral) will only reach significant levels once a certain threshold of economic activity has been attained. As many studies have shown, the demand for formal credit in informal settlements for purposes other than consumption is low (Smith 2003; Ward 2003). This can be explained by the lack of opportunities to invest such credit. Deininger and Binswanger (1999) note that titling will confer benefits, but only under conditions where informal land transactions are common, a credit market that permits the use of title as collateral exists and profitable investment opportunities exist. The latter two conditions are likely to be absent in many informal settlements. Credit supply depends on the lenders’ confidence that they can foreclose (Smith 2003). However for cultural and economic reasons it may not be possible to repossess land as a consequence of default, rendering conventional credit markets impossible.

The emphasis in some of the literature on the link between formal property rights, access to conventional credit and improved welfare is therefore premature. The immediate task is to increase turnover in markets. This of course means directing attention to those factors that impede exchange. The key therefore is to gain a better understanding of transaction costs in informal real estate markets and how they are mediated before taking prescriptive action. This means examining how formal and informal institutional arrangements work to facilitate or hinder the functioning of land and real estate markets in informal settlements. Property rights, due to both their incentive effects as well as their effects on reducing transaction costs, are clearly important.

Following on from our conceptual framework, land and real estate markets in informal settlements will need the following attributes if they are to be a tool for poverty alleviation:

- Well defined, secure and enforced property rights
- Liquidity i.e. frequent numbers of impersonal transactions
- Low levels of uncertainty with regard to individual transactions
- Low levels of transaction specific investment, such as security deposits.
- Facilitative regulatory framework/institutional arrangements.

This conceptual framework is consistent with, and dovetails with the emerging consensus in conceptualisation of poverty, the so called vulnerability/capital assets framework. Under this conceptualisation, poverty is seen as “vulnerability to insecurity, impoverishment and reduced self-respect of households which lack assets that they can mobilise and manage in the face of hardship (Rakodi 1999; Moser, 1998). Poor households are seen to be managers of portfolios of assets, which constitute a stock of capital that can be stored, accumulated, exchanged or depleted and put to work to generate a flow of income or other benefits (Rakodi 1999). These assets include tangibles such as labour and human capital, housing and largely intangible assets such as household relations and social capital (Moser 1998).

According to Rakodi (1999) the crucial determinants of households’ ability to achieve increased well-being are their access to these capital assets and the effects of external conditioning variables which constrain or encourage the productive use and accumulation of such assets. Moser (1998) goes on to point out that operationally the vulnerability/capital assets framework facilitates interventions promoting opportunities, as well as removing obstacles, to ensure the urban poor use their assets productively. “In those urban contexts
where the poor are systematically excluded from formal sector jobs, and the capacity of macroeconomic
growth strategies to generate additional jobs is limited, the removal of tenure-insecurity related obstacles that
prevent or constrain households from using their housing effectively as a productive asset is possibly the
single most critical poverty reduction intervention” (p. 11).

**Literature survey**

The 'popular economics' of Hernando de Soto is perhaps a fitting place to begin a survey of the literature. In
the words of Jones (2003) de Soto has placed a well-known discussion of property rights, legal reform and
state intervention into an anti-poverty discourse. The central message in de Soto’s *Mystery of Capital* is that
the poor in developing countries possess immense resources, but they hold these resources in defective forms.
“Because the rights to these possessions are not adequately documented, these assets cannot readily be turned
into capital, cannot be traded outside of narrow circles, where people now and trust each other, cannot be
used as collateral for a loan and cannot be used as a share against an investment (de Soto 2000, 6).

De Soto describes these resources as ‘dead capital’ to emphasise the point that they cannot be deployed to
create wealth. In describing the ‘undercapitalised’ informal sector which is the abode of this dead capital de
Soto (2000, 29-30) says: “It is a world where ownership of assets is difficult to trace and validate and is
governed by no legally recognised set of rules; where the assets’ potentially useful economic attributes have
not been described or organised; where they cannot be used to obtain surplus value through multiple
transactions because their unfixed nature and uncertainty leave too much room for misunderstanding, faulty
recollected and reversal of agreements. Where most assets in short are dead capital”.

In more formal terms de Soto is arguing that ill defined and enforced property rights result in high transaction
costs, thereby impeding the development of impersonal exchange systems necessary for the creation of surplus
value. In practical terms de Soto is advocating the formalisation of property ownership in the ‘extra-legal’
sector, and the simplification of the formal procedures for granting formal property.

Perhaps not unexpectedly, considering the polemical nature of his discourse, de Soto’s arguments have elicited
some fairly robust criticism. For example the methodology used to arrive at the estimate of the amount of
‘dead capital’ remains obscure and of doubtful validity. Payne (2002, 11) argues that that de Soto fails to
provide any empirical evidence to support the posited causal relationship between the development of property
rights and increasing prosperity of the West. There have been calls for empirical validity of de Soto’s arguments,
noting that interest among the poor in possessing property title have been found to be quite low, the security
of such title overrated and the necessity of title to extend a finance market for reasons other than consumption
largely unproven (Jones 2003; Smith 2003).

It is perhaps apposite to state that for our part we share de Soto’s theoretical framework but not necessarily his
conclusions, which properly must be subjected to empirical verification.

A major research project commissioned by the UK government’s Department for International Development
(DfID), and recently completed, had as its main aim to test de Soto’s thesis of a linkage between property
rights and poverty (Home and Lim 2004). Teams of researchers undertook empirical work in peri-urban
areas in Botswana, Trinidad and Zambia. The overall results with regard to the main aim of the research
project can be fairly described as ambiguous.
This project, the only one to the best of our knowledge with such an objective, directly engages with the main aim of this research and therefore deserves a detailed review. The study found little evidence of market activity in peri-urban plots "with plot-holders more likely to pass their land to relatives...than sell" (Home and Lim 2004). This finding is consistent with the observation by Doebele (1994) that anecdotal evidence suggests that real estate markets in informal settlements are not well developed despite considerable de facto security of tenure. Home and Lim attribute this to "resistance to market pressures", resulting from the conception of land as a security and welfare support rather than as a tradable asset. The conclusion here appears to be that de Soto’s ideas cannot work because, for social reasons, people will not participate in the market even if they are granted formal property rights. An equally plausible explanation for little market activity on the other hand, which the authors do not address either theoretically or empirically, is the possibility of high transaction costs in these markets.

Another major finding of the research is that there is widespread aversion to the use of land as collateral. According to Home and Lim (2004) land tenure regularisation is supposed to facilitate access to finance but the plot holders in all the three countries were reluctant to pledge title deeds in case they lost their land. This finding is also consistent with results elsewhere. In our view, the emphasis in the literature, including from de Soto, on the value of real estate as collateral for accessing formal credit is misplaced and premature in many cases. It must be noted however that a finding of risk aversion to mortgages is not the same as finding that formal credit is not beneficial to poverty alleviation efforts.

The study could be criticised on methodological grounds. The research adopts an essentially anthropological approach to address a question whose theoretical substrate is in economics. Because de Soto writes in a ‘popular’ style, the fact that his ideas are grounded in a strong theoretical framework remains obscure. Those not fully conversant with this theoretical framework are therefore likely to deal with de Soto’s ideas rather superficially. The research team of land surveyors, planners, a lawyer and a social anthropologist would have benefited from the added perspective of a land economist. The research thus missed a valuable opportunity to examine the land market process in these peri-urban areas, and thereby help to illuminate an area that has not been well studied (Antwi and Adams 2003; Gough and Yankson 2000; Kironde 2000; Payne 1997).

Moving further afield, “the influence of property titles as outlined in the existing literature has focused almost entirely on three outcomes established in a paper by Besley (1995): gains from trade in land, greater investment incentives, and improved credit access” (Field 2003; also Smith 2003). Alston et al (1999) see the promotion of market formation as one of the primary outcomes of a property rights regime. According to the authors, clear and recognised property rights have three salutary effects. Firstly, they assist in attracting buyers, thus supporting wider markets. Secondly, they allow owners to focus scarce resources on productive activities rather than on defending their claims. Thirdly, they promote investment by creating incentives for longer term planning horizons on one hand and making mortgage finance feasible. Deininger and Binswanger (1999) and Deininger and Chamorro (2004) for their part list reduction of private enforcement activities, greater incentives for investment, access to credit and increased transferability of land as the key benefits of secure property rights. Formal property titles reduce information asymmetry about land ownership and quality or transaction costs generally, thus encouraging the development of wider markets.

Consequently property titling is increasingly considered an effective form of government intervention for targeting the poor and encouraging economic growth in urban areas (Field 2003). It is seen as the main...
instrument for increasing land tenure security, stimulating land markets and facilitating the use of land as collateral in credit markets (Lanjouw and Levy 2002; Deininger and Binswanger 1999; Deininger and Chamorro 2004). Ward (2003) list the positive outcomes associated with full property title regularisation, reflecting conventional wisdom in this area, as follows:

- Provides security against eviction.
- Brings people into the market from which they can benefit by free sale at full market price.
- Raises land values.
- Provides incentives that stimulate investments in home improvements and consolidation.
- Makes possible the introduction of basic services such as electricity and water.
- Generates greater access to credit by using the home as collateral on loans.
- Incorporates residents into the property-owning democracy and citizenry.
- Integrates settlements and property into the tax and regulatory base of the city.

It will be apparent that many of these outcomes would potentially have the effect of reducing poverty. Results of empirical research addressing the effects of formal property rights are however mixed. "The assumption that markets that are 'formal' or 'regularised' are more efficient and productive is not yet proven. On the other hand, some of the literature argues that 'informality' and illegality reduce the costs of land and housing for the urban poor. Others argue that as long as the poor are insecure as to the legal status of their homes, their major assets in life, they will never enjoy full access to the economic and political system. One of the most interesting reviews of this issue ... concludes that the current state of research does not permit prediction of whether a more formalised land market is likely to benefit or harm the poor" (Doebele 1994, 52).

Research by Alston and others in the Brazilian Amazon frontier show that title is 'a vital institution in promoting investments and in expanding markets' (1999, 8). Title was seen to significantly increase land values and wealth, and to create incentives for long-term planning. Though this was in the context of settlements in the frontier regions of the Brazilian Amazon, the results have relevance to urban settlements where successive waves of immigrants are analogous to frontier settlers and where land can be an important means for capital accumulation.. Urban informal settlements are in many respects a frontier region, juxtaposed as they are between the formal and informal, the rural and the urban.

Besley (1995) reports on his investigation of the relationship between investment and land rights in Ghana. He tests the hypotheses that (1) security of tenure encourages investment, that (2) security of tenure makes access to formal credit easier (encouraging investment as a result of increased demand as well as lower interest rates), and that (3) there are gains from trade arising from easier transfer of rights in the capital and rental markets (superior transfer rights are modeled as lowering the cost of exchange). Besley finds that the data are supportive of his models (p.910). Besley concludes that better rights to land encourage or facilitate investment but these need not be formal transferable rights (Rakodi 1999).

Much cited research on small scale farmers in Thailand by Feder and Onchan (1987) and Feder and Feeny (1991) found that formal titles and collateral play an important role in economic development (Alston et al
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With regard to their impact on land values Lanjouw and Levy (2002) find that in urban Ecuador the effect of land title was to raise values by almost 24 per cent. These results have been corroborated by Kim (2004) who found out that in Vietnam properties with legal title transferred on average between 3 - 10 per cent higher than those with incomplete rights. Similar findings are reported for Nicaragua where receipt of registered title was found to increase land values by 30 %and at the same time greatly increase the propensity to invest (Deininger and Chamoro 2004). Evidence from Peru suggest that households in titled communities devote fewer human resources to informal property protection, both at the household and the community levels, and more resources on productive activities outside the home (Field 2003, 4).

While there is been much attention placed on property rights, literature that has as a central focus the study of transaction costs in informal real estate markets is rather thin. This could be explained by the well-known problem that transaction costs are notoriously difficult to observe, let alone measure. Gough and Yankson (2000) show evidence from Ghana of markets bedeviled by high transaction costs, with numerous disputes arising due to lack of documentation and poor boundary definition and ill defined property rights, though this is tempered by the high cost of formalisation. Results from Tanzania also make allusion to informal markets ham-strung by lack of information, considerable possibility of fraud, and lengthy negotiations (Kironde 2000).

Results from other research however has not been wholly supportive of the posited benefits of formal property rights to land, taking issue with the often a priori assumption that lack of formal title has a negative impact on informal land markets (Antwi and Adams 2003; Ward 2003). Evidence from a study of informal transactions in Ghana found out that most of them were the optimal solution in an environment where the formal system is riddled with excessive bureaucracy and cost, and the resulting formal property rights of limited value (Antwi and Adams 2003). Ward (2003) argues that informal land markets are far from sluggish but rather dynamic with free exchange. It is precisely the informality and poor serviced status that makes housing in informal settlements affordable in the first place (Doebel 1994; Ward 2003). Ward argues that housing is firmly entrenched as a commodity within the marketplace in informal settlements, albeit a less regulated one. Ward further notes that it is not only legality and secure property titles that prime the marketplace as de Soto seem to argue. In both formal and informal land markets, regulation and restrictions sometimes can, and do, severely inhibit rationale development and urban productivity. With regard to the former, the policy ambiguity, procedural complexity and prohibitive cost involved in obtaining titles which legalize ownership of urban land has forced the urban land market to further proceed in the informal or illegal way (Fekade 2000, citing McAuslan, 1985, p. 8).

Durand-Lasserve (2003) points to research in (rural) South Africa that seems to suggest that individualisation of tenure has been found to increase inequality and landlessness, to have little or no impact on the mortgageability or productive use of land, to fall into disrepair after the first set of transfers, and to lead to ever increasing fragmentation of land parcels. Smith (2003) on the other hand argues that tenure security's apparent inability in much of Africa to increase credit use is traced to poorly functioning and under-capitalized credit markets; inadequacy of the observed range of land rights and enforcement thereof to inspire confidence in lenders; and risk aversion on the part of producers.

Razzaz (1993) presents results from Jordan that cast doubt on the assumed causal relationship between formal property rights, security of tenure and land investment. Kironde (2006) finds that titles in settlements around Dar es salaam, Tanzania, does not result in significantly higher land values.
The point to underline here is that one must not make a priori assumptions based on notions of formality or informality. Some authors have even questioned the usefulness of maintaining this dichotomy. Elsewhere, research from urban Ecuador suggests that the effect of formal property rights on economic behaviour and welfare depends on an informal source of those rights (Lanjouw and Levy 2002). Institutionalists acknowledge that the interaction between the two are important (see for instance North 1990), and must be taken into account: when designing formal property rights. The extent to which informal institutions reinforce or contradict formal property rights systems is crucial in explaining the success or failure of the latter. It is common knowledge that formal property institutions in much of Africa are not indigenous, having been imported from the West as a result of colonialism.

According to Lanjouw and Levy (2002) the key distinction is not whether property rights are formal or informal but rather whether they are transferable or not. Thus stronger rights to the extent that they are not transferable may make it difficult to engage in transactions. On the other hand evidence from Vietnam shows that real estate markets can function very well even with incomplete legal property rights, (Kim 2004). This underscores the importance of empirical research to try and provide answers.

Overall, a survey of the literature reveals a number of gaps. The major problem identified is lack of basic information regarding the functioning of urban land markets in Africa and other developing countries (Antwi and Adams 2003; Gough and Yankson 2000; Payne 1997). This is particularly the case for informal settlements. Basic questions, for instance, about the numerical size of the informal sector, the volumes of transactions, sums of money involved, the amount of land changing hands, the general pattern of the distribution of land transactions, land prices, or land values have not been satisfactorily answered (Doebele 1994; Kironde 2000). We remain relatively ignorant about the behaviour of the actors, the incentives and constraints they face, the cost of exchange that they incur and the mechanisms by which exchange is facilitated.

In particular little systematic attention has been placed on the role of informal institutions that allow markets to function regardless of government regulations (Pamuk 2000; Rakodi and Leduka 2003). Formal real estate markets rely on a host of institutional arrangements, organisations and actors to structure and facilitate exchange (see Keogh and D’Arcy 1999, Jaffe 1996). These include statutes, land registries, listing agreements, contracts, estate agents, conveyancers, lawyers and so on. Informal real estate markets on the other hand are defined by the absence of many of these. It is therefore of interest to find out how the problem of exchange is resolved in institutional terms and the resulting incentives and constraints. Without this knowledge it becomes difficult to see how these markets may aid poverty alleviation and to make prescriptions for improvement.

Another problem identified is that many of the studies are not informed by rigorous theoretical frameworks. For this reason Deobele (1994, 54) argues that “stronger discipline should be imposed on the growing number of case studies to prevent them from being particularistic descriptions, which resist generalisation and thus reduce their potential for predictivity”.

**Proposed flexible land tenure system**

It is estimated that the total number of families living in informal settlements without secure tenure in Namibia is around 30,000 out of a population of just under 2 million (Durand-Lasserve 2003). Local authorities accept the informal settlers, but would like to formalise the areas so that the residents get formal rights and the local authority can collect taxes and charges for utilities (Republic of Namibia 1997).
To respond to the demand for secure tenure, the development of a flexible land tenure system has been devised (Durand-Lasserve 2003), and a final draft of the legislation has been published. According to the final draft of the Flexible Land Tenure Act, the objectives of the act are three fold (Republic of Namibia 2004). The first objective is to create alternative forms of land title that are simpler and cheaper to administer than existing forms of land title. The second objective is to provide security of title for persons who live in informal settlements or who are provided with low-income housing. The final objective is to empower the persons concerned economically by means of these rights. A reading of these objectives suggests that the provision of property rights to inhabitants of informal settlements is seen as a means to the end of improving their economic welfare.

A new statutory form of tenure is proposed for housing blocks ('block erf') consisting of up to 100 families (Durand-Lasserve 2003, Republic of Namibia 1997). The blocks in question will in practice be carved out of underlying land that is owned under freehold by mostly local authorities but settled informally. Once the block has been hived off, it will be registered in freehold ownership in the main Windhoek Deeds Office in the name of either the local authority or any other entity which may assume ownership by purchase or grant. The underlying owner's title will however be effectively sterile as they will be precluded from ordinarily exercising their full range of rights. The rights of the residents of these 'block erfs' will take precedence.

The Flexible Land Tenure introduces two types of property rights, 'land hold title' rights and 'starter title' rights. Starter title rights are the entry level rights and provide the holder with the right to perpetual occupation of a site within the block and the right to transfer or to otherwise dispose of the right. The most significant effect of the starter title would be to give security of tenure in perpetuity for those residents of informal settlements who are at present occupying land that does not legally belong to them.

Land hold titles are of a higher order and confer on the holder all the usual rights of ownership under the common law. Crucially, it will be possible to mortgage these titles and therefore provide the basis for the development of credit markets.

Upgrading from starter title to landhold title or eventually to freehold ownership will be possible depending on the resources available to and the wishes of the concerned groups. Thus the system is a stepwise and flexible approach to the provision of full freehold property rights.

The Act in section 4 makes provision for the creation of institutions called Land Rights Offices. These are expected to be the lead implementing structures for the Flexible Land Tenure. They are envisaged to be decentralised land registries and are expected to provide low cost land management services to informal settlements. They are expected to maintain registers, give advice to parties on all aspects of permitted transactions, archive all relevant documentation such certificates of title and deeds of transfer, attend to land disputes etc.

The Flexible Land Tenure System is expected to be cheaper and simpler than the present system of formalising property rights. One of the problems with the current system is that it requires accurate but expensive survey work to be done by licensed land surveyors. The shortage of surveyors in the country means that their services are costly and that there is a huge backlog of work. It is envisaged that under Flexible Land Tenure survey standards with regard to internal subdivisions of 'block erfs' will be relaxed, making it possible for 'land measurers' (survey technicians) to undertake such subdivisions. The Polytechnic of Namibia has since started
a training programme for such survey technicians. The cost of survey is therefore expected to come down by the twin effects of increased numbers of trained survey technicians and lower survey standards.

Another source of potential cost saving is the dispensing with the requirement for conveyancers or legal practitioners in order to effect transactions such as sales. The Land Rights Offices are expected to assume some traditional functions of legal practitioners with respect to land transactions. In addition transactions will be much simplified by the use of standard forms, such as certificates of title, sale or lease contracts. Land Rights Offices are expected to be located as close as possible to the informal settlements which should improve accessibility, and therefore reduce costs, for the low-income groups.

There is a good deal of scepticism regarding whether the Flexible Land Tenure can deliver a significantly cheaper and simpler system of land registration in Namibia. Critics have argued that survey and conveyancing costs tend to be a relatively small proportion of the total cost of land registration and that in any case the proposed system does not hold much promise for cost reduction in this respect. In the absence of empirical data, it is difficult to gauge the soundness of this argument. However it must be pointed out that the Flexible Land Tenure System aims to encroach into the traditional turf of professions such as land surveying and property conveyancing. Some of the more robust criticism has come from these professions and, in this context, must be seen as a natural reaction.

A critical reading of the draft Flexible Land Tenure Act does reveal that the legislation prescribes fairly elaborate procedures for the creation of starter and/or land hold titles, and for upgrading these. Thus, for example, feasibility studies must be carried out, the 'block erf' surveyed and subdivided etc. Further the land may have to be purchased from the current owners. The creation of Flexible Land Tenure will, therefore, not be without cost, even if these costs are expected to be significantly lower than under the current system. It is not clear at the moment who will bear these costs. Informal settlers are clearly not in a position to make much more than token contributions.

These points of concern notwithstanding, it is our view that the Flexible Land Tenure System is potentially a powerful tool in the fight against urban poverty. Both theory and a critical body of empirical literature have demonstrated the effect of better property rights in providing incentives for economic development and poverty alleviation (see review in section 4).

Of perhaps greater importance is the role that the proposed system could play in reducing transaction costs in informal real estate markets, consequently increasing market activity. Settlement level Land Rights Offices could play an important role in providing reliable information to market participants. They could serve as clearing houses or information centres. In addition to the obvious roles of issuing certificates of title and validating ownership claims, they would take the roles of conveyancers, estate agents and valuers. They would thus help draw contracts, give legal advice, bring buyers and sellers together, host information on available properties and prices as well as attend to disputes. This should greatly help to reduce the uncertainty and information costs associated with exchange in markets that are not well served by equivalent institutions.

Running Land Rights Offices is going to cost, and in this era of 'cost recovery' the temptation may be to pass on the cost to the 'beneficiaries'. This may be counter productive. These Offices should be seen in the context of Government responsibility to create an 'enabling environment' for markets to work better and therefore
are legitimate areas for public expenditure. As Deininger and Binswanger (1999) argue, the provision of market information systems is one area suitable for government intervention. Such systems should reduce transaction costs by improving the availability of information about land prices and markets. According to the authors, these systems would expand participation in sales and rental markets thereby improving the acceptance of land as collateral by financial institutions.

The Namibian Government has been running full-scale pilot projects in informal settlements in the Northern town of Oshakati since the late 1990s. Results from these projects are not in the public domain and so it is not clear what lessons have been learnt. This research aims to remedy that.

**Some ground truth**

An empirical survey was carried out in the Greenwell Matongo C and Havana Extension 1 informal settlements on the outskirts of Windhoek in October and November 2004. As indicated in the introduction, this paper represents work in progress of on going research. The survey did not aim to generate statistically significant relationships, but rather was meant to be a reality check to explore the applicability of the conceptual framework to the specific circumstances of Namibia's informal settlements. Thus the more limited objectives were to gain an appreciation of the likely order of magnitudes of the variables, their amenability to empirical study and potential problems likely to be encountered in a substantive survey. The findings presented below are merely indicative.

The above caveat notwithstanding, the survey came up with interesting findings. In addition it helped to more sharply delineate the research questions and, in future, will aid in the design of more robust research methods and instruments.

**The Study Area**

Greenwell Matongo C ('Greenwell' hereinafter) and Havana Extension 1 ('Havana') settlements are located in the northwest of Windhoek, adjacent to Hakahana and Wanaheda Townships. They are further flanked by Havana 2 Extension 1 informal settlement to the west and Monte Christo Road informal settlement to the south. They are located approximately 10km from the city center.

Settlers in Greenwell Matongo C have purchased the land they occupy from the Municipality though the area has not yet been formalised. All are members of various group associations from whom they got loans to purchase the land. The settlers have good security of tenure, subject to the rules of the savings associations and the conditions attached to the loans. Those in Havana Extension 1 on the other hand are occupying land on 2 year leaseholds from the Windhoek City Council, after having originally illegally occupied it. The terms of their lease imposes restrictions on what they can do with 'their' properties.

In terms of our conceptual framework therefore, settlers in Greenwell Matongo C have better and more secure property rights than those in Havana Extension 1. It should be noted that both these settlements are neither formal nor illegal. They are 'extra-legal' in the sense of de Soto.

These two settlements were chosen due to the fact that in Greenwell Matongo C a significant number of settlers have acquired land using savings associations while Havana is one of the biggest settlements in Windhoek with many people occupying municipal land on leasehold. Leases are due to expire in 2 year time.
Method

The ‘comparative institutional’ methodological stance was adopted. As indicated above these settlements differ in the (de jure) property rights that the settlers have over land. This is taken as a point of departure from which any significant differences are elicited. As in Lanjouw and Levy (2002) we asked settlers questions about their perceptions of property rights, how they acquired them and their ability to make transactions of various kinds. Further questions sought to determine the cost of construction, the incidence and nature of disputes, perception of market values, future plans etc. In addition we took measurements of house sizes and noted the building materials used.

21 households were sampled in Greenwell, 7 from each of the 3 savings associations located in the area. 20 households were sampled from Havana, 2 from each of the 10 sections. A total of 41 respondents comprising heads of households were interviewed with the aid of a questionnaire.

Observations and Discussion

Table 1 shows comparative summary statistics of the two samples.

Table 1: Comparative Summary Statistics

<table>
<thead>
<tr>
<th>Age</th>
<th>Greenwell Matongo C</th>
<th>Havana Extension 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 50</td>
<td>20</td>
<td>19</td>
</tr>
<tr>
<td>Above 50</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sex</th>
<th>Greenwell Matongo C</th>
<th>Havana Extension 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>10</td>
<td>12</td>
</tr>
<tr>
<td>Female</td>
<td>11</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Education</th>
<th>Greenwell Matongo C</th>
<th>Havana Extension 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Primary</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Post Primary</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>University</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Formal Employment</th>
<th>Greenwell Matongo C</th>
<th>Havana Extension 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>11</td>
<td>13</td>
</tr>
<tr>
<td>No</td>
<td>10</td>
<td>7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Monthly Income (N$)*</th>
<th>Greenwell Matongo C</th>
<th>Havana Extension 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum</td>
<td>2800</td>
<td>3705</td>
</tr>
<tr>
<td>Minimum</td>
<td>500</td>
<td>200</td>
</tr>
<tr>
<td>Average</td>
<td>1390</td>
<td>1276</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>777</td>
<td>842</td>
</tr>
</tbody>
</table>

*1 US$ = approximately 6 N$
Based on these statistics there is no reason to believe that there are significant differences in the demographic composition, education, employment and income levels of the two samples. 58% of the respondents across both samples are in formal employment, with the majority of these in 'blue collar' jobs (security guards, bricklayers, cleaners, domestic workers, carpenters, mechanics etc). Those without formal employment are engaged in activities which include selling of liquor, kapana (meat), fruits and vegetables.

Table 2 shows comparative data on dwellings occupied. It is obvious that there are significant differences between the two samples. Dwellings in Greenwell are on average more than twice as big as those in Havana and cost much more to build. In addition settlers in Greenwell use the more permanent brick compared to the zinc sheets in Havana.

Settlers in Greenwell clearly feel secure enough to invest substantial sums of money in their housing. At this stage we are more interested in the magnitudes of the values, rather than the reasons/causes for differences.

Table 2: Dwelling Variables

<table>
<thead>
<tr>
<th></th>
<th>Greenwell Matongo C</th>
<th>Havana Extension 1</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dwelling Sizes (m2)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>90</td>
<td>40</td>
</tr>
<tr>
<td>Minimum</td>
<td>27</td>
<td>15</td>
</tr>
<tr>
<td>Average</td>
<td>51</td>
<td>22</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>13</td>
<td>6.7</td>
</tr>
<tr>
<td><strong>Dwelling Acquisition</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-Built</td>
<td>21</td>
<td>15</td>
</tr>
<tr>
<td>Purchase</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Rent</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Building Costs (NS)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>21500</td>
<td>1370</td>
</tr>
<tr>
<td>Minimum</td>
<td>2000</td>
<td>300</td>
</tr>
<tr>
<td>Average</td>
<td>17450</td>
<td>725</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>5170</td>
<td>299</td>
</tr>
<tr>
<td><strong>Purchase Costs (NS)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>0</td>
<td>900</td>
</tr>
<tr>
<td>Minimum</td>
<td>0</td>
<td>400</td>
</tr>
<tr>
<td>Average</td>
<td>0</td>
<td>710</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>0</td>
<td>195</td>
</tr>
<tr>
<td>*<em>Market Value</em> (NS)**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td>27000</td>
<td>1500</td>
</tr>
<tr>
<td>Minimum</td>
<td>3500</td>
<td>400</td>
</tr>
<tr>
<td>Average</td>
<td>19900</td>
<td>900</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>5875</td>
<td>292</td>
</tr>
</tbody>
</table>

* Market Value as perceived by respondents.
Average building cost of N$ 17,450 (1 US$ = approx. 6 N$, April 2005) are significant in a country where incomes are low. In 1997 the GDP per capita was US$ 2,220 (Hansohm 1999) but bearing in mind the highly skewed distribution of income, average incomes for the vast number of households are significantly lower. The perceived market values are equally substantial. The figures illustrate the potential that exists for capital gains in sale markets. In addition, the spread that is observed between building costs and perceived market value suggests that opportunities exist for profitable speculative development. It should however be noted that the effect of land values have not been taken into account at this stage and is likely to complicate matters. Both settlements are located on relatively high value public land but the settlers have not had to incur the full market cost. As has been indicated above, those in Havana invaded public land at no cost and went on to acquire leaseholds from the local authority. The settlers in Greenwell Matongo on the other hand have bought the land from the local authority but at concessionary prices. Significantly, official restrictions on property sales on the open market mean that prices for both land and real estate are distorted.

It is interesting to note that all settlers in Greenwell built their dwellings themselves, whereas there have been some purchases of completed dwellings in Havana. This seems to suggest, rather curiously, that there is more sale market activity in Havana. This is corroborated by other evidence. When asked what plans they had for the properties in the next few months, 7 respondents from Havana indicated plans to sell compared to none from Greenwell. This may be a case of stronger rights being less transferable and needs further investigation.

The complete absence of renting in both samples suggests that rental markets are not well developed. This points to an additional line of enquiry.

The survey sought to establish how the settlers acquired the land, their perception of the rights that they believed they had, and their sense of security. All the settlers in the Greenwell sample acquired the land under the aegis of the respective savings associations. Fourteen of the settlers in Havana admit to invading vacant land, while 5 acquired completed dwellings and 1 inherited the property.

An attempt was made to find out how settlers find the plots. Those in Havana used information from friends or relatives or personally searched for available plots. This is indicative of high search costs in terms of time. On the other hand settlers in Greenwell appear to be able to draw on more formal sources of information by virtue of being members of savings associations.

Respondents were asked to indicate what rights they thought they had on their property out of the following: to sell, to use, to make improvements, to give out and to rent out. The results are interesting. All the respondents in Greenwell indicated that they did not have both the right to sell and the right to give out. On the other hand those in Havana indicated that they had both these rights but not the rights to make improvements and to rent out. This result may partly account for the differences in housing investment and market activity between the two samples. It illustrates, perhaps tritely, the influence of different property rights configurations on economic behaviour.

Property related disputes were found in both samples 4 from Greenwell and 6 from Havana. Disputes were over ownership and boundaries. Better property rights are predicted to reduce such disputes. The incidence of property related disputes in these settlements, the resources that are spent on their resolutions and the mechanisms for dispute resolution are therefore a matter of interest.
As indicated above this survey had the limited objectives of ‘testing the waters’ and of piloting the survey instrument. The magnitude of the likely variables such as market values, development costs, income levels etc have been appreciated and confirm that there is potential for meaningful property markets. Opportunities therefore exist for the urban poor in Namibia to make capital gains, earn rental income or make capital profit in the sale, letting and development markets respectively.

The research agenda

According to Doebele (1994, 44) research must meet four requirements if it has to have impact on policy makers. First it must resonate with issues that have priority in the mental agenda of policy makers concerned. Secondly, it must be done within an established intellectual framework that makes it comparable with other work on the same subject. Thirdly it must have the ability to be predictive. Finally, it should be in a form that suggests prescriptions for policy.

This research aims to satisfy the requirements. Firstly, the incidence and visibility of urban poverty in Namibia, as in many other developing countries, is such that it cannot be ignored. Secondly, the New Institutional Economics provides an appropriate intellectual framework with which to analyse the interface of property markets and poverty alleviation. Theories of property rights and transaction costs bring both predictive and prescriptive capabilities to the analysis of these markets.

The NIE can contribute to the analysis of property markets in a number of ways. Fundamentally, institutional analysis directs attention to the importance of the institutional environment within which property market activity takes place and the institutional structure of the property market itself. A broad range of property issues then becomes amenable to institutional analysis. Of particular interest to us is what has been referred to as the property market process (D'Arcy and Keogh 1999; 1996).

According to Armitage and Keogh (1996, 1) the property market process is specific to the market in question and “may be defined variously in terms of the institutions which collectively constitute the property market, the legal framework which constrains the operation of those institutions, and a set of conventions which govern the way that actors operate and perceive opportunities in the market”. To this we can add the effect of these institutions and conventions on economic outcomes.

There is much value in adopting an institutional approach to the study of informal urban property markets. As indicated in this paper, there is much that we do not know about how these markets function. There are a number of research questions that need addressing, first asked 10 years ago by Doebele with respect to what he termed the second hand housing market (Doebele 1994, 50). They are worth repeating here verbatim both because of their currency and the fact that they have hardly been addressed.

“Why do so few re-sales appear to be taking place in informal settlements (if indeed such is the case)? When do they occur, to whom are the plots or properties sold and how is the price fixed? How do sellers use the proceeds of their capital accumulation, and what economic consequences result? For example are the proceeds from such sales generally used to purchase better housing, to capitalise micro-enterprises, or to fulfill one-time social obligations such as weddings or funerals? Does the exclusion of land and housing from formal markets actually cause them to appreciate in value more rapidly than they would be if they were formally marketed? Is the absence of a second hand market constraining an efficient urban property in general? How
does sluggishness in such a market affect the succession or (filtering) phenomenon in which marginal housing stocks receive and pass up successive categories of urban migrants?"

Jones (2003) urges a more systematic audit of policies such as squatter upgrading and tenure regularization in order for them to be associated with poverty alleviation. He argues that research needs to determine the impact of reform on the poor and the consequences on land markets, specifically on land prices within and without regularized settlements, and the perception of various agents.

Jones (2003) goes on to ask pertinent questions: "As the poor already invest in their homes, is access to finance the only or principal mechanism by which regularization addresses generation-to-generation poverty established by the denial of property rights? Are reforms creating new forms of illegality that might be more complex to resolve and which might lock the poor into more exclusionary social or spatial patterns?"

Additionally, the following questions need answers: What institutional arrangements facilitate or constrain the function of informal property markets? What incentives or constraints do actors face? What is the case for reform? What is the (potential) contribution of real estate to poverty alleviation?

This research aims to provide answers to some of these questions in the context of Namibia's informal settlements. A better understanding of these markets is necessary if they are to be marshalled in the fight against poverty. As Jones (2003) puts it, we need to know more about how governments can intervene to reduce land transaction costs without setting unrealistic regulations that raise land prices to the poor (Jones 2003).

The research aims to "demonstrate clearer the links between land markets and poverty alleviation" (Jones 2003) and in a manner that 'takes into account the complex relations and processes engaged in residential land production and distribution' (Jones and Ward 1994, 13).

The research complements current studies examining informal land delivery systems in six other African countries (Rakodi and Leduka 2003).

References


PRINCIPLES, BASES AND CHALLENGES OF THE NATIONAL PROGRAMME TO SUPPORT SUSTAINABLE URBAN LAND REGULARISATION IN BRAZIL

Edesio Fernandes*

Abstract

Since the 1980s, a few Brazilian municipalities have confronted the growing problem of informal settlements through land regularisation programmes, but, while there have been localised advances, these programmes on the whole have left much to be desired, the action of the federal government had been very inefficient: up to 2002, despite the existence of a few support programmes and a few lines of finance for municipalities, there was no integrated and comprehensive approach to the question of the informal production of space. Recognising the scale, seriousness, and the implications of the informal urban development process, in 2003 the federal government, through the Ministry of Cities, for the first time formulated a national policy on this question to orient all the specific programmes, in all spheres of government, relating to regularisation of urban informal settlements.

This paper aims to present and discuss critically the terms of this national policy. Following a general identification of the overall context determining the process of growing informal urban land development in Brazil, as well as the possibilities for, and constraints of, state action on the matter, the paper discusses the main strategies and actions of mobilisation, articulation, and intervention which have been formulated in the context of the National Programme to Support Sustainable Urban Land Regularisation. Special attention will be placed on the challenges involved in the regularisation of consolidated informal settlements in areas belonging to the Federal government, although technically, in legal terms, the areas do not belong to the government itself, but to the Federal Union, which is a political entity; a bit like Crown jewels, instead of the Queen's jewels...)

The paper concludes that the Ministry of Cities has managed to advance significantly in formulating a comprehensive national policy and in creating the legal-institutional bases of the National Programme for the Support of Sustainable Land Regularisation. However, the national policy is still merely a declaration of intentions and the regularisation programme is still an isolated and ineffective action, above all without any significant impact on Brazilian reality. There are still many structural obstacles that are of conceptual, political, institutional, and financial nature. These need to be confronted by the Ministry of Cities and the federal government as a whole, so that the objectives of the national policy can be realised.

Introduction

The socioeconomic development model that has required rapid urbanisation in Brazil has produced cities heavily marked by the presence of peripheral areas. About 83% of Brazilians are reported to live in urban

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areas. According to data from several sources, 26 million people living in urban areas do not have access to water; 14 million are not served by rubbish collection; 83 million are not connected to the sewerage systems; and 70% of the collected sewage is not treated. Other figures suggest that despite the often long distances involved, 52 million Brazilians walk to work, largely to avoid the high costs of public transportation. The national housing deficit has been estimated as 7.2 million units; even more alarmingly, the number of existing vacant properties has been estimated as 5.5 million units. Sociospatial segregation, environmental degradation, and urban violence are increasing.

Moreover, tens of millions of Brazilians have no access to urban and housing other than through informal, and mostly illegal, processes and mechanisms. Although the data is imprecise, it is realistic to say that more than 50% of the people living in urban areas have access to land and housing through informal processes. For several decades, Brazilians have been self-constructing a precarious, vulnerable and insecure habitat in favelas, irregular and clandestine land subdivisions, irregular housing projects, front-and-"back houses" (houses built informally in the backyard of legal plots where there is already one construction), as well as occupying public land, steep hills, preservation areas, water reservoirs and riverbanks. Resulting from the combination of speculative land markets, clientelist politics, elitist urban planning practices and exclusionary legal regimes - which have affirmed individual ownership rights over the constitutional principle of the socioenvironmental function of urban property and of the city - for a long time Brazil's process of informal urban development has not been the exception, but the main socioeconomic way to produce urban space in the country.¹

It is a phenomenon that has structured Brazil's consolidated urban order, and as such it needs to be confronted. In its many different ways, the process of informal access to land and housing has increased in large, middle-sized, and even in small cities. In fact, despite the association commonly made between informal urban development and large cities (all cities with more than 500,000 inhabitants have favelas), the precarious, illegal occupation of the territory can also be identified in virtually all cities and regions of the country. According to official data, favelas exist in 80% of cities with 100,000 to 500,000 inhabitants, and in 45% of those with a population of 20,000 to 100,000 inhabitants. Irregular settlements can be increasingly identified in small cities - 36% of the cities with less than 20,000 inhabitants have irregular land subdivisions and 20% of them have favelas.

Although it can be by no means reduced to the poorest social groups, the informal production of the habitat in urban areas among such groups needs to be urgently confronted, given the grave socioeconomic, urban, environmental, and political implications of the phenomenon, not only for the residents of informal settlements, but also for the cities and the urban population as a whole.

Since the 1980s, a few municipalities have confronted the problem of informal settlements through land regularisation programmes, but the truth is that while there have been localised advances, these programmes on the whole have left much to be desired. Moreover, most municipalities still have to formulate their own land regularisation programmes.² Only two or three states have formulated regularisation programmes.

Also the action of the federal government has been very inefficient. Up to 2002, despite the existence of a few support programmes and a few lines of finance for municipalities, there was no integrated and comprehensive

¹ For a critical overview of Brazil's current urban realities, see Fernandes & Valenca (2001).
² For an assessment of the overall legal-institutional context and the evolution of public policies and regularisation programmes in Brazil, see Fernandes (1993; 1995; 2000a; 2000b; 2002a; 2002b; 2003) and Fernandes & Rolnik (1998).
approach at the national level to the question of the informal production of space. In 2003, recognising the scale, seriousness, and the implications of the informal urban development process, the federal government, through the newly created Ministry of Cities, for the first time formulated a national policy and a corresponding national programme on this question. The policy was to orient all the specific programmes in all spheres of government, relating to regularisation of urban informal settlements already consolidated and occupied by low-income groups.

This paper aims to present the National Policy to Support Sustainable Urban Land Regularisation, and it begins by discussing its nature, assumptions, and general and specific objectives, as well as the bases of the resulting National Programme to Support Sustainable Urban Land Regularisation. Special attention will be given to the national programme’s legal, financial, urbanistic and institutional strategies. The paper then critically discusses the main mobilisation, articulation and intervention actions that have been undertaken within the ambit of the national programme as from 2003, stressing the main existing challenges to the progress of governmental action. Special attention will be given to the discussion concerning the regularisation of consolidated informal settlements on public land belonging to the Federal government see above.

The paper concludes that, despite the fact that the Ministry of Cities has managed to advance significantly in formulating a comprehensive national policy and in creating the legal-institutional bases of the National Programme to Support Sustainable Urban Land Regularisation, the national policy is still merely a declaration of intentions and the national programme is still an isolated and ineffective action, above all without any significant impact on Brazilian reality. There are still many structural obstacles that are of conceptual, political, institutional and financial nature. These need to be confronted by the Ministry of Cities and the federal government as a whole, so that the objectives of the national policy can be realised and for the objectives and targets of the supporting programme to be reached.

Principles of the National Policy to Support Sustainable Urban Land Regularisation

Up to 2002, a few federal programmes directly or indirectly addressed informal settlements, such as the Programa Habitar Brasil – BID (HBB) and Caixa Economica Federal’s “Building Materials Programme”. However, there was no national policy to articulate these programmes, thus expressing the objectives of the federal government. It was in this context that the Secretariat for Urban Programmes in the Ministry of Cities, in a pioneering way, proposed and discussed at the national level the terms of such a national policy.

Nature of the national policy

First of all, it needs to be said that the federal government had necessarily to take into account the distribution of legal and political responsibilities another legal jargon; if you prefer not to use it, I would suggest powers instead of responsibilities or roles established in the 1988 Federal Constitution and by the 2001 City Statute, particularly on the question of land use control in general, and land regularisation in particular, in order to formulate a national policy compatible with the legal order in force and with the historical sociopolitical processes of the country. In this context, the federal government recognised the central role of municipalities, and to a lesser degree of the states, in confronting the problems resulting from informal land development and in formulating and implementing regularisation programmes of consolidated informal settlements in urban areas.
The problem of informal urban development is notably massive and requires a broad intervention by the public authorities – informality reaches 80% in some cases – but the fact is that the country's sociopolitical history over the past 20 years has been one of political-institutional decentralisation, so much so that the role of municipalities in Brazil's federalism is unique in the world, even given due respect to all the existing financial limitations. However, many attempts have been made to address informal land development by proposing magical solutions, without vigorously addressing the constitutional, political or legal order. Many such proposals expect immediate intervention by the federal government (through the Ministry of Cities, created in January 2003) to solve the growing urban and socioenvironmental problems, thus simply ignoring the municipal role. See above This is clearly an expression of the historical neglect in confronting the urban question at the national level, as well as of the absence of a national policy on regularisation. However, it is important to understand that the position of the federal government in this field is very constrained and limited in scope.

In fact, the action of federal government has the intention of supporting, complementing and/or supplementing the action of municipal and state governments, intervening in a more direct way (although always in partnership with municipalities and states) only if the occupied land is owned by the Union, especially if the consolidated settlements meet the criteria for the special concession of use for housing purposes introduced by Provisional Measure no. 2.220 in 2001. Within these limits, the role of federal government has great sociopolitical importance, given the extent and implications of the problem of informal urban development. There is an urgent need to create a sufficiently integrated front of intra and intergovernmental action, as well as various forms of partnerships between the State and civil society, so as to confront the problem. The federal government has the best potential to promote and lead such a front.

**Conditions and assumptions of the National Policy to Support a Sustainable Urban Land Regularisation**

The federal government is aware that regularisation programmes, at whatever level they are formulated, have an intrinsically curative or remedial nature, and that, in order to be sustainable, such programmes should always be implemented within a broad context of public, urban, and housing policies, in all spheres of government. Such combined policies should aim at intervening in the land and property market, thus having effective control over the processes through which urban land is accessed, with a view to breaking the perverse cycle which has historically produced urban informality and to prevent the illegal production of cities through making sufficient legal land available.

Therefore, regularisation programmes necessarily have to be combined with:

- the production of new social housing developments and serviced sites for low-income groups, by the public authorities in all spheres of government;
- the opening of new lines of official credit and housing finance, especially for the population between 0-3 minimum salaries;
- inclusive urban planning and democratic management of cities, especially through the instruments, mechanisms and processes of urban land use as per the 2001 City Statute, in order to induce the occupation of vacant land, rehabilitation of urban centres and the full realisation of the socioenvironmental function of urban property. In particular, the question of land regularisation
should be considered as one of the central axes in formulating municipal master plans, such as those required by the 1988 Federal Constitution and the 2001 City Statute;

- the use of redistributive fiscal and extrafiscal policies, as well as mechanisms for surplus value-capture by the public authorities, always in the terms of the 2001 City Statute;

- the creation of mechanisms and processes of various orders to involve the formal land and property market in the production of regular serviced sites and buildings for the low-income population in good locations, at accessible prices, and in sufficient quantities.

However, one should no longer ignore the enormity of the already established problem of informal settlements, and the urgency to address these.

In this context, the Ministry of Cities coordinated throughout 2003 a full process of discussion of the bases of a ‘National Policy of Support to Sustainable Urban Land Regularisation,’ with the following bases:

- the recognition of the social right to housing and security of tenure as fundamental human rights, in accordance with the 1988 Federal Constitution and the terms of the Global Campaign for Secure Tenure of UN-HABITAT;

- access to urban land as realisation of the constitutional principle of the socioenvironmental function of property (whether private or public) and of the city;

- the supremacy of Public Law over Private Law in the regulation of the urban order and in the interpretation and application of the 2001 City Statute;

- an understanding of the curative nature of the regularisation programmes, which need to be implemented within a broad context of public policies in all spheres of government;

- the need to reconcile urbanistic and environmental regularisation with legal regularisation; and

- the need to contribute to the revival of the processes of social mobilisation around the discussion of informal urban development, especially through the recognition of effective popular participation in all the stages of the process of regularisation.

According to the current urban-legal framework - set by the 1988 Constitution and consolidated by both the 2001 City Statute and the 2001 Provisional Measure no. 2.220 - there are two distinct situations in Brazil today related to informal settlements:

- settlements in which the residents have the collective right to regularisation, independently of the willingness of the public authorities; and

- settlements in which the regularisation policies still insert themselves, as was traditionally the case, in the realm of discretionary action of the public authorities.

Therefore, not all informal settlements have to be regularised; for instance very recent occupations do not. Neither are all consolidated informal settlements upgradeable; for instance, based on safety, health or environmental reasons, the public authorities may not recognise the right of the residents to stay on the occupied areas. But, the major advancement of the legal order is that in these cases, the right to housing
continues to prevail, meaning the public authorities have to offer concrete and acceptable conditions for the relocation of residents.

Although it has specific legal characteristics, the question of land regularisation of consolidated settlements in urban areas is an aspect of the broader social right to housing, secured through the 1988 Federal Constitution, and as such must be treated within the context of an articulated housing policy.

Objectives of the national policy

The National Policy to Support Sustainable Urban Land Regularisation that was proposed by the Ministry of Cities in 2003 was based on the principle that land regularisation is a broad process, which cannot or should not be reduced solely to its legal dimension, as the legal regularisation of occupied areas and plots has to be reconciled with the urbanistic and environmental regularisation of the settlements, as well as with the introduction of socioeconomic programmes (especially generating employment and income) and other governmental programmes that propose the full integration of the informal settlement residents into the economy of the city and the urban society.

The main general objectives of this national policy are:

- to support municipalities and states in the implementation of the 2001 City Statute, with emphasis on the new legal instruments of land regularisation in the City Statute and in Provisional Measure no. 2.220/2001 and on the need to widen and democratise access to urban land for the lowest income groups;
- to promote the integration of land regularisation programmes (combining upgrading and legalisation) in all levels of government, with inclusive urban planning policies and democratic urban management strategies; and
- to promote the integrated recognition of social and constitutional rights to housing and environmental preservation, quality of life, and preservation of natural resources.

The main specific objectives of the national policy are:

- to promote the recognition of the new rights recognised by the legal-urban order - especially the special urban usucapiao (prescriptive acquisition/adverse possession), the concession of the real right to use, the special concession of use for housing purposes, and surface rights - and their full utilisation, emphasising that they are new forms of real property rights;
- to prioritise the collective use of these instruments, in order to give collective legal solutions to urban and social problems that are essentially collective;
- to remove the obstacles to land regularisation that still stem from the federal legislation, be they related to land laws, registration laws, urban laws, environmental laws, judicial procedural laws, administrative laws, fiscal laws, criminal laws, etc.;
- to create conditions for the full recognition and validation of titles representing the new rights mentioned above, by the public and private credit and finance agencies, as well as by the public opinion; and
• to encourage various forms of partnerships with civil society, promoting full popular participation in all stages of the land regularisation interventions and thus contributing to the revival of the social mobilisation processes through the discussion about informal urban development, in a way that socially includes communities living in informal settlements to a full extent.

The bases of the National Programme to Support Sustainable Urban Land Regularisation

Based on the above assumptions and objectives, the Ministry of Cities's Secretariat for Urban Programmes defined the terms of the National Programme to Support Sustainable Urban Land Regularisation, seeking especially to reconcile the proposed objectives, principles, mechanisms, processes and resources.

The national programme is structured into four principal support strategies, which are, or need to be, fully integrated, namely, legal, financial, urbanistic/planning and administrative/institutional support strategies.

Strategies for legal support

The strategies for legal support aim to:

• discuss the necessity to revise the federal legislation directly and indirectly linked to the question of land regularisation;

• sensitise and inform the legal actors and engage them in dialogue about the land regularisation process, e.g. judges, prosecutors for the government, Law Faculties and registrars, with a view to recognising the new collective rights consolidated by the 2001 City Statute and to enable their registration;

• give sociolegal assistance to NGOs and residents' associations, so that they can propose legal actions of special urban usucapión and the administrative claim for the special concession of use for housing purposes; and

• promote a new legal culture based on principles of the socioenvironmental function of urban property and of the city.

Strategies for financial support

The strategies for financial support aim to:

• identify and centralise resources of programmes that already exist or are being created in the context of the federal government – out the budget of the Ministry of Cities or other ministries – which could be applied to the financing of land regularisation programmes in all spheres of government;

• to capture resources of private initiative for the formation of public-private partnerships; and

• to capture resources from international financial and cooperation agencies for financial support to regularisation programmes in all spheres of government.
Strategies of urbanistic/planning support

The strategies of urbanistic/planning support aim to:

- promote the sensitisation, informing of, and dialogue with, essential actors such as the national entities representing architects, engineers, geographers and cartographers; Architecture and Planning, Engineering, Geography Faculties, and other professional entities active in the area of urbanism, to give technical support at the lowest cost and in specific patterns/models related to regularisation; and

- confront the on-going problems of informal occupation of risky areas and other areas of environmental value.

Strategies for administrative/institutional support

Last, but not least, the strategies for administrative/institutional support aim to:

- promote the construction of a basis for a permanent dialogue with municipalities and municipal and state organs, with a view to strengthen the discussion on land regularisation within the context of the on-going processes of the elaboration of municipal master plans and to disseminate the democratic use of planning processes and instruments such as ZEIS (Special Zones of Social Interest) – ZEIES are demarcated in the municipal zoning scheme, corresponding to both areas already occupied by consolidated informal settlements or to vacant land, and in which the primary use is that of social housing; there are specific urban regulations in force to keep the overall nature of the occupation, thus preventing the areas from being bought by private developers (thus expelling the traditional communities); recent research has indicated that the very demarcation of ZEIS contributes towards keeping land prices low, there are also mechanisms of democratic management in each ZEIS to minimise the pressure of the land and property market and to guarantee the permanence of the occupants in regularised areas (i.e. prevent their displacement by the market);

- support a revision of municipal urban regulations and of constructive parameters, especially in the ZEIS;

- develop a database of experiences, legislation, and literature to orient/inform the municipal and state programmes on land regularisation; and

- promote systematic exchange of information among all spheres of government with a view to provide elements for decision-making processes.

Actions in occupied areas that are owned by the Union

As will be explained in more detail below, the National Secretariat for Urban Programmes committed itself to promoting an interministerial integration aiming to:

- discuss the possibility of urban, legal and social regularisation of consolidated informal settlements on land belonging to the Union, with a base in Provisional Measure no. 2.220/2001;

- remove wherever possible the obstacles to regularisation of settlements on terrenos de marinha (coastal land) belonging to the Union; and;
promote, together with the Secretariat for the Union's Patrimony/Ministry of Planning, the modernisation of the cadastre of the Union's property, with emphasis on the areas affected by Provisional Measure no. 2.220/2001.

Support to municipalities

The National Secretariat for Urban Programmes also proposed to coordinate a series of actions with a view to giving technical and financial support for:

- contracts of technical cooperation to improve/promote land regularisation programmes of the municipalities and states;
- the creation and improvement of municipal cadastres for the identification, mapping, and registration of existing informal settlements;
- technical and legal assistance to municipalities and states for the development and improvement of municipal land regularisation programmes;
- the formation of a national network of partners to give technical, legal, and social support to municipalities and states in their regularisation activities;
- the formation of multiple partnerships to discuss urbanistic/planning, legal, and social regularisation as well as the most appropriate actions to promote regularisation of settlements on private land and on land belonging to municipalities and states, with a basis in the 2001 City Statute;
- the development of an information system to identify the different ownership and tenure regimes and their consequences;
- analysis and revision of existing regularisation policies of municipalities and states in a way that tests, supports, and evaluates them;
- jointly disseminate the actions of the Ministry of Cities and the scope of available programmes to municipalities, states and society, and to disseminate information on the other existing sources of resources such as the housing subsidy programme and the Habitat Brasil Programme - HBB, as well as discussions on other possible sources such as the World Bank, the Cities Alliance, international cooperation agencies of foreign governments, international NGOs, the Lincoln Institute of Land Policy, UN-HABITAT and UNDP.

Priority was given to:

- municipalities with already initiated upgrading and land regularisation activities and relying on resources from the federal government;
- states and municipalities convening with the Ministry of Cities;
- municipalities with identified occupations on Union land;
- municipalities that are integrated into metropolitan regions; and;
- municipalities selected by the Programme of Zero Hunger.
Actions and challenges of the national programme: a critical overview

Since 2003, the National Secretariat for Urban Programmes has undertaken various actions of mobilisation, articulation and intervention to launch, consolidate, legitimise, and expand the regularisation programme nationally. Some qualitative and quantitative targets were defined for the short (2003-4), medium (2003-6) and long (2003-7) terms, and a first, incipient effort was made to territorialise the reach of the national programme.

This section discusses critically the principal difficulties the regularisation programme has encountered, and what the main challenges are for it to contribute effectively towards the confrontation of the growing problem of informal development in Brazil.

Discussion in the federal government as a whole

The first challenge to the Ministry of Cities is to place the question of regularisation at the centre of the agenda for political action of the federal government as a whole. This requires a systematic, and aggressive effort of providing information, promoting interministerial articulation, and applying pressure for adequate budgetary resources.

In this context, a Working Group was created in 2003 on the theme of land regularisation, in the context of the Committee of Federative Articulation, presided over by the Civil Presidential House. This committee was a pioneering initiative of the federal government, and it aims to improve the relations between the federal government and municipalities and states so as to modernise and make more dynamic the complex and distorted federal system in Brazil. The Ministry of Cities coordinates the Working Group on land regularisation, and counts on participation of representatives of the National Front of Municipalities, the Municipal Confederation of Municipalities, and the Brazilian Association of Municipalities; the Civil House, the Ministry of Justice, the Ministry of Planning, the General Advocacy of the Union; the Brazilian Institute of Property Registration, the National Association of Notaries and Registrars, etc.

Although the Working Group was originally created to discuss a proposal by the National Front of Mayors restricted to land regularisation of consolidated settlements on terrenos de marinha (coastal land) belonging to the Union, the Ministry of Cities was able to widen the scope of the discussion around three main axes:

- the socioenvironmental function of the property of the Union, including the question of occupied coastal land; see above;
- the activities of property registration offices in the context of regularisation programmes; and
- the need for compatibility between the cadastral bases used by the municipalities and the anachronistic cartographical bases used by the registration offices, especially through the use of systems of geo-referencing.

Several meetings took place since 2003, and, albeit in an incipient way, the Working Group has managed to place the discussion on land regularisation on the agenda of sectors of the federal government to some extent. The Working Group has contributed to organising the themes of the issues to be addressed and legitimised important discussions and proposals, as well as forming some promising partnerships, particularly with the Brazilian Institute of Property Registration and the National Association of Notaries and Registrars, which have long represented conservative interests.
However, it has to be said that, generally speaking, there is still insufficient recognition of the importance of land regularisation by the federal government as a whole. As a result, the National Programme to Support Sustainable Urban Land Regularisation was allocated a mere R$5 million for 2004 (less than US$2 million) – while in 2003 a budget was practically non-existing.

Clearly, this is a reflection of a broader problem that is the lack of understanding by the federal government of the importance of the urban question in Brazil. Above all, it is a reflection of the total incapacity by the federal government to appreciate that “the city” lies at the heart of the country’s economy and that investing in cities is an investment in the national economy. In the context of a clearly demarcated division within the federal government (insurmountable in 2003 and 2004) between economic policies and social policies, the urban policies (land, housing, environmental sanitation, transport and mobility) of the Ministry of Cities were viewed merely as social policies, or at most as infrastructure investments for economic development. Given the rigorous and overly orthodox policy of fiscal adjustment adopted by the federal government since 2003, the social policies have been given secondary priority, and the budgets of those ministries in the social domain have been seriously affected. In the case of the Ministry of Cities, created in 2003, and therefore not having inherited any significant institutional infrastructure, the initial budget was ‘virtual’, in the words of the Minister Olivia Dutra. This position also meant that the organs responsible for the economic policy placed enormous limitations on the process of redefining the nature of the property of the Union and its utilisation in programmes for land regularisation see above.

As a result, the national regularisation programme is still an isolated policy, without interministerial character, inefficient, lacking resources, and without effective capacity for significant intervention in the Brazilian reality.

By not recognising the centrality of the question of social housing and land regularisation in the agenda of political action, the federal government (and the Ministry of Cities) has been questioned and charged daily by various sociopolitical actors – including the national media – owing to its incapacity to confront the growing socioenvironmental conflicts resulting from the process of informal urban development and the lack of adequate alternatives to access serviced urban land for the large majority of the urban population.

The Ministry of Cities will have to double its efforts to promote the recognition by the federal government as a whole of the importance and centrality of the question of land regularisation in consolidated urban areas. This needs to be done in such a form that appropriate political-institutional commitments with support in the form of adequate budgets are given to the regularisation programme with due urgency, especially through an integrated interministerial action, including by means of confronting the growing discussion around the possibility of creating a National Agency for Land Regularisation by Presidential Decree.

The discussion on land regularisation in the internal context of the Ministry of Cities

Inserting the question of land regularisation into the agenda of federal government in an adequate way is a huge challenge placed on the Ministry of Cities. However, an equally important challenge lies in adequately inserting the same question in the context of the overall agenda of political action of the Ministry of Cities itself, in a way that will overcome the current situation of institutional fragmentation, duplication of programmes, and conceptual conflict.

Linked to a series of historical reasons that lie at the basis of the creation and internal organisation of the Ministry of Cities, the treatment of the question of land regularisation of consolidated informal settlements
was divided between two National Secretariats in the context of the organisational structure of the Ministry. The National Programme to Support Sustainable Urban Land Regularisation was conceived in the National Secretariat for Urban Programmes, but the National Secretariat for Housing inherited the abovementioned Programa Habitar Brasil - HBB, which since 1999 has given financial support to municipal and state programmes for upgrading of favelas, with resources from Inter-American Development Bank and from the budget of the Union.

This institutional fragmentation resulted in not only an undesired programmatic duplication, but it also expresses a serious conceptual conflict, given the fact that the national regularisation programme proposes an integrated approach for the treatment of the question of land regularisation, articulating legalisation, upgrading and integration of areas and communities, rather than only a legalistic or merely physical approach to the question of regularisation.

The organisational structure of the Ministry of Cities in 2003 reinforced this fragmented treatment of the question, and this was worsened by the fact that while the HBB programme – which has a component of land titling conceived with different criteria than those of the national regularisation programme - counts with considerable financial resources, the regularisation programme was not given sufficient resources, a situation that was not improved significantly in the 2004 budget. By not being equipped and resourced adequately, the regularisation programme has effectively been limited to the dimension of land regularisation in strict legal terms, and has not been able to confront the demands of upgrading informal settlements.

This is a totally inadequate situation, as this dissociation between legal regularisation and physical upgrading is completely artificial. Ironically, as soon as the Ministry of Cities was created in January 2003, it had publicly questioned a proposal to legalise informal settlements in mass, which had been launched nationally by the Ministry of Justice. The Ministry of Cities had argued for the need to treat the question in a broader and more integrated way, and was eventually given the institutional responsibility to formulate and coordinate a national policy to confront the question of informal land development.

In 2003 and 2004, it was not possible to overcome this internal institutional fragmentation in the Ministry of Cities despite attempts at creating an informal internal working group involving both Secretariats. There was a lack of adequate internal management channels between the two National Secretariats and between the two national programmes, and the necessary processes for communication that this order of political and conceptual questions requires were not put in place.

This is a discussion that needs to be promoted urgently so that there is a proper institutional, programmatic, financial and conceptual integration in the Ministry's action. In particular, it is necessary to discuss and re-think the bases of the HBB programme: in a country where the universe of informal settlements has been estimated as thousands of cases (including favelas and other forms such as irregular and clandestine land subdivisions) and in which the federal government's capacity for action is very limited, it is highly questionable that a national programme involving enormous financial investment (calculated in US dollars) only applies to a insignificant number of interventions – less than 100 – and only in favelas. Moreover, the technical criteria that have guided such interventions have also been seriously questioned. It is especially revealing that none of the ongoing HBB projects has reached the stage of full land regularisation.
Another fundamental discussion that was not properly confronted by the Ministry of Cities in 2003 and 2004, but which can no longer be ignored, refers to the need to reconcile the National Programme to Support Sustainable Urban Land Regularisation and the new National Housing Policy which is being formulated by the Housing Secretariat. The National Housing System has gradually been redesigned, so that new social housing projects can be implemented and new lines of credit and financing can be opened to the population earning up to three minimum wages.

One of the objectives of the regularisation programme is to create the conditions for the municipalities to act, widening the access of the lowest income groups to serviced land, and for this purpose, together with a broad concept of regularisation that combines upgrading and legalisation, it is necessary to create new social housing policies and inclusive urban planning directives. Given the extent of the housing problem, the action of the public authorities alone will not be sufficient, and the private sector needs to be involved for the production of serviced plots of land especially by making use of the possibilities – advantages, incentives, and building credits – offered by the 2001 City Statute. In order to be effective, regularisation programmes need to be intimately related to other programmes that aim to produce serviced land for the low income population, as well as to urban policies that give a social function to the millions of vacant properties, private and public, existing in the country.

In the more restricted ambit of the National Secretariat for Urban Programmes, in which the national regularisation programme is located, since 2003 this programme has not been fully articulated with the other existing programmes: National Programme to Support Municipal Master Plans; National Programme to Control and Prevent the Occupation of Risky Areas; National Programme to Support Municipal Urban Management; and the National Programme to Support the Rehabilitation of Inner-city Areas. Regardless of the fact that all such programmes are profoundly interrelated, in 2003 and 2004 there was no adequate incorporation of the objectives of each programme into the terms of reference formulated by the others. Special attention needs to be given by the Secretariat for Urban Programmes to the relation between the regularisation programme and the programme aimed to support municipal master plans, so that the discussion on municipal regularisation programmes is no longer promoted in a sectoral or isolated manner, but instead in the very heart of the municipal processes of formulation and implementation of master plans. In the terms of the 2001 City Statute, all Brazilian municipalities with more than 20,000 inhabitants have to approve their master plans by 2006.

There is an enormous expectation on the part of municipalities and the people living in informal settlements that the National Programme to Support Sustainable Urban Land Regularisation will be effective, especially following the “National Conference of the Cities” that took place in October 2003, in which the subject of regularisation was one of the dominant ones. However, the future – and the success – of the national regularisation programme will depend on how the current state of affairs is reversed – by overcoming the institutional fragmentation within the Federal Government, within the Ministry of Cities and within the Secretariat for Urban Programmes itself; and by promoting a better distribution of budgetary resources in order to make it possible to solve the problems related to the lack of human resources, equipment, and resources for investment and action.
Strategies for legal support

A new legal-urban order

One of the most significant actions within the National Programme to Support Sustainable Urban Land Regularisation in 2003 was the promotion of a series of events that aimed at involving legal actors and urban managers in the discussion of the new legal-urban order consolidated by the 2001 City Statute and the 2001 Provisional Measure no. 2.220, in which, among other developments, the collective right to regularisation was recognised. Two specific workshops were promoted in Brasilia and the conceptual basis of the new legal order was presented and discussed in the Seminar “The New Legal-Urban Order”, promoted in São Paulo in November 2003 by the Ministry of Cities in partnership with the Brazilian Institute of Property Registration, the Prosecutors for the Government of the State of São Paulo, the São Paulo Judicial School, and the Lincoln Institute of Land Policy. The Seminar was attended by judges, prosecutors for the government, public attorneys and registrars, as well as by urban planners and managers.

The challenge faced by the Ministry of Cities is to give continuity to such a fundamental process of information dissemination and critical discussion, which is essential to promote an advance of legal doctrine and jurisprudence on Urban Law in Brazil, especially through the promotion of events in all Brazilian states which lead towards the consolidation of the abovementioned partnerships.

Another important front opened in 2003 within the remit of the regularisation programme was the Ministry of Cities’ active participation in the process leading to the revision of Federal Law no. 6.766/1979, which governs the subdivision of urban land nationally, and which is crucial for the promotion of regularisation programmes at local and state levels.

The fact is that, even those municipalities that have already progressed in confronting the process of growing informal land development through regularisation programmes, are facing several orders of legal obstacles deriving from the federal legislation in force – urban laws, Forestry Code, land laws, registration laws, expropriation laws, etc. Creating a solid partnership with the Commission for Urban Development of the Chamber of Deputies in order to broaden the scope for the discussion of a draft land law which aimed at replacing Federal Law no. 6.766, in 2003 the Ministry of Cities proposed that the scope of the new law should refer not only to future land subdivisions, but also to the regularisation of consolidated informal settlements. This process of legal revision provides a historical opportunity to overcome all the abovementioned legal problems still existing, and the national discussion was fully supported by a very successful cycle of public audiences promoted by the Urban Development Commission and the Ministry of Cities in October and November 2003.

This discussion dominated much of the Secretariat for Urban Programme’s agenda in 2004, but it was not possible to come to a consensus involving all the major stakeholders. The challenge faced by the Ministry of Cities is to give continuity to this important process of improvement of the legal order, in order not only to deepen the conceptual discussion, but also to establish the necessary political articulations, within and outside the National Congress, to guarantee the enactment of a “Federal Law on Urban Land Subdivision and Regularisation of Consolidated Informal Settlements in urban Areas”. This federal law would then become a long awaited “Law of Territorial Responsibility”.
The activities of the registration offices

Among the main questions discussed in 2003 and 2004 within the context of the legal strategies adopted by the national regularisation programme, the discussion on the activities of the registration offices was of utmost importance. From several parts of the country there were reports indicating that it had been impossible for municipalities and states to register the newly regularised settlements at the local registration offices. This is indeed a major problem in a legal system such as Brazil's, in which it is the registration that constitutes ownership. A specific workshop was promoted in 2003 to discuss this matter, aiming to identify the reasons for the difficulties as well as alternatives for their solution.

Three main problems were detected: the high costs of registration; the erratic procedures adopted by the registration offices; and the nature of frequent practices on the part of these offices, which have long been putting insurmountable obstacles to the development of municipal and state regularisation programmes.

Following this discussion and further political articulation with the entities representing the registrars nationally, significant gains were achieved still in 2003. Regarding the matter of financial costs, the national entities declared publicly that they would not charge for the registration of the first documents referring to the registration of special urban usucapiao, concession of the real right to use or the special concession for housing purposes. Some registration offices acted on this decision immediately, but the challenge remains to turn this into a standard national guideline to be followed by all registration offices.

Another significant development concerns the legal and administrative procedures adopted for the registration of the areas and plots resulting from regularisation programmes. Each Brazilian state has different guidelines, and the registration offices have given completely different interpretations to such guidelines, often refusing to register the newly regularised areas and plots. The existing bureaucratic requirements are enormous, and frequently the public authorities promoting the regularisation are treated by the registration offices as if they were private informal developers acting in bad faith. The national entity representing the registrars proposed the creation of a national council to regulate all registration offices, and this council would be in charge of defining uniform and simplified legal and administrative procedures to be followed for the registration of regularisation programmes. That would put an end to all the problems that have been affecting even the most advanced municipal regularisation programmes, such as that of Porto Alegre.

Also regarding the legal and administrative procedures, a more difficult task will be to reconcile the anachronistic databases used by the registration offices with the cadastral databases used by the municipalities, given the fact that there is a wide gap between them. This compatibility can only be provided by the use of GIS, in the same way as has been already been determined for the registration of rural areas by Federal Law no. 10.267/2001. The challenge then is to define the criteria to be followed so that this could also happen in urban areas.

Another important factor regarding the actions of the registration offices concerns the nature of some of their practices. On the one hand, there are offices that have refused to get involved in regularisation programmes, creating all sorts of obstacles (sometimes for ideological reasons). On the other hand, most municipal administrations have little understanding of the importance of getting the registration offices involved in all stages of the regularisation programmes. Systematic partnerships need to be formed between the registration offices and the municipal administrations. In fact, it was as a result of one such solid partnership that thousands of titles of the special concession of use for housing purposes were given to residents by the Municipality of
Sao Paulo in 2003, properly registered. Registrars and other legal actors have to be permanently involved in this attempt to work out adequate legal solutions to the question of regularisation of consolidated informal settlements.

The challenge faced by the Ministry of Cities in this respect is to give continuity to this discussion and to consolidate the partnership with the national entities representing the registration offices, so that the achievements already made become general rules valid for the whole national territory. This is a discussion that is also directly related to the abovementioned ongoing discussion on the draft of a new federal law, and much still needs to be done by the Ministry of Cities to achieve a consensus with the national entities representing the registrars.

**Regularisation and environmental preservation: a false conflict**

One of the actions launched in 2003 by the national regularisation programme was the discussion on the growing conflict between public policies that aim to protect the social right to housing, and those that aim to promote environmental preservation, especially because environmental arguments have often been used to erect obstacles to municipal and state regularisation programmes. Placing emphasis on the notion of “environmental deficit”, such arguments have not allowed for a broader discussion, certainly more adequate to the Brazilian reality, which is that of the “socioenvironmental deficit”. With regard to the latter argument, in those situations in which environmental values and housing needs (both constitutional rights) cannot be fully or event partly reconciled, and if the environmental value has to prevail over the housing need, effective alternatives have to be offered to the low-income population living in the areas. Together with the National Council for the Environment, the Ministry of Cities has discussed the terms of a draft resolution that proposed a specific treatment for the regularisation of informal settlements on preservation areas. This is an issue that certainly deserves to be stressed within the context of the abovementioned ongoing process of legal revision, and on there remains a great deal to be done.

**The new instruments**

One of the specific objectives of the regularisation programme is to promote the full recognition, as new forms of real rights, of the institutes of special urban usucapiao, concession of the real right to use and special concession of use for housing purposes, especially when used in a collective manner. For this purpose, in 2003 a mobilisation process started aiming to validate such instruments, which requires dissemination of information on existing laws as well as legal assistance for the initiation of legal or administrative proceedings. Important organizations, such as Fundacao Bento Rubiao, in Rio de Janeiro, and the remarkable Project “Poles for the Reproduction of Citizenship” promoted by Minas Gerais Federal University have provided legal assistance to communities, as well as stimulating a broader set of actions in informal settlements involving engineers, architects, social workers, psychologists, students and professionals working with the cinema, videos, music and drama, aiming to promote sociocultural as well as legal-urbanistic inclusion. The fact is, even when they have titles following the completion of regularisation programmes, the residents of informal settlements are still perceived – and see themselves – as favela dwellers and, as such, they are discriminated against by the labour market.

Special attention was given in 2003 and 2004 to the need for the registration offices to proceed with the registration of these new titles, and this is a debate that needs to be expanded. The challenge faced by the
Ministry of Cities is to promote the acceptance of such new titles also by the private and public financing agencies, especially by Caixa Economica Federal, so that they are not treated as inferior forms of property title.

It is fundamental to conceive collective legal solutions to the legal problems of informal settlements. In the same way that collective technical solutions have been discussed for problems of water or sanitation provision, collective legal instruments need to be used to resolve collective legal problems.

**The strategies for financial support**

Three lines of credit were prepared in 2003 by the Ministry of Cities with the team of Caixa Economica Federal for launching in 2004, with resources from the Union's budget:

- grants for municipalities and states that have not yet initiated regularisation programmes and who need to do a survey of existing irregular areas;
- grants for the formulation and implementation of municipal and state regularisation programmes; and
- grants for those states and municipalities that have already implemented upgrading programmes, but have not been able to conduct collective actions of special urban *usufructo*, or the special concession of use for housing purposes. This third stream of credit is especially important and original, as it is open not only to the public sector, but also to third-sector organisations (NGOs, foundations, associations) that give sociolegal assistance to informal settlement communities.

The approval of this line was a major breakthrough in the history of public policies in Brazil.

In the short term, the impact of these lines of credit will be very limited given the insignificant budget that was given to the national regularisation programme.

At the same time, some discussions were promoted in 2003 and 2004 during a Cities Alliance mission and with World Bank representatives, but the government determined, due to its strict fiscal adjustment policy, that no project could be submitted immediately to obtain new international loans for land regularisation programmes. Contracts should be signed with both the Cities Alliance and the World Bank in 2005.

**Strategies for urbanistic/planning support**

Given the need to treat regularisation within the context of the municipal master plans required by the 2001 City Statute, and no longer as isolated or sectoral policies, the national regularisation programme promoted in 2003 the first of a series of teleconferences in partnership with the national entities representing architects, engineers and urban planners. A successful roundtable was promoted to present and discuss the national programme, with participation of professionals from all parts of Brazil.

Moreover, several contacts were established with schools of architecture and engineering in order to encourage the programmes of public architecture and engineering that include free technical assistance for regularisation programmes.

The national regularisation programme was also presented and discussed during the national conference "City Citizen" promoted in December 2003 by the Commission of Urban Development of the Chamber of Deputies. The challenge is to give continuity and to expand this line of support strategies.
Strategies for administrative-institutional support

Regarding the strategies for administrative and institutional support, in 2003 and 2004 some agreements for technical cooperation for the improvement of regularisation programmes were discussed and/or signed with several municipalities (Recife, São Vicente, Santos, Guaruja, Cubatão, Pedra do Fogo, Alhandra, Caaporá, Pitimbu, Conde, etc) and states (MT, MA, RJ, AC, RN, PI, MS, etc). However, given the lack of financial resources and adequate human resources, in this first stage such agreements are above all a political opportunity for the Ministry of Cities to celebrate partnerships around the subject of urban land regularisation.

The main challenges on this front are twofold: firstly, the regularisation programme needs to promote the definition of explicit criteria for the celebration of new agreements, other than the mere existence of opportunities and demands, especially in order to implement a national policy for governmental action with a territorial basis. Secondly, it is fundamental that the Ministry of Cities meet the objectives of the existing agreements, and for this appropriate financial and human resources are crucial.

Another action was the capacity building of many actors involved in regularisation programmes throughout the country, which was done through two important meetings in 2003 aimed to discuss critically aspects related to the subject of regularisation, and involving in total over 500 people: the National Seminar on Urban Land Regularisation and the Meeting of the Latin American Research Network on Regularisation, sponsored by the Lincoln Institute of Land Policy.

Support to municipalities, states and society

A series of other activities has been promoted by the National Programme to Support Sustainable Urban Land Regularisation since 2003:

- a specific space was created within the Ministry of Cities's site (www.cidades.gov.br) to organise and make available all the materials and information resulting from the regularisation programme's actions, including the formation of an incipient database of experiences, legislation and literature on regularisation;
- a wide e-mail network was created to promote systematic exchange of information, and by the end of 2003 thousands of people and organisations were already participating in it;
- articles discussing the national programme and its objectives were published in newspapers in several states (RN, BA, MG, AL);
- members of the programme's team have participated in tens of meetings in several cities, giving talks and participating in debates, roundtables, seminars and conferences, as well as participating in the 2003 National Conference of the Cities, academic meetings, etc.; and
- hundreds of claims brought to the attention of the Ministry of Cities by individuals and private and public organisations from all over the country have been received and addressed.

Perhaps the most important challenge to be faced by the Ministry of Cities, besides keeping and systematically expanding all the abovementioned actions of dissemination of information and capacity building, will be to overcome the burden of the significant bureaucratic “help desk” of individual claims and needs, which increases
on a daily basis. These are essentially spontaneous and casual claims, but they end up taking up a significant time of the regularisation programme’s small team. They should concentrate their time in performing actions that explicitly express the general and specific objectives of the national regularisation programme.

**Regularisation of informal settlements on land owned by the Union**

One of the issues more directly related to the action of the federal government concerns the regularisation of consolidated informal settlements on land owned by the Union. This is a question of utmost importance, especially considering that, although the existing data is very precarious given the lack of an adequate cadastre of the Union’s patrimony, there are many indicators suggesting that the number of people living in informal settlements on land belonging to the Union, particularly on coastal land, is very significant. Unfortunately, the national cadastre is totally inadequate and for this reason the Ministry has been reacting to demands coming from municipalities: in 2006, the programme reached to differing degrees 113 areas in 39 municipalities of 18 states, involving some 306,000 families.

In that context, the national regularisation programme promoted a series of discussions and actions in 2003 and 2004, the overall context of which needs to be made explicit.

**Rethinking the notion of the Union’s patrimony**

The process aiming to build a new social political order in Brazil, particularly in cities, where the vast majority of people live, requires that a broad public sphere not reduced to the State’s sphere be built. For this purpose, since the promulgation of the 1988 Constitution, several changes have been promoted in the traditional relations between State and society. In particular, the urban management strategies proposed by the 2001 City Statute require the creation of a new equilibrium between the mechanisms of democratic representation and effective popular participation in the decision-making process of urban questions, which is to be done through direct participation in councils, commissions, participatory budgets, etc. Likewise, the process of making new urban laws requires broader social participation through the popular initiative for drafting laws, public audiences and others social control mechanisms. Moreover, the direct access of organised society to judicial power, especially through the public civil action, is fundamental to recognition of diffuse interests and collective rights, as well as for the maintenance of the urban order.

It is in the complex context, in which there are no ready answers and half-baked ideologies and where unevaluated experiences rule, that traditional notions such as “public service”, “public administration” and “public interest” are being re-thought. This is an effort, not always successful, to reconcile the sociopolitical processes and the fiscal and administrative realities existing in the country. It should be stressed that, despite the progressive developments in legislation and jurisprudence, generally speaking the principles of traditional Administrative Law have not been able to provide full support to the new forms of sociopolitical relations, such as public-private partnerships, inter-linked operations and urban negotiations, which have taken place in cities between the State (now decentralised and increasingly more democratised) and society (which has organised itself in various ways beyond traditional political parties). It is fundamental that this redefinition of the public order be promoted to effectively serve the public, for the public, a true res publica, and for this purpose the socially-oriented principles of Urban Law should provide the directives. The appropriate management of the public order requires a combination of economic efficiency, administrative rationality, socioenvironmental justice, and legal security. For this to happen, as well as guaranteeing the transparency of
the decision-making processes and the systematic accountability of State action, it is necessary to guarantee new forms of social control and popular participation in decision-making.

A crucial aspect in this process refers to the redefinition, all governmental spheres, of the notion of “public asset”, see above and especially of “public land”. This is a polemic and difficult discussion, but it is a profoundly legitimate one and it needs to be confronted carefully, especially as regards the Union’s public land. This is also the condition to guarantee the materialisation of the declared objectives and commitments of the federal government, namely, promotion of urban reform, social inclusion, recognition of the social right to housing and the materialisation of the constitutional principle of the socioenvironmental function of urban property and of the city.

Throughout centuries, public land in Brazil has undergone a process of intensive privatisation, much of which has happened illegally through diverse processes, such as land invasions, illegal sales, bureaucratic abuse, abuses by the registration offices and other harmful practices, which at least in part have determined the current concentrated land structure of the country. Particularly as regards the Union’s land, for a long time problems of demarcation, identification and documentation have been recorded, as well as many cases of irregular appropriation, corruption and clientelism. Moreover, the management and control systems of the Union’s property see above; I would suggest one sole term, be it patrimony or property, but using several terms (assets, etc) is confusing have long been known as being bureaucratic, inefficient, erratic, and frequently arbitrary.

Thousands of properties belonging to the Union are currently vacant or under-utilised and a considerable part of the Union’s land has been occupied by consolidated informal settlements. Part of the Union’s properties is governed by ancient and anachronistic legal institutes, such as that of terrenos de marinha (coastal land), the purpose of which may still be valid, but which certainly need a broad renovation. The modernisation of legal institutes requires, in some cases, revision of the laws in force, but generally speaking the management and control of the Union’s property urgently need new political institutional practices conceived in the light of a new concept of public order. Also in this context, the principles of traditional Administrative Law are not sufficient to offer adequate solutions.

One of the main challenges faced by the federal government is exactly that of re-thinking the notion of the “Union’s assets”: if the Union’s assets is to be understood as the federation’s assets, such a conceptual change requires not only an understanding of the role played by municipalities in the federal state, but above all of the new forms of articulation between the federal government and society. In particular, it should be stressed that the socioenvironmental function of urban property also applies to public property.

This is a discussion that requires much reflection and efforts should be made to avoid sweeping solutions such as the immediate abolition of certain legal institutes or the unqualified municipalisation of the Union’s land. It is fundamental that a broad debate be promoted nationally so that clear criteria can be defined aiming to treat differently the various situations. In this process, special attention needs to be given to ensure that the changes promoted in the political-institutional practices and whatever legal changes do not result in undue and unnecessary privatisation of the Union’s remaining property. The fact is that, more often than not, the accomplishment of the federal government’s social commitments, such as the recognition of the social right to housing, can, and should, co-exist with the maintenance of public property.
The actions of the Ministry of Cities since 2003

The legal-political order in force affecting the Union’s property is unequivocal only in so far as one dimension of this broader discussion is concerned, namely, the Union’s land where there are consolidated informal settlements occupied by low-income populations, and which fulfil the criteria established by the 1988 Federal Constitution, the 2001 City Statute, and the 2002 Provisional Measure no. 2.220. As for the other situations of informal occupation of public land, the criteria for the Union’s discretionary action still remains to be defined, so that the constitutional and governmental objectives can be materialised.

Land regularisation of occupations on coastal land and other areas and properties of the Union

In 2003, the Ministry of Cities organised a special workshop to identify the existing obstacles to the regularisation of informal settlements occupied by low-income populations on coastal land. Given the dominant interpretation of a constitutional provision, in these areas a form of leasehold would still apply and for this reason the legal institute of the special concession of right to use for housing purposes could not be applied.

In the workshop, it became clear that the problem of informal occupation of coastal land is enormous, affecting hundreds of thousands of people all over the country. In this context, it is fundamental to create the conditions for municipalities to act through the promotion of regularisation programmes. In particular, it became clear that the federal government cannot handle titles directly, as it does not legalise anything: it is the municipalities that approve land subdivisions and give titles, and the most that can be done by the federal government is to transfer the Union’s land to the municipalities so that they, in turn, can transfer the land to the occupiers. This whole process has often frustrated the expectations of people and organisations that would want the federal government to act directly.

Since then, the Ministry of Cities and the Secretariat for the Union’s Assets (Ministry of Planning) have established partnerships with several municipalities in order to remove the existing obstacles and thus enable the legal regularisation of informal settlements on coastal land. Such partnerships have materialised through the discussions and/or signature of agreements to concede the leasehold of the occupied areas for free to the municipalities (Rio de Janeiro, Recife, municipalities in the Baixada Santista, Fortaleza, etc.) so that these municipalities can proceed with legalisation of the regularised areas and plots. The condition for that is that the informal settlements should be part of municipal regularisation programmes in which upgrading works have already been completed by the municipalities.

The Ministry of Cities and the Social Security Ministry also began a discussion as to how best to give a socioenvironmental function to thousands of under-utilised properties of the National Social Security Institute, both in the context of regularisation programmes and in programmes to support the rehabilitation of degraded inner-cities. The same kind of discussion was also initiated with the Committee responsible for liquidating the assets of the Federal Railway Company, another great owner of vacant or under-utilised properties or of properties already occupied by consolidated informal settlements. Specific demands have also emerged as regards properties belonging to the Post Office, the Brazilian Coffee Institute, Banco do Brasil, among other federal organisations.

In all such cases, the great challenge confronting the Ministry of Cities, was and still is, that of promoting the definition and approval of a national policy based on clear criteria, so that similar situations can be addressed in similar manners, thus overcoming the current arbitrary practices and promoting better conditions for the
adequate accomplishment of the agreements signed by the Union with the states and municipalities. This is the condition for a socioenvironmental function to be given to the Union's property. The current treatment that has been given to the concrete requests by municipalities has certainly been important to provide elements for up-scaling of this policy, but only a clearly defined and articulated national policy can guarantee the full legal security of these new practices. The approval of a national policy is also fundamental so that the existing tensions can be overcome as regards the question of the Union's property vis-à-vis other federal organs, notably the Ministry of Planning and the Ministry of Finance. These ministries have put serious obstacles to the regularisation of both occupied and under-utilised public properties, as they have historically viewed such properties merely as sources of potential sources of revenue.

In this context, aiming to overcome institutional tensions and different approaches and thus formulate a national policy on the matter of the utilisation of the Union's property, the Civil House of the Presidency, created in 2003 a broad interministerial Working Group. This group has since come to a political decision by affirming the importance of recognising the social right to housing and the socioenvironmental function of the Union's property. However, this interministerial decision has not yet been formally formulated into an act by the federal government, either by decree or a bill of law, and the challenge remains. It is also necessary to define clearer criteria for the utilisation of the Union's property.

In any event, significant developments have already occurred, especially when there is a concertation of interests among ministries and other stakeholders, as for example, the situation of the properties belonging to the Federal Railway Company, for which a national policy has been gradually developed.

The polemic of the Federal District

As a result of the many controversies around the political activities of the then Secretary of the Union's Assets, who was promising to legalise the informal settlements on the Union's land in the Federal District, albeit illegally - another Working Group was created in 2003 by the Presidency's Civil House. Coordinated by the Ministry of Cities, this Working Group has to formulate a specific proposal for the regularisation of informal settlements in the Federal District. The problem of illegal occupation of the Union's land in the Federal District is longstanding and complex, and it does not only involve low-income groups.

The Working Group includes participation by the Secretariat for the Union's Assets, the Brazilian Institute for the Environment, representatives from the Ministry of Planning and from the Union's Advocate and the Civil House. Three themes have dominated the discussions in the working group: the institutional tensions regarding the legal-institutional competence to determine how best to utilise the Union's property; how to promote the necessary integration among all the federal laws in force (Union's property, land subdivision, City Statute, environmental laws, expropriation, etc.) in order to legalise the areas and the individual plots of land; and legal-political definitions as to how the legalised plots should be transferred on to the occupiers and other interested parties, especially in the majority of existing cases, in which the areas have not been occupied by low-income groups. There is a major controversy to be addressed regarding the legal and/or political convenience of dispensing with competitive public-tender processes in order to directly sell the plots to the occupiers. The Working Group's final report proposed that an agreement should be concluded between the federal government and the government of the Federal District, and that, at the same time, discussions should be promoted with the Federal District's Prosecutors for the Government. Such discussions commenced
in 2003, but no final agreement has been achieved due to both party politics and resistance on the part of the Prosecutors for the Government to accept the direct sale of the occupied plots without a public auction.

The challenge faced by the Ministry of Cities is to create and sustain an integrated process that leads towards changing the longstanding institutional practices regarding the Union's property, in general and particularly in the context of the Federal District, based on general criteria valid for all the national territory, transparent and subject to systematic accountability mechanisms.

**Conclusion**

The formulation by the Ministry of Cities of a national policy and the creation of the National Programme to Support Sustainable Urban Land Regularisation to express this policy was without doubt a great pioneering advance in political action by the federal government, which deserves respect and encouragement. An important social and intergovernmental mobilisation was stimulated through the national policy in 2003, aiming to legitimise the conceptual design of the regularisation programme and its strategies and to promote the construction of the sociopolitical and legal-institutional basis for its materialisation.

However, the reality is that the national policy still is mere a declaration of intentions and as a result the National Programme of Support for Sustainable Urban Land Regularisation is still an isolated and inefficient action, and above all without a significant impact on Brazilian reality.

The existing obstacles that need to be confronted by the Ministry of Cities and by the federal governments as a whole are many, enormous and of varied order, that is, conceptual, political, institutional and financial. These obstacles have to be overcome in order for the national policy to materialise, and in order for the objectives and measures of the regularisation programme to be attained.

Perhaps the main challenge is to overcome the various orders of existing fragmentation, by promoting a profound integration: within the regularisation programme itself; within the National Secretariat for Urban Programmes, within the Ministry of Cities; and among ministries. For this purpose, it is necessary that the question of land regularisation be recognised urgently as central to the agenda of action of the federal government, in order to realise the declared constitutional principles and governmental commitments. It needs to be given recognition not only in an institutional articulation, but also considered in the distribution of budgetary resources.

The search for this recognition involves broad internal discussion in the Ministry of Cities and the improvement of interministerial relations, together with overcoming the division existing in 2003 and 2004 between the economic and social policies. It also depends on further pressure from the municipalities and states towards better terms of intergovernmental relations, with a view to correcting the historic distortions and to modernise the federal system; on the articulation of the legislative power at all levels, with a view to maturing the institutions and mechanisms of representative democracy; and above all on the revival of social mobilisation, in the sense of deepening the participative based of the democratic order. In this context, the fundamental arenas for setting in motion and advancing the discussion about the national policy and national regularisation programme are the Committee for Federative Articulation set up by the Civil House of the Presidency of the Republic; the Commission for Urban Development of the Chamber of Deputies; and above all the National Council of the Cities, which was established in April 2004.
The promotion of sustainable land regularisation in consolidated urban areas is certainly one of the main challenges placed not only on the federal government, other governmental levels and entities of political representation, but above all on the Brazilian society, for the promotion of urban reform and social inclusion, so that Brazilian cities can become more just and sustainable.

References


Fernandes, E. 2000a “The legal regularisation of favelas in Brazil: problems and prospects”, in Third World Planning Review.


INFORMAL LAND MARKETS IN FAVELAS AND RESIDENTIAL MOBILITY OF THE POOR: A CONTRIBUTION TO A RESEARCH AGENDA

Pedro Abramo*

Introduction

It is consensual knowledge that the current structure of Latin American cities is characterized by segmentation and segregation of spatial distribution of services, infrastructure and socio-demographic characteristics of their residents. This situation is to a large extent, the result of access to urban land. While much of the socio-spatial structure of LAC cities is a legacy of an exclusionary colonial past, modern coordination and economic and social players have a key role. In modern (market-based) economies, we see two processes affecting urban development: the State as coordinator of individual and social groups and the market as the mediator in allocation of social wealth. In the market alternative, access to urban land is based on the existence of two individuals (or social groups) – buyer and seller — and some form of capital accumulation so that land is recognized as part of society wealth distribution. Under the market logic, access to urban land is a direct function of the monetary capital owned by a given individual or group. Land ownership can take several institutional forms, depending on the state legal framework as well as on the rights (civil, commercial, labor, urban, etc.) that define the framework of legal economic relations (Becattini, 1999).

According to Becattini, any economic relations that happen outside the accepted legal system constitute the informal economy. In this way, access to urban land within the legal system constitutes the urban formal market; access to urban land outside the established legal system, would be the informal market.

In Latin American countries, as well as in Africa and Asia, rapid urbanization after the Second World War, together with social inequality and national financial constraints has led to the emergence of a third social logic of urban land access – the “logic of need”. A logic of need is both the motivation (need) and the social instrumentalization (occupation of land) that explain the individual and collective coordination during the process of urban land occupation. In contrast to the two other logics (State and market), under the logic of need, access to urban land happens without capital accumulation. It is set off simply by the absolute need of the individual to install himself in the city (and the lack of alternative ways to do so).

The structure of Latin American cities shows the co-existence of the three logics. That is, state-regulated, market driven and informality co-exist, explaining the hierarchy among cities as well as the conflicts that they generate.

Informal land markets and residential mobility of the poor

The neglect of informal land markets: a brief review of the literature

Understanding the form of large Latin-American cities requires a conceptual framework and empirical verification of the forms in which the three logics operate. A brief review of the literature is quite illustrative.

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In the last 30 years, a large part of the urban literature has focused on the State logic. In the 1980s, Brazilian researchers produced a significant number of studies on the "State question and the urban", influenced by the French structuralism (1980s) and the British new Marxist historiography of the 1990s. These studies identified the urban policies (housing, sewerage infrastructure, transportation, etc.), the actors, conflicts and their macro-social impacts and interpreted them as manifestations of the conflicts inherent to the capitalist society at the urban level.

In the second half of the 1990, part of the urban literature shifted to explain the crisis of the Nation State and the restructuring of urban policy. Urban studies focused the attention in the processes of globalization and later on local communitarian or institutionalist approaches. In this case, the role of the State would be to promote new forms of cooperation across actors (e.g. private-private or private-public). The concept of social networks and institutional power games entered the professional literature in order to explain investment decisions and defined use of urban land.

Literature on the logic of need and access to land is typically Latin American and focuses on the land occupation processes. These studies can be classified under urban sociology or urban planning with sociological ambitions. There are also several monographic studies that deal with anthropological dimensions but their conclusions cannot be generalized. This trend led to a new wave of urban law literature that tries to introduce interdisciplinary elements but retains a strong normative/legalistic character. Attempts to go beyond this normative constraint have opened the analysis of urban structuring processes (Azuela, 2001; Fernandes, 2001).

Research on the market logic and access to urban land can be classified in two large urban economics traditions (Abramo, 2001; Farrer, 1995). The orthodox tradition emphasizes land use processes, price formation and locational preferences of families. This literature draws from the neoclassical framework of spatial equilibrium (Abramo, 2001) and includes elements of the new Economic Geography (Krugman, Fujita and Venables, 2000; Fujita and Thisse, 2002; Abramo, 2002-a). It uses econometric approach studies to understand the real estate and land price formation using hedonic price functions. This approach has been widely used in international research journals and is used often to appraise the financial and economic justification of projects. The approach helps to assess the value of given urban characteristics (e.g., location) although the persisting auto-correlation between the spatial variables may diminish the value of this approach (see Abramo, 2002b).

A second tradition is related to urban political economy and attempts to identify wealth generation processes and urban surplus accumulation on the basis of urban land use and appropriation processes. Land rent theory provides the theoretical foundations to identify the appropriation of urban surplus and the resulting intra-urban structure. After years of monographic studies about the taxonomy of agents and institutional procedures relative to the distribution of losses and profits (Topalov, Ball, Harloe, etc.), today this perspective tries to bring together land rent analysis with insights from the spatial impacts of productive restructuring and urban renewal projects (Abramo 2002a).

Although market logic and land use studies have benefited from a long research tradition and numerous publications, most research focuses on the formal land and real estate market. Informal land markets are rarely analyzed, except for localized monographic studies. Given the growing role of these markets in many of the emerging economies, research on the informal urban land market should be a priority.

Research on informal land market and residential mobility of the poor calls for two priority actions. First, there is very limited empirical knowledge about informal land markets. The literature and policy making is
full of "common sense" views, projecting a particular view of the poor's universe. These works include the official literature of the 1960s that informal settlements constitute "blighted areas", that there are slums of "hope" as opposed to slums of "despair", and more recent literature (much of the 1970s and 1980s) that declares that slums are not the "problem" but the "solution." Much of this literature contains no or very limited empirical information, and mainly represents changes in policy frameworks.

In this context, there is an urgent need to encourage empirical research and create databases and photographic records of informal land markets and residential mobility of the poor. On the other hand, there is a equally urgent need to improve our understanding the differences (and similarities between formal and informal land markets.

The work carried in the slums of Rio de Janeiro\(^1\) is illustrative about how to go about this work. First, we developed a conceptualization of the informal market. (Abramo, 2006) that dealt with such issues as:

- The principle strategic rationality in location decisions;
- The trade off between access and space in residential decision making;
- The maximizing principle of "Beckerian" family decisions functions;
- The relation between economics and rights in the production of social norms
- The role of social capital in the formation of prices and development;
- The role of non-explicity/tacit norms in the functioning of informal markets.

The results are summarized in the next sections.

**Inputs to a framework: Comparing informal land markets in slums and residential mobility of the poor**

The results described below are preliminary and are the result of a significant effort to reconcile quantitative methods in data production with oral history methods to recover family as well as community trajectories, as well as GIS and spatial analysis. We then extend the results to the analysis of informal land markets and residential mobility in slums in Sao Paulo, Porto Alegre, Recife and Belem.

**Characteristics of the informal land market**

We suggest that the informal land market can be divided in two sub-markets: (a). land lots sub-market and (b) consolidated areas sub-market Both can be described in terms of land supply and demand characteristics, economic agents' market power (supply and demand), market information (information asymmetries and transparencies), product characteristics (homogeneous or heterogeneous), externalities (exogenous or endogenous), agents rationalities (parametric, strategic, etc.), decision making environment (risk probability or uncertainty) – see Table 1.

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\(^1\)Results from this research contributed to expand the research agenda to eight other large Brazilian cities and, later on, to six more Latin American metropolis (Abramo, 2007).
Table 1: Comparative framework of informal land lots and consolidated settlements markets

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<tr>
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<th>Informal Land lots</th>
<th>Consolidated Settlements</th>
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<tbody>
<tr>
<td>Market Structure</td>
<td>Oligopolistic</td>
<td>&quot;Rationed&quot; market competition</td>
</tr>
<tr>
<td>Dominant agent and price determination</td>
<td>Land subdivider with urban &quot;mark up&quot; power</td>
<td>Buyer (&quot;incoming&quot;) and seller (&quot;outgoing&quot;) tension between supply and demand</td>
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<tr>
<td>Market power asymmetry</td>
<td>Strong</td>
<td>Variable</td>
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<tr>
<td>Product characteristics</td>
<td>relative homogeneity (land lot)</td>
<td>Heterogeneity</td>
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<tr>
<td>Externalities</td>
<td>exogenous (accessibility hierarchy plus physical and topographic characteristics)</td>
<td>endogenous plus exogenous</td>
</tr>
<tr>
<td>Rationality and anticipation</td>
<td>strategic, with incomplete information (infrastructure anticipation game)</td>
<td>Plurality of rationalities and anticipation objectives</td>
</tr>
</tbody>
</table>

Source: author.

The land lots informal market is defined by an oligopolistic market structure; the second — consolidated settlements — presents a rationed competitive structure. The two segments are easily identified in the city's structure given their distinct urban functionalities. The land lots informal market involves the subdivision of land in the periphery of cities and is the main source of expansion of the city. Prices are oligopolistic (few sellers of land plots) but products tend to be relatively homogeneous. Their main differentiating factors have to do with physical, topographic externalities.

We can propose a typology of Informal markets in Consolidated areas into residential and commercial informal markets. In each, we find two other types — a real estate sales market and a rental market.

Table 2: Structure of Informal and Markets Low-income Settlements

<table>
<thead>
<tr>
<th></th>
<th>Residential</th>
<th></th>
<th>Commercial</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sale</td>
<td>Rental</td>
<td>Sala</td>
<td>Rental</td>
</tr>
</tbody>
</table>

Source: author

From the field surveys in eight Brazilian metropolises and six Latin American countries, we can identify the main sub-informal markets in each of the metropolis under analysis.

Table 3: Principal Sub-markets in Low-Income Settlements

<table>
<thead>
<tr>
<th>Cidade</th>
<th>Sub-mercado</th>
<th>Cidade</th>
<th>Sub-mercado</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belém</td>
<td>Comercialização</td>
<td>Rio de Janeiro</td>
<td>Comercialização</td>
</tr>
<tr>
<td>Brasilia</td>
<td>Aluguel</td>
<td>Salvador</td>
<td>Comercialização</td>
</tr>
<tr>
<td>Porto Alegre</td>
<td>Comercialização</td>
<td>Santa Catarina</td>
<td>Aluguel</td>
</tr>
<tr>
<td>Recife</td>
<td>Aluguel</td>
<td>São Paulo</td>
<td>Aluguel</td>
</tr>
</tbody>
</table>

Source: Abramo, 2007
Table 4: Main Sub-Markets in Low Income Settlements in Six Latin American Metropolises, 2005

<table>
<thead>
<tr>
<th>País</th>
<th>Sub-mercado</th>
</tr>
</thead>
<tbody>
<tr>
<td>Argentina</td>
<td>Aluguel</td>
</tr>
<tr>
<td>Colômbia</td>
<td>Aluguel</td>
</tr>
<tr>
<td>México</td>
<td>Comercialização</td>
</tr>
<tr>
<td>Peru</td>
<td>Comercialização/Aluguel</td>
</tr>
<tr>
<td>Venezuela</td>
<td>Aluguel</td>
</tr>
<tr>
<td>Brasil*</td>
<td>Comercialização</td>
</tr>
</tbody>
</table>

Source: Abramo, 2007

It is clear that these markets vary across countries and even within one country; there is not a single pattern. These results are quite interesting and suggest that the individual characteristics impact the structure of the informal markets and the way the poor access the urban land through purchase of the informal land or through informal rental processes.

The consolidated areas sub-market displays different attributes. They appear during a phase of consolidation and densification of popular settlements (favelas) and most transactions are regulated by a well-functioning market. In the case of Rio de Janeiro, we have been able to classify 500 favelas and 200 more are in the process of being sorted out. We worked with five hypothesis of sub-markets and of their respective residential mobility flows.

(a) **Unified informal sub-market**: All popular settlements constitute a singular informal sub-market. There is extensive residential mobility of the poor intra and inter consolidated settlements;

(b) **Sub-markets by settlements**: Each settlement constitutes a sub-market without internal segmentation. There is residential mobility intra settlements;

(c) **Sub-market by groups of homogeneous settlements**: Each group (set) of settlements without internal segmentation constitute a sub-market. There is restricted residential mobility inter settlements;

(d) **Sub-market in each settlement**: Each settlements is divided internally in sub-markets. There is intra-intra residential mobility by settlements groups;

(e) **Sub-market by group of segmented settlements**: Each group (set) of settlements areas segments constitutes a sub-market. There is inter-intra residential mobility by settlements groups.

The identification of the above sub-markets helps identify the price formation process in the informal real estate market. In previous work (Abramo, 2001a; Abramo, 2001b) we suggested that a set of community externalities (e.g. crime and safety) intervene in the informal market shaping that market's price gradient and that uncertainty and the process of social learning affect the sub-markets taxonomy. Therefore, the proposed taxonomy helps identify the determinants of price formation in the informal market.

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2 This research was done in cooperation with the IPP of Rio's Prefeitura Municipal.
The Rio Study mentioned before produced interesting results. On the one hand, the volume of buying and selling transactions in *favelas* is comparable to the transactions in the formal local real estate market. Table 2 compares the turnover of the housing stock in the slums that were the object of public programs of urban upgrading (where we would expect an increase in turnover rates). On the other hand, the turnover of the informal real estate stock in *favelas* is on average a bit higher than that of the formal market. Comparing tables 2 and 3 we see that among the favelas the turnover rates were between 0.4 (in Jacare) and 13% in Grotao; while in the formal market the rates ranged between 1.8 and 5.6%. It would be very interesting to be able to study the evolution of the turnover rates in the informal markets using data comparable to what Table 3 produces for the formal markets in Rio.

The second group of results is that the *distribution of prices* in consolidated settlements follows a certain regularity revealing that prices in favelas are not random. Information on transactions confirm the existence of a market that “regulates” access to urban land in consolidated *favelas*. Abramo, 2007 (forthcoming) will present these results in a more systematic fashion.

**Table 5: Turn over rate of stock in *favelas* in Rio de Janeiro, 2005**

<table>
<thead>
<tr>
<th>COMUNIDADE/FAVELA</th>
<th>Turn over (% per annum)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Campinho</td>
<td>2.26</td>
</tr>
<tr>
<td>2) Acari</td>
<td>14.66</td>
</tr>
<tr>
<td>3) Vila Vintêm</td>
<td>2.06</td>
</tr>
<tr>
<td>4) Grotao</td>
<td>13.36</td>
</tr>
<tr>
<td>5) Tijuquinha</td>
<td>10.12</td>
</tr>
<tr>
<td>6) Pavão-Paváozinho</td>
<td>0.36</td>
</tr>
<tr>
<td>7) Jacare</td>
<td>0.40</td>
</tr>
<tr>
<td>8) Joaquim de Queiros</td>
<td>2.03</td>
</tr>
<tr>
<td>9) Vila Rica do Iraja</td>
<td>3.65</td>
</tr>
<tr>
<td>10) Cachoeira Grande</td>
<td>4.5</td>
</tr>
</tbody>
</table>

*Source: Abramo, 2006. Informercado*
Table 6: Turn over rate of stock in formal neighborhoods in Rio de Janeiro.

<table>
<thead>
<tr>
<th></th>
<th>Centro</th>
<th>Catete</th>
<th>Botafogo</th>
<th>Copacabana</th>
<th>Ipanema</th>
<th>Leblon</th>
<th>Tijuca</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transactions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>materialized/</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>housing units</td>
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<td></td>
<td></td>
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<td></td>
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<tr>
<td>stock (%)</td>
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<td></td>
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<tr>
<td>(% per annum)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1992</td>
<td>4.45</td>
<td>3.75</td>
<td>3.44</td>
<td>3.23</td>
<td>3.21</td>
<td>3.79</td>
<td>3.51</td>
</tr>
<tr>
<td>1993</td>
<td>3.39</td>
<td>3.59</td>
<td>3.57</td>
<td>3.26</td>
<td>3.47</td>
<td>4.01</td>
<td>2.96</td>
</tr>
<tr>
<td>1994</td>
<td>3.73</td>
<td>4.07</td>
<td>3.84</td>
<td>4.18</td>
<td>4.24</td>
<td>7.77</td>
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<td>1995</td>
<td>4.32</td>
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<td>5.27</td>
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<td>5.60</td>
<td>5.79</td>
<td>10.61</td>
<td>4.71</td>
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<td>1997</td>
<td>5.38</td>
<td>5.78</td>
<td>5.45</td>
<td>5.34</td>
<td>5.41</td>
<td>5.62</td>
<td>5.55</td>
</tr>
<tr>
<td>1998</td>
<td>4.19</td>
<td>5.45</td>
<td>4.85</td>
<td>4.96</td>
<td>4.78</td>
<td>5.68</td>
<td>4.93</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Vila Isabel</th>
<th>Bonsucesso</th>
<th>Portuguesa</th>
<th>Penha</th>
<th>Meier</th>
<th>Madureira</th>
<th>Campo Grande</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transactions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>materialized/</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>housing units</td>
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<td></td>
</tr>
<tr>
<td>stock (%)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>(% per annum)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1991</td>
<td>3.72</td>
<td>2.51</td>
<td>5.46</td>
<td>5.99</td>
<td>3.45</td>
<td>1.82</td>
<td>1.91</td>
</tr>
<tr>
<td>1993</td>
<td>3.38</td>
<td>3.10</td>
<td>4.76</td>
<td>2.45</td>
<td>2.78</td>
<td>2.47</td>
<td>2.84</td>
</tr>
<tr>
<td>1994</td>
<td>3.39</td>
<td>2.54</td>
<td>5.40</td>
<td>2.07</td>
<td>3.09</td>
<td>1.84</td>
<td>2.80</td>
</tr>
<tr>
<td>1995</td>
<td>4.42</td>
<td>2.44</td>
<td>5.25</td>
<td>1.77</td>
<td>3.50</td>
<td>1.86</td>
<td>1.89</td>
</tr>
<tr>
<td>1996</td>
<td>4.42</td>
<td>2.88</td>
<td>5.99</td>
<td>1.85</td>
<td>3.79</td>
<td>2.29</td>
<td>1.45</td>
</tr>
<tr>
<td>1997</td>
<td>5.01</td>
<td>5.29</td>
<td>4.10</td>
<td>3.30</td>
<td>4.84</td>
<td>3.82</td>
<td>1.92</td>
</tr>
<tr>
<td>1998</td>
<td>4.18</td>
<td>3.36</td>
<td>3.84</td>
<td>2.75</td>
<td>4.34</td>
<td>2.58</td>
<td>2.24</td>
</tr>
</tbody>
</table>

Source: Secretaria de Fazenda da cidade do Rio de Janeiro/OI/PSOLO-UFRJ

The annual rate of return in informal settlements varies among them, but in 80% of the cases, the annual rate of return is the same as in formal neighborhoods (1990s Programa Rio-Cidade).

As expected, the study confirms that there is a regular informal land market in Rio de Janeiro. This market is one way the poor come into the city. It makes it possible for low income families to access consolidated areas in large Latin American metropolis.

However, the determinants of the price in the informal real estate in favelas are quite different from the determinants in legalized neighborhoods in the vicinity of favelas. That is, the land prices in favelas cannot be determined by prices in neighborhoods using an adjustment factor to account for the attributes in the favela, e.g. social conflict or infrastructure deficits. The results from Rio de Janeiro show that prices in the informal land markets follow their internal logic. This is the objective of our research.
To identify the variables that impact the prices of informal land in favelas, we draw from the socio-economics, network economics and, especially, from neighborhood economics. We identify externalities that increase urban land values (and try to explain them based on socio-anthropological dynamics of communities in favelas). The empirical method makes it possible to advance in the conceptualization of urban economics and represents a significant step forward in relation both to traditional neoclassical theories of land economics as well as to the conventional land rent theory of urban political economy. Once again, it confirms that our research subject reveals processes of production of the structure of Latin American cities).

**Land Market and Labor Market**

The RJ study yielded interesting insights in terms of the land market (access to residential location) and labor market. Labor markets location maps (Abramo, 2002) displayed four patterns for the residence-work place movement in favelas. In contrast to common sense perceptions and results of other case studies on favelas, we did not find a well defined relation between favela, work place and main source of income. In only 25% of the studied favelas, do we find a irregular link between those factors (Abramo, 2002-a). There are other patterns — polar concentration, multi-polar concentration and dispersion — which were confirmed by the questionnaire on locational preferences where locational variables gain significance in family choice.

It would be interesting to have similar work done in other Brazilian or Latin American countries to test whether this typology is typical of Rio de Janeiro or could be explained by variables typical of informal settlements elsewhere.

**Characteristics of residential mobility in favelas**

Research results regarding residential mobility make it possible to build a typology of residential trajectories, a cartography of locational preferences of poor families, and an origin-destination matrix of residential changes. We identified residential shifts inter favelas, intra favelas and formal-informal movements for each of the favelas and their regularities. In the same way, using socio-demographic data, we were able to identify similarities in residential mobility behavior among the poorest families living in favelas.

By relating buyers and sellers, it was also possible to build a social mobility table in each favela where we may identify gentrification (income bracket of buyers greater than seller), impoverishment or social stabilization tendencies and carry out inter favelas and inter cities comparative analysis. The same procedure can be applied to other socio-demographic variables such as education level, gender (head of household male or female), age, etc. In prior articles, informal land market operations were associated with socio-spatial dynamics of favelas and validate a comparative research axis for informal land market (Abramo, 2002-a, 2002-b).

The research in Rio de Janeiro provided a significant volume of information on the community and associational life of interviewed subjects. Econometric tests were used to estimate the weight of community participation in inter and intra favelas location as well as on real estate prices. The tests revealed strong self-correlation problems, We shifted the methodology towards comparative analysis of descriptive statistics combining it

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3 In surveys inquiring on the reasons for attraction and repulsion of residential location in favelas, Abramo (2002-a) observes that the proximity of family and friends as well as prior residence in the same favela accounted for more than half of the answers. In a similar survey for the formal market, Abramo, 2002-b finds similar results.
with qualitative data about community life trajectories and the application of geo-statistics (Fernandes, 2004 and Abramo, 2002-a, Abramo, 2007). These methodological and analytical developments introduce substantive innovations in the study of favelas and their relation to economic variables. Our research on associational life attempts to engage with current debates about the significance of social capital in the formation of economic values. In this way, we seek to combine the issue of informal land markets with local governance (to highlight the importance of how social relations impact the working of land markets). We also strongly believe that neo-Schumpeterian path dependency models, used regularly in research on technological diffusion, can be effectively applied to the study of favelas representing an interesting conceptual innovation in the detection of differences and similarities in the territorial configuration of urban poverty and its maintenance through time. Currently, various economic geography specialists (Krugman, Fujita and Venables, 2000; Fujita and Thisse, 2003) apply this procedure successfully to metropolitan agglomeration phenomena. We could imagine that agglomeration dynamics in favelas involve elements of network economies and particular governance forms that enhance and/or hinder the agglomeration dynamics of spatial economic processes. To the extent that those community network economies and local governance a result of the consolidation process of livability conditions in each favela, they carry a history and trajectory that conditions present and future possibilities. Here is an interesting connection between the socioeconomic studies tradition and neo-Schumpeterian path dependency models, a connection that we try to explore through the subject of informal land markets and residential mobility of the poor.

As we attempted to show above, the definition of this subject opens up new comparative research horizons in the study of the internal structure of Brazilian cities, but also new perspectives for the conceptual understanding of intra urban structuring processes.

**Conclusion and proposal for further research**

The main objective of studying the informal land market is to describe the functioning of the real estate market and of the main characteristics of residential mobility of the poor in slums. A necessary research in this domain would include the following axis:

(a) Identify the determinants of real estate prices in slums and in formal markets

(b) Identify the links between real estate market and residential mobility and the location criteria of the purchasing families in both formal and informal markets.

(c) Establish an informal land market price gradient to enable comparing the real estate dynamics in favelas with that of the formal market and identify factors or attributes that articulate the two markets in relation to real estate valorization/devalorization processes.

(d) Build an origin-destination matrix of residential changes of favelas residents and their residential trajectory so as to make it possible to identify patterns of residential mobility of the poor within favelas, between favelas, from formal to informal settings from informal to formal.

(e) Identify job location of head of household of favelas residents and establish the pattern of pendular residence-job flows and its relationship with the real estate and land market prices and families locational preferences.
We believe that the typology suggested in this paper for informal land and real estate market dynamics in favelas and residential mobility will allow comparisons across large Latin American cities. This would be done through the application of a set of questionnaires that allow comparison within the favelas of a same city, or across cities. In this context we would try to ask two other questions: does the size and urban hierarchy affect the functioning of the informal land market? Are these differences the outcome of built-in community and/or urban trajectory elements of each city’s favelas?

The basic hypothesis is that low-income residents make rational choices in location and residence. What is the meaning of rationality in the context of complex social situations is another question to be discussed.

References

*In this sense, we have initiated a research project involving 8 Latin American countries.
*Results from research carried out in the favelas of Rio de Janeiro confirm this potential. See Abramo, 2007 (in press).


Fernandes, L. tese de mestrado IPPUR/UFRJ, Rio de Janeiro.


LAND FOR HOUSING IN AFRICAN CITIES: ARE INFORMAL DELIVERY SYSTEMS INSTITUTIONALLY ROBUST AND PRO-POOR?

Carole Rakodi*

Abstract

This paper reports some of the results of a comparative study of five medium sized cities in Anglophone Africa: Eldoret (Kenya), Enugu (Nigeria), Gaborone (Botswana), Kampala (Uganda) and Maseru (Lesotho). The project analyzed the characteristics of informal land markets and delivery systems to improve understanding of the institutions that underpin and regulate transactions in land, assess the strengths and weaknesses of alternative land delivery channels and explore the implications for policy and practice. The main conclusion was that it is no longer possible for poor urban households to obtain housing plots, either through the formal system or in informal areas, with limited exceptions. The vast majority of households seeking housing land in contemporary cities purchase it from customary rights holders (Enugu, Maseru), land buying companies (Eldoret) or mailo tenants and owners (Kampala). To some extent Gaborone is an exception: although there is a more significant supply of publicly provided serviced plots than in the other cities, many households are forced to acquire plots from customary owners or tribal Land Boards in peri-urban areas. Thus while in the past, poor households were often able to obtain land through non-commercialized delivery channels, today access even to housing land delivered through informal channels is restricted to the not-so-poor and middle income groups.

The main channels through which land is acquired vary between the cities, and include the purchase of land from owners with (more or less) formal rights, delivery of customary land through state-sanctioned channels, delivery of land through customary channels to members of the group, and purchase of customary land. These informal systems are, first, a response to the failure of the formal tenure and land administration systems. Second, they are often effective in delivering land for housing because of their user-friendly characteristics and social legitimacy. The main policy implication is that they should be tolerated and accommodated, but not without recognizing and addressing their shortcomings. This implies improving their security of tenure by ceasing evictions and accepting innovations in documentation emerging from informal land delivery systems, recognizing areas under settlement in order to work with subdividers and sellers to improve layouts, ensure early provision of basic services, plan incremental infrastructure improvements, and register occupants so that tax revenue can be generated. To achieve this, legislative reform, decentralization of the formal land administration system and revised provisions for payment of compensation when land is acquired for public purposes are likely to be needed.

Introduction

In the early years of rapid rural-urban migration and urban growth, many poor households were able to get access to land to manage the construction of their own houses for little or no payment, through claims to

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family land, 'squatting' or similar arrangements. Following research in the 1960s and 1970s, there was a feeling that the processes of 'squatting' and allocation of customary land by legitimate rights holders, as well as more complex variations on these in some cities, were fairly well understood. Upgrading policies and projects of the 1970s and 1980s were designed and implemented on this basis. However, even though, in recent years, informal land delivery processes have provided half or more of all residential land in African cities, research has concentrated on analysing the shortcomings of formal land administration rather than understanding how these processes have been evolving. As a result, the land policy and administration reforms on which many countries have embarked since the 1970s have not only concentrated on rural land but have also often been ill-informed and ineffective with respect to urban land. In addition, they have lacked legitimacy, giving rise to difficulties of compliance and enforcement, in part because they are not based on an understanding of the social rules governing how people act in partly commercialised informal land systems.

This paper will report on some of the findings from a recent research project that examined contemporary informal land delivery systems in five medium-sized cities in Anglophone Africa: Eldoret in Kenya, Kampala in Uganda, Maseru in Lesotho, Gaborone in Botswana, and Enugu in Nigeria. The aim of the project was to improve understanding of informal urban land development processes. It analysed the characteristics of contemporary informal land markets and delivery systems.

i. To develop an in-depth understanding of the institutions that underpin and regulate transactions and disputes in land, by comparing how they operate in a number of cities

ii. To assess the strengths and weaknesses of alternative land delivery channels, both formal and informal, especially with respect to the extent to which they enable the poor and other vulnerable groups (especially women) to access land with secure tenure, and

iii. To explore the implications of the findings for policy and practice.

The research built on recent studies, especially in Tanzania and Lesotho (Rakodi, 1997; Kombe, 1994, 2000; Leduka, 2000; UCLAS/IRPUD, 2000), and complements related research in Mozambique (Jenkins, 2001). It also complements recently completed studies of neo-customary land tenure in both Anglophone and Francophone countries.

In this paper, the initial hypotheses and theoretical starting points for the research are first outlined, followed by the analytical and methodological approach adopted. Each of the main channels of land delivery is then discussed in turn, and their strengths and weaknesses identified, with reference to a common set of criteria.

Starting points

The starting hypotheses of the research were that, first, the success of informal land delivery systems in supplying between a half and 70% of all land for urban residential development, including land for the poor

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1 The research project was coordinated by Prof. C. Rakodi and Dr. R.C. Leduka, National University of Lesotho. It was carried out in conjunction with lead researchers in the case study cities, each of whom worked with one or more colleagues. The research was only possible because of the commitment and contribution of the lead researchers (Dr. C.U. Ikejiofor in Enugu, Dr. E. Nkurunziza in Kampala, Dr. R. Musyoka in Eldoret, Dr. R.C. Leduka in Maseru and F. Kalabamu in Gaborone) and their colleagues. A series of working papers and policy briefings has been produced and distributed within the countries studied; see also www.idd.bham.ac.uk/research/researchprojs.htm. The UK Department for International Development (DFID) supports policies, programmes and projects to promote international development. DFID provided funds for this study as part of that objective but the views and opinions expressed are those of the author alone.
can be attributed to their practical attributes and their social legitimacy (Rakodi and Leduka, 2003). Around a half of the households in the cities studied are below the poverty line, although as disaggregated data are not available, it is impossible to be precise about the incidence of poverty or income levels. The practical attributes of informal land delivery, it was suggested, make the arrangements more suited to the needs of urban land rights holders and those seeking land for housing, including the poor. In addition, wide understanding and acceptance of the social rules (or institutions) that enable transactions to occur and govern relations between actors in the system serve to secure wider compliance than is common for formal land regulation.

Second, it was hypothesised that, as urban development proceeds, the informal institutions that regulate land transactions and use change over time, vary between residential areas and sometimes break down. The pressures generated by urban property markets and increased demand result in changes in traditional social institutions in order to make them more suited to the circumstances of urban areas. In newly urbanising areas, as shown by research in Dar es Salaam, the modified versions of traditional social institutions underlie quite smooth processes of conversion of agricultural land for urban uses. However, that research also showed that, as areas consolidate and the density of development increases, the rules and social relationships governing transactions and regulating disputes become increasingly strained, and may eventually break down altogether.

The conceptual framework employed was based on three building blocks. First, it uses ideas of structure and agency (Giddens, 1984). Many studies analyse urban development in terms of compliance with formal rules, and assume essentially passive relations between land market actors and the state. Structure and agency theory allows for actors to interpret, use and challenge formal rules, which creates opportunities for changes both to rules themselves and to the relationships between the state structures that govern land delivery and non-state actors (Healey and Barrett, 1990; Tripp, 1997).

Institutional analysis stresses the importance of institutions or rules because of their roles in minimising the cost of transactions or proscribing certain actions and behaviour (North, 1990). Social institutions govern the social, economic and political relations between individual actors. They may be divided into formal institutions, which devised rules of the game (in particular state law), and informal institutions, which are embedded in social norms and practices, including customary rules (Pamuk, 2000; van Horen, 1999). They are revealed through transactions and disputes (Razzaz, 1998). Often, analysis of the different sorts of rules is underlain by a legal pluralist approach and a refusal to give one system of law greater standing than another (Benda-Beekman, 2001; Benton, 1994).

Finally, ideas of societal non-compliance arise from attributing individual social actors with agency. Sometimes termed the 'weapons of the weak', non-compliance may be exercised by those without overt power in order to subtly challenge the actions of those with formal political or organisational power (Scott, 1985; Razzaz, 1994). If non-compliance becomes sufficiently widespread, it may even produce changes to government policy and practice; as Tripp (1997) argues, it did in Tanzania with respect to government attitudes towards informal sector activity. However, a distinction needs to be made between cases where non-compliance leads to conflict and where it leads to accommodation or co-production, identifying the reasons for these different reactions and their outcomes, because this is potentially important in identifying workable improvements to urban land delivery systems.
Components of the analysis and methodological approach

In order to hold some factors relatively constant (particularly the principles on which the formal legal system is based), it was decided to select cities from Anglophone Africa. These included cities from eastern, southern, and western Africa, but excluded cities where recent or current research on related issues was already underway. The cities were located in countries with different colonial policies with respect to land and urban development, arising from whether a system of direct or indirect rule was adopted. They also represented countries with very different post-colonial economic and land policies. These varied from free-market-oriented Kenya to heavily state-led Botswana, and included countries that had been subject to military or single party rule in the period since independence (Nigeria, Kenya, Lesotho) as well as a country that has been a multi-party democracy throughout (Botswana). Some had attempted to nationalise land and introduce other reforms in the 1970s (although many of these reforms had subsequently been reversed) and some had not. The governance arrangements at both national and local level, including the role of traditional authorities, therefore, varied between the countries and the responsibilities for urban land delivery, regulation and tenure registration were differently allocated between government levels and agencies. The research focused on six medium-sized cities, some capitals of relatively small countries, and other secondary cities.

Eldoret

With a population of about 197,000 in 1999, Eldoret is the fifth largest town in Kenya and a major regional centre. It is administered by an elected Municipal Council. Located on poor quality land in an otherwise high potential agricultural region in the so-called 'white highlands', it developed as an agricultural and agro-processing centre for the surrounding European commercial farming region. Selected as a growth centre and politically favored in the 1980s, it attracted public investment in infrastructure and industries. Although the publicly owned land on which the town initially development has mostly been built on, the urban boundary has been extended to incorporate privately owned farmland. Today, there is limited public land for subdivision and a cumbersome formal land delivery system. The availability of formerly European-owned farms in and around the urban boundaries and post-independence encouragement to Kenyans to purchase private landholdings have led to the purchase of farms by land-buying companies formed for the purpose. Transfer of freehold title is followed by subdivision and sale: formal in the case of high-income developments, or informal for middle and low-income purchasers. Large numbers of plots have been provided in this way.

Enugu

Originally a coal mining town, Enugu later became more important as a railway and administrative centre. Its population in 1991 was just under half a million and today may be between 800,000 and 1,000,000. Capital since 1991 of Enugu State, today the city is split between three Local Government Councils, each with a directly elected Chairman and councilors elected on a ward basis. However, many important land-related and utility services are provided by State agencies. Indigenous landholding groups ceded some land for mining, railway and housing development.

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2 It was decided to avoid the largest cities, partly because they have already been relatively well studied and partly because their very active property markets are not necessarily typical of urban centres more generally.
in the early years of Enugu's development. However, the colonial system of indirect rule left most land in the hands of the indigenous groups. Today, there is little undeveloped land in public ownership and public agencies use expropriation powers under the 1978 Land Use Decree to obtain land for public purposes, including industrial estates and major infrastructure. The indigenous groups and families have formally subdivided and leased large tracts of their land. Nevertheless, they retain ownership of much land within the built-up area and on the outskirts of the city. Family heads and traditional rulers of the various landowning communities have to secure agreement of the family or group to the disposal of farmland, while homestead land is retained for use by the family and its descendants. Farmland is subdivided and sold to individuals or speculators. A large volume of informally subdivided land for residential development is thus provided for group members as well as middle and upper income group purchasers.

**Gaborone**

Gaborone is the capital of Botswana and had a population of about 186,000 in 2001. It has mainly developed on state land, enabling rapid and large-scale subdivision of publicly owned land for housing for all income groups, assisted by buoyant government revenues. Surrounded by privately owned commercial farms, when additional land has been required, the government has been able to purchase a large farm and has also occasionally acquired areas of tribal land. With the exception of Old Naledi, an early labor camp, which has since been regularized and upgraded, informal settlements within the urban administrative boundary have not been tolerated. The obstacles faced by households wishing to obtain a residential plot are considerable. They include a ban on new construction between 1982 and 1987 because of water shortages, long waiting lists and infrastructure costs. As a result, in recent years there has been rapid subdivision and development in areas of tribal land outside the administrative boundary to the west and east of the city (Mogoditshane and Tlokweng respectively). In theory, this development is under the control of tribal Land Boards established by the government for this purpose, although the system does not work smoothly. The elected Gaborone City Council and the two district councils within whose boundaries the main areas of informal settlement lie (Kweneng and Southeast) have limited resources. As a result, central government retains the main policy and administrative roles related to land.

**Kampala**

Kampala is the capital of Uganda, with a 2002 population of 1.2 million. Capital of the Buganda kingdom since the 1700s, colonial rule transformed it into a divided city, part governed by the Kabaka (king) and part by a local council established by the colonial government to administer the European section of the city. Much land was ceded to the Crown, while the Baganda chiefs were transformed into a ruling landed oligarchy, exercising extensive control over *mailo* land, at the expense of both the Kabaka and the peasantry. While colonial indirect rule initially depended on the chiefs for local administration, by 1920 they had become less necessary and their power declined, although they retained their status as big landlords. The Kabaka's attempts to retain control over the kingdom's land and administrative power, the chiefs' determination to protect
their own interests, and the peasantry's struggles to restore the land rights eroded by colonial advancement of the chiefly class have been important in both the pre- and post-independence periods. The destructive rule of Idi Amin from 1971 to 1979 led to a rapid expansion of the informal economy, urban-rural migration and near-collapse of the civil service. The current regime has struggled to restore economic growth and state institutions. A unified administration for the city of Kampala was established in 1966/7, and lower layers of local government put in place by the current regime in 1986. However, parallel systems of land tenure and administration persist and little progress has been made with implementing the 1998 Land Act provisions intended to regulate the ownership and use of land and simplify ownership and occupancy systems.

Maseru

With a 1996 population of 140,000, Maseru is the capital of Lesotho. The innermost part of the city, within the original 1905 administrative boundary, developed on colonial government reserve land. This was inherited as public land at independence. The city is surrounded by villages and extensive informal settlements have developed on former agricultural land held under customary tenure arrangements. Families retain ownership and use of their homestead land, while masimo (fields) are subdivided for sale. Approximately 70% of all land demand is met outside the formal state delivery system, by chiefs and landowners working together. The government's reaction has generally been benign neglect, punctuated with instances of intolerance marked by evictions and demolitions. These have usually occurred when the government has had financial resources for land servicing and development, mainly from donor funds. In order to curb the process of informal land development and loss of agricultural land, especially in the peri-urban areas, new legislation was put in place in 1980, the Land Act 1979. This Act effectively nationalized all land, with rights to be leased from the state. It also extended the urban boundary to incorporate large areas of informal settlement, with the intention of establishing controls over further subdivision. Dogged by ambiguities and implementation problems, few of its aims have been achieved.

In each city, in addition to reviewing secondary material and interviewing key informants in relevant central and local government departments, primary data collection was carried out in three informal settlements: a newly developing peripheral area, a partly consolidated area in which active subdivision and development was still underway, and a consolidated inner city area with relatively high densities, where pressures on land might be expected to produce a higher level of problems and disputes. A combination of quantitative and qualitative methods was used, drawing on both secondary sources and primary data collection. In each of the case study settlements, a sample survey of plot holders was carried out using a structured questionnaire. The survey was complemented by key informant interviews and a series of focus group discussions. Finally, each team enlisted the services of a lawyer to provide background on law and to analyse court cases relevant to understanding urban land issues in general and the resolution of disputes in particular, including cases initially dealt with through informal or customary mechanisms that had eventually reached the formal courts.
Channels of land delivery for residential use in African cities

The strengths and weaknesses of the alternative channels through which land is made available for housing development in the cities studied are assessed using a number of criteria suggested by the research questions and hypotheses, and by the responses of participants in the research with respect to the attributes that they value in urban residential land, namely

i. **Scale**: has the channel delivered land in sufficient volume (and in appropriate locations) to meet the demand for residential development from a rapidly growing urban population, is it continuing to do so today, and what are the prospects of it continuing to do so in future?

ii. **Cost**: has the channel delivered housing plots at a cost that can be afforded by people seeking land for housing, especially those with middle or low incomes? Is it continuing to do so?

iii. **Security of tenure**: has the channel delivered housing plots with sufficient security for owners to invest in housing? What are the threats to security and can owners deal with these threats and retain their rights?

iv. **Access to disadvantaged groups**: has the channel in the past and today delivered residential plots to disadvantaged groups, especially poor households and women (both women heads of household and other women in their own names)?

v. **Service provision**: has the delivery of land through each channel been accompanied by the provision of infrastructure and services, either in advance, on subdivision or subsequently?

vi. **Dispute resolution**: are there widely available and socially legitimate means of dispute resolution available to those accessing land through each channel?

- The proportion of households who are able to become house/land owners varies between cities and over time, depending on land supply, but generally indicating a downward trend. The main conclusion emerging from the research is that it is no longer possible for poor urban households to access land for new residential building, either through the formal system or in informal areas, with some relatively minor exceptions: Members of indigenous land owning families and communities in Enugu;
- Individuals in Kampala who claim wetland areas, initially for cultivation and then for building, at considerable risk to themselves and their investments;
- People who pool their resources to buy a share or part-share in a land-buying company in Eldoret;
- Poor households who are allocated land for free by the Land Board on the periphery of Gaborone, although the process operates very slowly because the Board lacks the resources to speed it up;
- Those allocated a plot in a public-private partnership serviced-plot programme in Gaborone, although they are only able to access such a plot after a long wait.

Because of the failings of the formal land delivery system and the commercialization of land, the vast majority of households in contemporary cities who manage to obtain land for residential use do so through purchase. In recent years, the primary channels through which residential plots have been made available, especially to middle and lower income households, have been:
• Sales of customary land (Maseru, Enugu, Botswana);
• Informal subdivision by land buying companies (Eldoret);
• Informal subdivision by mailo owners and tenants in Kampala

Access to land, therefore, is restricted very largely to households with the necessary financial means to purchase it. These are primarily upper-low, middle and upper-income households, with the latter dominating in formal housing areas and the former in informal areas. Informants consider that, while in the past it was possible for some poor households to obtain access to plots for free, today, very poor households cannot become plot owners. However, low-income households with some income (not the poorest) negotiate flexible methods of payment for land delivered through informal channels, including installments. Nevertheless, for many newly-formed households, although not necessarily the very poor, the only way of accessing land is through.

• plot sharing, either from the outset (e.g. by buying half a share and thus half a plot in an informal subdivision in Eldoret) or through the subdivision of a plot by a parent for a child (Eldoret, Kampala, Maseru).
• inheritance, at least until the plots are too small for further subdivision and sharing amongst children, at which point the prospect of being able to inherit a plot will decrease.

The grounds for these main conclusions will now be elaborated by examining the alternative channels for land delivery in turn (see Table 1).

Purchase of land through the market

In two of the cities studied, purchase of land through the market was the most important means of accessing land for housing for all income groups. In Eldoret, informal (as well as some formal and semi-formal) subdivision by land-buying companies has, since independence, provided plots for both initial shareholders in the companies and subsequent purchasers of plots. In Kampala, colonial and post-colonial changes in the land tenure system left both owners and tenants of mailo land with rights to substantial tracts of land that have subsequently been subdivided and sold.

In these cities, private sales of land to individual purchasers provide significant numbers of housing plots, but in others it is unimportant. Such sales afford some access to land by the poor, for example, through purchasers combining to purchase a single share in a land-buying company in Eldoret and subsequently subdividing the plot, or through arrangements to pay in installments. However, in no cases did this channel enable the poorest households to access land and most of the purchasers are those in the middle of the wealth range.

Although the initial owners of the land may have formal rights of ownership, they rarely have individual title. For example, in Eldoret, the title is generally held jointly by all the shareholders of a land-buying company. However, the processes of obtaining official permission for subdivision and house construction are slow and the standards required are often considered unsuitable by the actors involved, so the subdivisions do not

3To complete the picture of land delivery in the case study cities, the allocation of public land through formal procedures was also examined, mainly using secondary data. The findings on this channel of land delivery, which is of varying significance, are not presented in this paper, but see Ikejiofor, 2004; Kalabamu and Mofolon, 2004; Leduka, 2004; Musivoka, 2004; and Nkurunziza, 2004.
comply with formal subdivision and development regulations. In these circumstances, title cannot be transferred or registered following the transaction and typically a letter of agreement is used instead. Such letters are generally witnessed (by local leaders, neighbours etc.) and the validity of the letters is generally respected by other actors in the land delivery process, including the formal system for land registration if title is applied for and the courts if a dispute is taken to court. However, it is possible for an owner to sell a plot more than once, using a different set of witnesses to a subsequent sale. Women can purchase land through this channel, if they have means. However, married women are constrained from purchasing land in their own names by its social unacceptability.

Disputes over transactions are rare, but when they do occur, they are often resolved by local leaders – the elected chairmen of the lowest level of local government (effectively neighbourhood councils) in Kampala and the village elders (leaders usually identified by approbation rather than a formal election) at the neighbourhood level in Eldoret. However, both Local Council chairmen and village elders may be partial, favouring one party over another for reasons having to do with politics, ethnicity or other factors, or they may be corrupt and susceptible to bribery.

Land-buying companies formed by shareholders of mixed-income groups appear to be a uniquely Kenyan phenomenon, which emerged in the period around independence, when President Kenyatta stressed that Kenyans could not expect to get land for free, and the purchase of land from departing settler farmers was encouraged. The ease with which a company can be established in Kenya facilitates the mechanism, and high levels of trust between shareholders are based on common ethnicity – most companies are formed by members of a single ethnic group. However, although this does enable some low-income people to access land, by definition it excludes members of other ethnic groups from becoming initial shareholders in purchased land (although not from subsequently buying land from the original shareholders).

**Delivery of customary land through state-sanctioned channels**

The extent to which customary systems of tenure and land administration have been formally recognised in law and policy varied between countries in colonial times and has differed since. In the case-study cities, land delivery through state-sanctioned customary channels is a reasonably accurate description of the situation in Botswana. Some of the land on the outskirts of the city of Gaborone was subdivided into privately-owned commercial farms. However, in other directions, land under the administration of the customary authorities abuts the urban boundary. Under current government policy, this land has been vested in Land Boards (one for each tribal area) on behalf of all citizens of Botswana. The Boards allocate land to individuals for an indefinite period, with a customary land certificate.

In Gaborone, although there has been a significant supply of publicly subdivided and serviced land available for both high and low-income households within the city boundary, the eligibility criteria and allocation process have meant that very long waiting lists have formed and large numbers of plots have been allocated but remain undeveloped. In addition, the adoption of higher standards in recent years has made the serviced

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4 The situation in Ghana, especially in Kumasi, is somewhat similar.

5 In Kampala, the Buganda Land Board, which was established by the Buganda Kingdom, also has a statutory right to allocate land to individuals on behalf of the Kingdom. However, today it regularizes land occupied by mailo tenants or those to whom they sell, rather than allocating new plots.
plots unaffordable to low-income households, even though no charge is made for the land itself. As a result, much new housing land is being made available, acquired and developed in a few areas just outside the city boundary and under the administration of Land Boards. The study concentrated on land delivery in Mogoditshane to the west. In such areas, a significant volume of land for housing has been made available in recent years. However, acquisition of land by the Boards for allocation is hindered by disputes over the level of compensation payable to customary rights holders. In addition, plots should be surveyed and serviced prior to allocation, but the Boards lack the financial and technical resources needed to achieve this. Therefore demand exceeds supply, encouraging customary rights holders wishing to sell and prospective acquirers to seek ways around the system, and tempting Board members to favour those with something to offer.

If the Board officially allocates a plot with a certificate, then the acquirer has security of tenure, including the right to pass on the land to heirs and to mortgage it. Although in principle the Board is entitled to demand the return of land, the legislation does not spell out the timing or conditions of any such return, and in practice it has not and is not likely to occur. Women heads of household can obtain land through this system, with a certificate in their own names, and in theory married women could do so also. However, in practice social norms adhered to by both purchasers and Board officials mean that married women would not do so in practice without the explicit permission of their husbands.

As in all the other channels of land delivery studied, disputes are normally resolved at local level between neighbours or families. When, relatively rarely, they cannot be easily settled, they are resolved by the Land Board and, if necessary, taken to the Land Tribunal.

**Delivery of land through customary channels to members of the group**

Only in some of the case-study cities was there land in customary ownership on the outskirts of the urban area in the past. Today, even in these cities, supplies of free land through this channel are increasingly limited. This process of delivery primarily occurs in Enugu, where land is effectively ‘owned’ by families, and members of the family are often still able to obtain land for new housing in family homestead areas. It also occurs in Maseru, although the supplies of new land available through this channel are increasingly limited. Nevertheless, inheritance is a significant means by which new households obtain family land.

Land supplied through customary channels to members of the group is often supplied free (or in exchange for a token of appreciation), and so it is one of the only ways in which poor households can obtain access to land in contemporary cities. Men allocated plots through this channel have security of tenure, although they are vulnerable to government action, since the Government of Nigeria has powers under the Land Use Decree to expropriate land required for public purposes. It has not hesitated to use these powers on quite a large scale (for example for industrial areas and the airport in Enugu). However, access to land through this channel is restricted almost entirely to men, and women can only gain access to such land through their relationships with men (normally their husbands). It is a straightforward way of obtaining land, since the eligibility criteria are well known and the processes simple. In both Enugu and Maseru, the social institutions governing land transactions and dispute resolution are widely understood and generally respected within the group. However, the amount of land available through this channel is shrinking. In inner-city Enugu, for example, the land belonging to some communities has long been built up and they no longer have undeveloped land to allocate to new households within the group. In addition, there are occasional threats to the security
of tenure enjoyed by those allocated land through this system and there are also examples of the customary
dispute resolution procedures being challenged.

**Purchase of customary land**

In both Maseru and Enugu, the sale of land held by customary rights holders is the predominant means of
delivering land for new residential development. In Enugu, this channel can be subdivided into planned
layouts, when the landowning community decides to formally subdivide and sell part of its farmland, and
informal subdivisions. For decades, both these processes have been central to the development of the city and
both continue today. In Kampala, the subdivision and sale of customary land is also important, but in terms
of volume contributes less than subdivision of *mailo* land. In Gaborone, it is also significant in the peripheral
parts of the built-up area. However, strictly it is prohibited and so sellers and buyers alike disguise it as
‘inheritance’.

Thus the sale of customary land contributes a significant volume of plots for housing development in many
cities, and those acquiring plots through this channel have confidence that they have de-facto security of
tenure. However, sellers do occasionally sell the same plot to more than one buyer if the first buyer has not
developed it, and government intervention restricts supply in Gaborone. The sale of customary land provides
access to non-members of the group, in other words those who would normally not be entitled to free
allocation. It may also make it possible for members of indigenous groups that have no remaining undeveloped
land to obtain housing plots. The prices are lower than for plots with title purchased through the formal private
market, but they are nevertheless market prices, which precludes poor people accessing land through this channel,
although it does facilitate access to land for women, especially where customary rules exclude them.

The efficiency of markets in this type of land has improved as institutions have emerged to improve information
flows. For example, brokers have started to operate in Kampala and Enugu. In the past transactions in customary
land were verbal. However increasingly, written evidence of a transaction between buyer and seller is secured,
initially with lay witnesses such as senior family members and neighbours and later often involving lawyers to
draft and witness the agreement of sale. Although letters of agreement are exchanged, tenure may be relatively
insecure if sales have to be concealed or if evictions are in progress anywhere in the urban area. For example,
periodic evictions of purchasers in one neighbourhood in Maseru (on the grounds that the subdivision and
sale is illegal) make purchasers in other areas jittery. In Enugu, although in many cases consultations within
the family or community precede the sale of land, where these have not occurred (and sometimes even if they
have), challenges from family members may arise at a later date. In addition, systems of keeping records are
undeveloped, which tends to cause more problems as time passes. The social institutions underpinning this
system are widely understood and generally respected, including by the formal legal system, which often
accepts letters of sale and written agreements as valid evidence of a transaction. However, the documents
produced are not always valid or trusted, leading some purchasers to attempt to upgrade their sale agreements
to state titles, especially in Enugu.

**Self allocation**

There is little opportunity in contemporary cities for people to obtain land through non-commercial channels
by their own actions. It occurs through different mechanisms in three of the case study cities, but only on a
small scale.
In Kampala, some households have settled on wetlands in the valley bottoms. This strategy provides one of the few ways in which poor households can obtain access to land for free, but it has problems from the point of view of both settlers and the government. Settlers face extreme insecurity, since building in these areas is prohibited and their houses may be demolished (especially if they have not sought the permission of the Local Council officials). In addition, in the early years, until further infill and drainage has occurred, their living conditions are very unhealthy and their houses liable to flooding. The land is officially in government ownership, so not only is settlement forbidden for environmental reasons, but also, if the initial area claimed is later subdivided and sold, these sales are illegal. Moreover, even if the settlement becomes extensive and semi-permanent, the topographical conditions make the sites difficult to service.

In Maseru, women may allocate themselves plots of family farmland without the permission of their families. As noted above, under customary rules of access, women are not normally allocated land in their own names and divorced or never-married women may not be able to obtain family land. However, the number of women taking matters into their own hands is small.

In Gaborone also, family members may occupy an area of family land to which they consider themselves entitled, without obtaining the express permission of those with decision-making power. This process is also labeled 'squatting' by the government and made out to be widespread, although in practice it appears to occur only on a very small scale. By using the pejorative term, the government is probably expressing its disapproval of the more widespread subdivision and sale of land by customary rights holders, which is informal in the sense that it is done without getting the permission of the Land Board.

Main conclusions and policy implications

Systematic city-wide data on African cities and their land and housing markets are generally not available. Although it would be desirable to collect the data needed to build up a more comprehensive picture of the dimensions of alternative channels of land supply and the wealth levels of households able to access land through them, this research project did not have the resources to do so and instead concentrated on developing an in-depth understanding of the way in which these channels work. It has not been possible in this paper to present much of the empirical evidence that underlies the above analysis or to describe the details of channels of land delivery and the social institutions through which they are organised. The conclusions drawn here, therefore, will also be very general and will, to an extent, skate over the contrasts among the case-study cities.

Informal land delivery systems are, first, a response to the failure of the formal tenure and land administration systems, including the low levels of compensation paid by government when it expropriates land and which lead to resistance to such acquisitions on the part of land owners and customary rights holders. Second, it is clear from our detailed empirical evidence that they are often effective in delivering land for housing, because of their user-friendly characteristics and social legitimacy. This legitimacy derives from the widely understood and accepted social institutions that regulate transactions in these informal systems. These institutions tend to be derived from customary institutions, but the latter have evolved over time, and often are very different from those that operated in pre-colonial times in rural areas. In particular, in the urban context, they have borrowed from and often mimic formal rules and procedures, or take advantage of formal rules, especially where the latter are ambiguous or inconsistent. However, urban development and growth do increase the
pressure on such social institutions and in some cases, they weaken and break down. In such situations, actors in land transactions seek to use formal institutions to protect their rights and investments.

Informal systems of land delivery are, indeed, the main channel of housing land supply. However, it is no longer possible for poor households to access land for new residential building, with a few, often minor, exceptions. These include members of indigenous landowning communities in Enugu, some of whom can still claim their entitlement to a plot family land; settlers in wetland areas in Kampala; people who pool their resources to buy part-shares in land-buying companies in Eldoret; and those in Gaborone who can successfully negotiate the systems for official allocation of customary or public land (through a tribal Land Board or government administered serviced plot programme respectively). For many newly formed households in urban areas, especially the poor, the only way in which they can access a plot or house today is through their parents. This may be through a process of plot sharing, in which parents allow a child to build a house on part of their own plot, or through inheritance of the parents’ own plot or house. Scope for the latter will decrease in future, as plots become too small for further subdivision, a situation which has already been reached in some densely settled areas, for example in Kampala and Enugu.

Informal land delivery systems have both strengths and weaknesses (see Table 2). Their strengths include their ability to provide land in significant volumes to meet the housing needs of various socio-economic groups, which sometimes include the relatively poor and women. Their weaknesses include the inappropriate locations in which settlements are sometimes located, the poor layouts that sometimes emerge, and the almost universal infrastructure and service deficiencies. Arguably, however, these weaknesses emerge as much from their relationships with the formal tenure and land administration systems and with government agencies as from their own shortcomings.

The findings of the study have been fed back to the local communities studied, to validate the findings and obtain residents’ and local key informants’ comments on some of the policy issues. The conclusions and policy implications have also been discussed at policy workshops in each of the case-study countries. They do, no doubt, need to be further refined and also adapted to local circumstances. Not all those attending these events would agree with all the policy implications identified below. There is considerable resistance by government officials in all the countries studied to acknowledging that the failures of state systems of land administration. This may imply a need for radical rethinking, even though, where formal land administrative systems have adopted more flexible ways of interacting with informal actors and processes, more promising approaches to the intractable problem of ensuring land delivery for urban residential growth show signs of evolving. Nevertheless, all the recommendations have support from some actors in the case study cities and countries and it is hoped that the findings can contribute to current land policy and legislative revisions that are under way in most of the case study countries.

**Policy implications**

The most obvious policy implication is that informal land delivery systems should be tolerated and accommodated, but not without recognising their shortcomings and the problems that such toleration and accommodation might pose. While their strengths are recognised and built upon, their weaknesses should also be identified and policy should concentrate on addressing these weaknesses without compromising the positive contribution they make to meeting demand for housing land.
### Table 2: Strengths and weaknesses of informal land delivery channels

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<tr>
<td>Disputes often resolved by Local Councils (Kampala) or elders (Eldoret)</td>
<td>LCS/elders may be partial or corrupt</td>
</tr>
<tr>
<td>Trust between shareholders in landbuying companies based on shared ethnic origin</td>
<td>Excludes other ethnic groups from membership of landbuying companies</td>
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<thead>
<tr>
<th>Delivery of land through state-sanctioned channels</th>
<th>Weaknesses</th>
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<tbody>
<tr>
<td><strong>Strengths</strong></td>
<td><strong>Weaknesses</strong></td>
</tr>
<tr>
<td>Significant land supply (Gaborone)</td>
<td>Acquisition of land hindered by disputes over compensation</td>
</tr>
<tr>
<td>Security of tenure</td>
<td>Requirements for survey and servicing prior to allocation restricts supply</td>
</tr>
<tr>
<td>Women household heads entitled to land, and in theory married women also</td>
<td>Excess demand strains capacity and encourages rent-seeking</td>
</tr>
<tr>
<td>Dispute resolution mechanism available (Board, Customary Court, Tribunal)</td>
<td>Boards can demand return of the land</td>
</tr>
<tr>
<td>In practice, married women are not allocated land without their husband’s permission</td>
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<tr>
<th>Delivery of land through customary channels to members of the group</th>
<th>Weaknesses</th>
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<tbody>
<tr>
<td><strong>Strengths</strong></td>
<td><strong>Weaknesses</strong></td>
</tr>
<tr>
<td>Often free</td>
<td>Access to unmarried men restricted (Maseru)</td>
</tr>
<tr>
<td>Access to poor members of the group</td>
<td>Access to all/majority of women only through men</td>
</tr>
<tr>
<td>Security of tenure for men</td>
<td>Limited supply for groups in built-up area (Enugu)</td>
</tr>
<tr>
<td>Fast</td>
<td>Vulnerable to government intervention to acquire land for public purposes (Enugu)</td>
</tr>
<tr>
<td>Institutions widely understood and generally respected within the group</td>
<td>Restrictions on the sale of customary land inhibit choice</td>
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<tr>
<th>Purchase of customary land</th>
<th>Weaknesses</th>
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<tr>
<td><strong>Strengths</strong></td>
<td><strong>Weaknesses</strong></td>
</tr>
<tr>
<td>Significant supply</td>
<td>Possibilities for multiple sales of land</td>
</tr>
<tr>
<td>Provides access to land to non-members of the group as well as members</td>
<td>Market price restricts access by the poor</td>
</tr>
<tr>
<td>Relatively cheap</td>
<td>Insecure, especially if sales have to be concealed</td>
</tr>
<tr>
<td>Facilitates access to land for women with means</td>
<td>Government intervention may restrict supply</td>
</tr>
<tr>
<td>Efficiency of the land market increases as institutions emerge to provide information flow (brokers in Kampala, Enugu)Written evidence of transactions</td>
<td>Systems of keeping records undeveloped</td>
</tr>
<tr>
<td>Formal legal system accepts these types of written evidence</td>
<td>Documents not always valid/trusted – owners try to upgrade to state-sanctioned tenure</td>
</tr>
<tr>
<td>Institutions supporting system widely understood</td>
<td>Insecurity leads purchasers to seek legal title (mainly Enugu)</td>
</tr>
<tr>
<td>Often family/group agreement precedes sale</td>
<td>Despite obtaining family/group agreement, some sales challenged by family members</td>
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<tr>
<th>Self allocation</th>
<th>Weaknesses</th>
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<tr>
<td><strong>Strengths</strong></td>
<td><strong>Weaknesses</strong></td>
</tr>
<tr>
<td>Enables the poor to access unused public or marginal at no cost</td>
<td>Very limited supply due to commercialization of land and threat of eviction</td>
</tr>
<tr>
<td>Enables family members otherwise not entitled to plots to access family land</td>
<td>Public land may be required for other uses</td>
</tr>
<tr>
<td>Unused land suitable for housing made available with implicit family agreement or informal approval from official sources (Local Council officials in Kampala)</td>
<td>Marginal land often unsuitable for residential development</td>
</tr>
<tr>
<td>Many occupiers have insecure tenure and lack services</td>
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Urban residents and house builders seek *security of tenure*. Even without well-developed housing finance systems, this can often lead to substantial investment in housing for both owner occupation and rental. One priority should therefore be to improve the tenure security available to those accessing land through informal delivery channels. The main threats to such security often arise from the actions of governments themselves, particularly evictions.

- Thus one of the most obvious implications is that, in the vast majority of cases, governments should *cease evicting settlers and demolishing their houses*.
- In addition, security can be enhanced by public-sector agencies *accepting innovations in documentation* that have emerged in the informal systems, because these are generally popularly understood, widely accepted, cheap and procedurally simple.

*Recognition* of areas in the process of being settled through informal processes of subdivision and sale can pave the way for *working with subdividers and sellers to improve layouts*, ensure the reservation of access ways and sites for social facilities, and make it possible for the *early provision of a basic level of services*. Local initiatives have instituted such a flexible approach in Eldoret, even when external funding for regularisation and upgrading has not been available. Recognition can also contribute to *incremental improvements in service provision*, since once areas are de jure or de facto recognised, utilities can be provided on a full or partial cost-recovery basis, as demonstrated by some utility providers in the case study cities (commonly electricity, often water, more rarely other environmental infrastructure). As well as generating user charges for services, the *registration of occupiers* makes it possible for local governments to *generate tax revenue*. However, such recognition of informally settled areas and acceptance of their occupants should be designed in such a way that, wherever possible, the poor are not further disadvantaged by the imposition of unaffordable costs or processes of gentrification. The difficulty of ensuring this is acknowledged.

To build on the strengths and address the weaknesses of informal delivery systems in the local context, much of the relevant *legislation is likely to need revision*. In addition, as agreed in most of the country policy workshops, there is a need for the *formal land administration system to be decentralised*, in particular to provide for local registration of land rights and transactions.

Finally, *revised compensation provisions*, requiring government to pay adequate and fair compensation when it expropriates land for public purposes from private or customary rights holders, would improve both the operation of some subdivision and allocation processes (such as the operations of Land Boards in Gaborone) and the ability of government to fulfil public-sector goals without antagonising local land rights holders (for example in Enugu).
References


Part III

INFORMAL SETTLEMENT, SLUMS AND UPGRAADING

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Bruce W. Ferguson

Basic Costs of Slum Upgrading in Brazil
Alex Abiko, Luiz Reynaldo de Azevedo Cardoso, Ricardo Rinaldelli, and Heitor Cesar Riogi Haga

Slum Growth Model: Theory, Method, Implementation and Evaluation
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Residential Segregation and Social Exclusion in Brazilian Housing Markets
Maria da Piedade Morais, Bruno de Oliveira Cruz, and Carlos Wagner de Albuquerque Oliveira

Approaches to the Regularization of Informal Settlements: The Case of PRIMED in Medellin, Colombia
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INTRODUCTION TO SECTION III

INFORMAL SETTLEMENT, SLUMS, AND UPGRADEING

Bruce Ferguson

"Slums" (United Nations - Habitat) display a combination of lack of basic services, substandard or illegal inadequate structures, overcrowding and high density, unhealthy living conditions and hazardous locations, insecure tenure and informal settlement, and poverty and social exclusion. At the turn of the Millennium (United Nations - Habitat), 31.6% of the world's population lived in urban slums - approaching 1 billion population. Slums accounted for 43 percent of the urban population in developing regions compared to 6% of those of developed countries. Sub-Saharan Africa had the largest share (71.9%), and Oceania the lowest (24.1%). In between were South-Central Asia (58%), Eastern Asia (36.4%), Western Asia (33.1%), Latin America and the Caribbean (31.9%), Northern Africa (28.2%), and Southeast Asia (28%). Asia had about 60% of the world's urban slum dwellers. Africa had about 20%, but is growing quickly. Latin America had 14%.

The total number of urban slum dwellers - currently 1 billion - is projected to double to 2 billion by 2025, without firm and concrete counter-measures. Thus, the slum challenge presents both a "stock" and a "flow" aspect. Most efforts have focused on the stock - upgrading existing slums. Decisive action to prevent the formation of new slums is, however, equally important (Payne).

The high public and private costs of upgrading existing slums presents great strategic dilemmas, and underlies the importance of decisive action to get ahead of demand for low-income land and shelter. Retrofitting existing slums with basic services -- the core of slum upgrading -- typically costs substantially more than providing these services to new formal-sector development (Ferguson, 2003). While the private sector and, thus, households assume the cost of extending basic services to formal development, government ends up paying the great bulk of the capital costs of extending these services to slums.

The capital cost of basic infrastructure is only one aspect of the high costs imposed by existing slums. Slum dwellers also pay very high amounts to access land, to upgrade tenure and achieve security of occupation, for on-going basic services (i.e. consumption as opposed to the capital cost) typically through clandestine connections, to construct their homes, and to save and borrow the sums necessary to finance these steps.

The high costs of slum upgrading make expanding slum upgrading programs to a large share of the population an expensive proposition beyond the fiscal capacity of most governments. The first paper in this section (Abiko) measures the cost of upgrading a number of Brazilian slums. The "integrated" approach now used in Brazil arose as a response to the drawbacks of piecemeal, unplanned investments in slums mainly at election times. This integrated slum upgrading as practiced in the Brazilian model has spread to many other Latin American countries, and involves four broad steps: a preliminary study contracted out to determine the technical, physical, and legal feasibility; a survey to registrar existing residents in order to avoid swelling the numbers: a project design, typically contracted to a civil engineering firm with experience in slum upgrading; and execution, which takes from several months to several year. Integrated slum upgrading typically provides not only a package of basic services (roads, drainage, sanitation/sewerage, water) based on re-casting the structure of the settlement around a rational road network, but also involves organizing community
participation, and the provision of selected social/economic services (e.g. child-care, microcredit). The end goal is to upgrade the settlement to standards that approach but still fall short of those of formal-sector development, and to integrate the upgraded area into the "texture of the city."

Abiko et al. find that provision of the basic services through slum upgrading typically costs around three times (US $3,000) that of formal-sector development (US $1,000). This estimate—in fact—is the same as that of other quantifications of the provision of basic services through slum upgrading in Latin America, such as that of Metrovivienda in Bogota, and—as such—is a robust figure. Other costs of integrated slum upgrading raise the total cost per household to US $5,000 on average in Brazil. Upgrading the bulk of their urban slums at such rates is clearly beyond the financial capacity of the governments of most low and middle-income countries. Interestingly, the cost of upgrading Brazilian slums ranges widely, from as low as US $1,000 per household to US $15,000 in the most "complex" cases—those with difficult topography and soils where creating and paving a road network, drainage, and retaining structures are very expensive. Although costs, on average, are high, the great variation in the expense of Brazilian slum upgrading suggests that advance planning and action to influence the location and lay-out of informal settlements can have a large impact on cost.

So, too, can the overall method. Two aspects of "slum upgrading" seem particular relevant. The extent of the physical investment is one factor. The award-winning Kampung Improvement Project in Indonesia, for example, which focuses largely on low-cost sanitation and involves the community in on-going operation and maintenance of the basic infrastructure provided (e.g. drainage channels), has averaged spending less than US $200 per household. It is also possible to spread the large costs of integrated infrastructure extension over a long period and do this in stages. This is the approach taken in Mexico, in general, and in the Mexican Government's "Habitat" slum upgrading program, in particular.

The second and third papers of this section reinforce the notion that proactive advance planning can have a large impact on meeting the challenge of slums. Sietcheping’s application of a Geographic Information System (GIS) based on mathematical "cellular automata" that dynamically model urban development in Yaounde (Cameroon in West Africa) predicts the location of slums in this city with 73% accuracy. The main determinants of new slum location and growth in Yaounde were the existing locations of concentrations of cultural and ethnic groups, road networks, and topography. This result suggests that relatively simple actions can have a large impact on the location and growth of slums. For example, planning major roads (Angel) in areas that are flat, environmentally robust, and that are close to existing low-income areas can channel informal development to minimize costs and maximize benefits.

The third paper of this section (Piedade, Oliveira, Aluquerque) uses a probit model to determine the likelihood that households with specific characteristics will live in a slum. Higher unemployment, lower quality of employment, lower schooling, higher household sizes, lower age, lower salaries, and poor, non-white, female-headed households, and location in a metro area proved highly statistically significant. Against expectations, formal employment is positively correlated to the chances of living in slums, perhaps because of the low pay and low quality of many entry-level positions. Here, too, policy-makers can use these results to design a wide array of programs to reduce social exclusion and the spatial segregation of minorities in slums.

These and other findings suggest the crucial importance of a proactive approach that joins urban-development intervention at the city and metropolitan level with targeted socio-economic programs—most likely at the regional/state or national level. In this context, the scope and high costs of traditional slum upgrading programs
which appear a huge obstacle to dealing with the slum challenge – may be able to be substantially reduced. Eventually, if proactive approaches are widely taken, high-cost traditional slum upgrading programs may come to be a last resort for dealing with the remaining slum problem that other methods fail to prevent. At a minimum, such new intelligence points the way to more effective, lower-cost approaches and the crucial importance of proactive planning and action in a wide range of areas.

The traditional approach to get ahead of informal development and slum formation is to subsidize commercial formal-sector residential development for an increasing share of the population. This approach has worked well in some countries (Chile, Costa Rica, Singapore, Hong Kong, China) and relatively well-off regions (state of Sao Paulo). However, it is difficult for many countries, regions, and cities to maintain the high fiscal commitment necessary for on-going results, particularly if high economic growth slows. Section V delves into experience with housing programs and subsidies.

Disastrously, most countries and cities are well behind the curve in dealing with the slum challenge – whatever the method - and are taking a high-cost reactive approach. Faced with the immensity of the problem and the difficulty of solutions, many have just given up. Others have believed the rhetorical half-truth that slums are a “solution” as much as a “problem.” In addition, local patronage politics often continues to fuel slum formation as well as upgrading efforts.

These dilemmas underlie the topic of the fourth paper, on slum upgrading in Medellin, Colombia (Betancur). In Colombia, conflict in the countryside has led to massive migration to the cities. Poor urban communities sometimes continue to shelter armed groups, and their socio-economic problems spur a cycle of violence. Hence, low-income housing and slum upgrading are matters of national security in Colombia. In these circumstances, the Colombian President’s office established and funded a slum upgrading program called PRIMED in Medellin, Colombia’s second largest city. Previously, Medellin slums had received sporadic, politicized, and piecemeal investment. Although politicians gained votes at election time, little was accomplished. In contrast, PRIMED produced detailed plans for specific investments in a wide range of areas (infrastructure, services, public and communal space, home improvements and relocation, land tenure, and mitigation of environmental risks) and target groups, and included community participation.

Thus, PRIMED came to share many of the characteristics of the integrated slum upgrading programs of Brazil. The results were highly positive from an urban-development perspective. Survey results showed 96% of beneficiary households said their quality of life had improved. However, PRIMED avoided the issue of violence, and direct confrontation of the armed groups that controlled these areas, judging that such an approach would fail. The most basic problem of many in these neighborhoods – lack of jobs – remained unaddressed. And, despite the program’s successes, subsequent municipal government did not continue the PRIMED program. In contrast to the old type of piecemeal, politicized slum upgrading that tied residents to particular politicians, PRIMED had little political benefit, and newly-elected officials preferred the old ways.

The final paper of this section (Buckley, Singh, and Kalarickal) evaluates seven slum development programs (five focused on housing and two on sanitation) in India as a step towards a national approach. Its discursive analysis ranks these programs on five basic criteria – targeting, efficiency, transparency, administrative simplicity, and sustainability – and, then, overall. A number of specific flaws and recommendations for design emerged from the analysis: from higher to lower per-unit subsidies, from supply-driven to a demand-driven approach, and to emphasize strengthening the land and tenure components.
However, the main overall issue is one of miniscule investment relative to colossal unsatisfied need. The seven programs, together, invested only US $130 million per year. All Indian national government slum efforts summed together assist only about 100,000 households per year, relative to an urban slum population of over 12 million, which is growing rapidly. It is prudent to develop a useful approach before “scaling up. However, as the Introduction and papers of Section V (housing programs and subsidies) of this anthology discuss, the size, continuity, and creative ability to adapt of low-income housing and slum development programs often affect success much more than the initial program design.

References


Metrovivienda. 2003. Estimacion del Efecto de Metrovivienda sobre el Bienestar de la Poblacion de Bogota, Bogota


BASIC COSTS OF SLUM UPGRADING IN BRAZIL

Alex Abiko*
Luiz Reynaldo de Azevedo Cardoso**
Ricardo Rinaldelli***
Heitor Cesar Riogi Haga****

Slum areas in Brazil have expanded greatly, and particularly in the last two decades.

The initiatives taken by the government in relation to this issue have evolved from superficial actions and measures aimed at minimizing infrastructure deficiencies to broader interventions seeking to consolidate newly upgraded slum areas as part of the city. This requires more far-reaching construction work and involves at least some restructuring of the road system, relocating and/or re-housing when necessary, and doing construction work that often affects areas surrounding slums.

So, the aim of this paper is to assist in planning and examining strategic concepts for interventions in informal urban areas by compiling basic costs and technical data associated with understanding these items.

Conclusions and recommendations are listed in relation to general guidelines for interventions, to upgrading costs, to the data obtained and to strategies and technologies for minimizing costs or raising the cost-to-benefit ratio of interventions.

Introduction

This article is based on the project Infrastructure Engineering in Informal Urban Areas prepared for the World Bank by researchers at the Civil Engineering Department of the Escola Politécnica (use the original name of the School; Polytechnic does not mean Politécnica) of the University of São Paulo.

The aim is to assist in planning and examining strategic concepts for interventions in informal urban areas by compiling basic costs and technical data associated with understanding these items. Although a very important aspect of these programs, detailed analysis of costs at the design execution level does not lie within the scope of this study.

Several slum upgrading programs and projects in Brazil have been innovative in administrative and technological terms, but our knowledge of the cost-related aspects of these interventions tends to be fragmented and rather unsystematic.

A recent study analyzing slum upgrading costs has pointed to the difficulty of obtaining reliable data on examining costs for the Low-Income Population Sanitation Program (local acronym PROSANEAR), which extended water supply and sewerage systems to urban low-income populations settled in precarious situations, e.g. slums and/or subdivisions in high-risk areas such as hillsides, flood-prone riverside areas, etc. After

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painstakingly retrieving cost data for this program, there was great variation across the eleven cases studied and in many of them this was due to the different criteria used for appropriating these costs (ABIKO, 2003). Major differences emerge when we compare methods used for appropriating costs of buildings with those used for infrastructure projects. Very little is known in relation to infrastructure costs, even for formal sectors in cities. One reason is that these costs involve a number of different agencies and utility licensees using a wide range of costing methods and approaches in their work.

When there is a need to estimate the cost of upgrading slums or rehabilitating degraded settlements, the difficulties are even greater for a number of reasons: a) these types of intervention involve specific kinds of technical solutions; b) they are located in high-risk areas with steep slopes or flood-prone areas; c) inhabitants remain in the location during construction work; d) executive designs are almost never available before construction work begins; e) the numerous agents intervening include financing agents, public bodies and utility licensees.

These were some of the difficulties we met with in undertaking the present study. In view of these features and the scarcity and unsystematic nature of the available data, we took the approach itemized below:

a) we initially examined previous work on urban infrastructure costing issues for both formal and informal sector urban experiences and attempted to identify the variables affecting these costs;
b) we compiled costs and statistical treatment for three slum upgrading programs: Guarapiranga in São Paulo, Favela-Bairro in Rio de Janeiro and Ribeira Azul in Salvador;
c) we compared the three programs between themselves and in relation to costs studied in item a);
d) we compiled tables showing costs for different urban infrastructure projects in the informal sector in urban areas and their typologies.

**Slum upgrading in Brazil**

**Approaches to intervention in slums**

Initially, public policies sought to eradicate slums and relocate residents to housing projects on the outskirts of the city, and this is still the approach in many areas (SILVA, 1994). This policy proved ineffective over time as relocated residents often left their new homes and moved back to new slums. Moreover slum areas have grown considerably, so generalized re-housing was no longer feasible.

The current approach is to upgrade slum areas, attempt to keep the community in the same location by building infrastructure, and seek to regularize property titles. Whether the community stays on the same site or not will also depend on the risks involved; relocation may be required when sites are near waste landfills, under overpasses, or are endangered by mud slides or frequent floods in riverside areas.

Slum upgrading projects may be divided into four basic stages following ABIKO (1995).

a) Preliminary study: this stage is crucial for deciding the technical, physical, and legal feasibility of implementing an upgrading project in a certain area. This stage will include initial contacts with residents;
b) Registration: Once an upgrading project is seen as feasible, residents should be registered. To avoid swelling the numbers benefiting from upgrading, it is advisable to have the local population assist with the registration procedure and decide which families will benefit;
c) Project design: The area selected will be subdivided to accommodate the largest number of registered families in the best manner possible, with each family’s lot supplied with water, electricity, internal thoroughfares and drainage, telephone and sewerage facilities, and spaces required for utilities to install these systems. This means designing the project in the way that meets needs most efficiently;

d) Execution: construction time will depend on the terrain, the availability of finance and community involvement. Flat terrain and an easily accessed site will speed construction and vice-versa. Execution time may vary from several months to years.

Rehabilitating degraded settlements poses a challenge for specialists and institutions involved, be they municipal governments, government agencies, state companies, or non-government organizations. There have been innumerable cases of attempts to rehabilitate settlements of this type in Brazil, but little is known in relation to the outcome of these interventions.

Some sectoral initiatives have been implemented with solutions specifically designed for slums. Water and sewerage utilities have used condominium sewerage (MELO, 1994) or 32 mm HDPE, High Density Polyethylene, which is more malleable than rigid PVC. Electricity utilities have used smaller metal posts with mains switchboxes and metering for several households.

However, sector initiatives in slums may often be consolidating an urban structure that is densely occupied, unhealthy and inadequate, and at risk geo-technically. Installing water supplies in a slum means higher sewage volumes that will require drainage. So when installing piped water in a slum, there has to be a new sewerage system too. Drains for rainwater must be installed, otherwise this water will flow into sewers. There has to be garbage collection to complement water supplies, sewage and rainwater drainage – in order to avoid solid waste blocking drains and sewers. There must be a suitable road system for garbage collection to be carried out properly.

So there is obviously a need to integrate interdependent initiatives relating to degraded settlement rehabilitation. This is no easy task since the different technical specialties involved are associated with institutions that have their own particular characteristics at different levels of government.

Providing environmental education along with these initiatives is crucial to the process of rehabilitating degraded settlements and helping ensure sustainability for upgraded slums. Experience has shown that rehabilitated urban environments are at risk of deteriorating again if there is no community involvement in the process of maintaining a new habitat.

Another extremely important issue is the cost of these interventions. The state has to respond to a wide range of demands from society, so public policy makers must pose the question: what are the costs and benefits of slum upgrading projects? Is upgrading the most appropriate approach to the slum problem?

Finally, in terms of mobilizing financial resources, the traditional focus fails to make use of more innovative financing strategies such as: a) strategies for involving the private sector through partnerships that do not rely exclusively on public financial resources; b) clear and transparent subsidy strategies; c) family-based credit for construction, extensions or improvements to housing units; d) strategies for recovering costs of investments in building and infrastructure.
IBAM (2002b) recently studied twelve municipal slum upgrading or property-title regularization programs and found that the main sources of financing were a) municipal own funds (38.9%), including those from Municipal Housing Funds; (b) transfers from federal budget (6.3%), including funds under the Habitar-BID (IDB) program; c) loans from the official employee severance fund (local acronym FGTS) and employee assistance fund (local acronym FAT) (5.4%); d) foreign sources of loans (46.8%), in particular the IDB loan to Rio de Janeiro; e) donations from bilateral and multilateral cooperation agencies (1.2%).

Characterization of current slum area interventions

WERNA et al. (2001) reported that slum upgrading programs led to better quality housing standards in relation to the structure found in informal settlements. These upgrading programs are based on specific projects or, in some cases, are part of the process of general physical planning in urban areas in Brazil (SALLEN, 1983, in WERNA et al, 2001).

Three programs were analyzed in this study: a) the Urban Recovery Program of the Environmental Recovery Program for the Guarapiranga Basin in São Paulo; b) the Favela-Bairro program in Rio de Janeiro; c) the Viver Melhor program in Salvador.

The Urban Recovery Program of the Environmental Recovery Program for the Guarapiranga Basin

The Environmental Recovery Program for the Guarapiranga Basin, supported by the World Bank, was formulated by a group of social actors (representatives of the state, municipal districts and civil society), to tackle the different problems related to the urban environment of the city of São Paulo. It sought to mitigate the negative consequences of occupation and use of land in the basin area, and define and deploy procedures for re-ordering urban occupation.

The Guarapiranga reservoir can hold approximately 180 million cubic meters of water. The State of São Paulo Water Supply and Sanitation Company (local acronym SABESP) draws off 12 million cubic meters water per second to meet the needs of approximately 3 million people, corresponding to 20% of the provisioning of the São Paulo Metropolitan Region. It is the second largest water resource supplying the Greater São Paulo area.

In 1991, approximately 18% of the population living around the basin were living in slums. The portion belonging to the municipality of São Paulo contained more than 180 clusters of slums. In 1992, informal subdivisions documented in legal actions in São Paulo's municipal administration in this area totaled 119.

As one of the subprograms of the Environmental Recovery Program, the Urban Recovery Subprogram initially covered slum upgrading activities (25,000 families), adaptation of road infrastructure and drainage in low-income subdivisions usually located near slum areas (76,000 families on an area of 10 square kilometers). In relation to slum upgrading, there were also plans for resettling a small fraction of the population (3,700 families) to include new housing projects in well-equipped areas well served by public transport.

In technological terms, the conventional solutions used were not very flexible bearing in mind the requirements posed by this type of intervention. An example of this was the fact that condominium sewerage arrangements were accepted only in very special situations in relation to access to the sewerage system.
Land and Urban Policies for Poverty Reduction

The Favela-Bairro program

The municipality of Rio de Janeiro is the center of Brazil's second largest metropolitan region. Like most Brazilian metropolises, the municipality is subject to the consequences of the phenomena of 'peripherization' and informal urban expansion.

As a result of demographic pressure, aggravated by growing urban poverty and the absence of suitable alternatives for settlements and housing poor families, the city has a long history of illegal occupations of public and private land and thus the multiplication and expansion of informal settlements (IBAM, 2002a).

Most of Rio's slums are on steep hillsides and subject to collapse, falling stones or rocks, and/or landslides. The others are in flood-prone areas. According to recent data, more than one million are living in slums in Rio.

The Favela-Bairro program was conceived as an urban policy intervention rather than just a public initiative to help solve the slum problem in the city of Rio de Janeiro. In this respect it featured two basic principles: a) upgrading as the main public policy for slums; b) housing as an urban issue, and so situated in a broader context.

Note that the Favela-Bairro program is an integral part of a larger program known as PROAP-RIO, which involves upgrading of slums and informal and irregular subdivisions.

The Favela-Bairro program covers 158 slums and benefits 130,000 families or 500,000 people. This amounts to slightly less than half the number of residents in informal areas of the city. The initial portion of the program was known as the Low-income Settlements Urbanization Program (local acronym PROAP I) and covered 90 slums classed as medium scale, i.e. from 500 to 2,500 households.

This program supported by IDB was introduced in 1994, and aims to upgrade slums, make them into neighborhoods and promote their inclusion in what is called the 'formal' sector of the city, after an initial physical and urban planning upgrade. This upgrade includes physical reorganization, provision of public services, infrastructure and community equipment.

The infrastructure installed followed the parameters and technical standards of the utility services licensees because utility licensees were to take over maintenance and operation once construction work was executed. In particular the State Water and Sewage Company (local acronym CEDAE) does not accept technological alternatives for water supply or sewage drainage systems.

The Favela-Bairro program does not generally plan on building housing units except in cases of relocation when no other solution negotiated with families involved is feasible.

In short, the program is characterized by intervention in terms of provision of urban infrastructure and services. There is no emphasis on the problem of property-title regularization.

Ribeira Azul program

Salvador has a population of 2,443,107 and almost all live in the urban area (99.96%), while 875,033 people (35.83% of the urban population) live in informal settlements. There are 380 slums and 171 informal subdivisions in Salvador, according to the Urban Development Company of the State of Bahia (local acronym CONDER). Some 208,342 housing units are located in informal settlements corresponding to 32% of the total number of homes (IBAM, 2002a).
The stated aim of the Ribeira Azul project is to mitigate poverty in the area of Baía (Baía is correct; is the same than bay; Bahia is the name of the State) de Todos os Santos (Enseada dos Tainheiros and Cabrito in the region known as Alagados). Among its other aims, priority is posed for actions of a social or environmental nature. Preliminary studies were begun in 1992, and work started in 1995 on 20 slums housing 40,000 families. The lower income families mostly occupied “palafittes” – that is, shacks built on stilts above marshy areas. (We can substitute palafittes simple by stilt housing or stilt shacks).

The project is managed by CONDER, with participation from the World Bank, Salvador municipal government, and NGOs such as the Italian AVSI.

Its main components are defining the external limit of the bays, by landfills and shore side paths used as dykes to impede the spread of more stilt housing over the mangrove area; providing basic infrastructure and social equipment for the settlements; producing more housing units to relocate families affected by the process of landfilling areas occupied by stilt housing, and financing housing improvements for surrounding communities. The project seeks to adopt an integrated conception promoting environmental, housing, urban planning, and social and economic improvements, and by working with the participation of the community and in partnership with social organizations.

There is a varied typology of housing solutions depending on the needs and financial possibilities of the families assisted by the project; a) very basic core units to house families relocated from stilt housing b) housing improvements for units located in landfill and consolidated areas; c) improvement or construction of sanitary units.

In infrastructure terms conventional solutions are adopted, and the only feature of note was the use of condominium sewerage as an alternative technology. Basic environmental education was provided but the community did not take responsibility for maintaining the sewerage network, and the latter is an important aspect of this technology.

Cost of slum upgrading

This section will look at the issue of slum upgrading costs from a more conceptual point of view, in the sense of identifying variables that influence the behavior of these costs.

This will initially mean examining the issue of infrastructure costs in general, in relation to formal urban areas, in an attempt to identify the main factors underlying their behavior. On the basis of this initial examination, we shall then look at the costs of slum urbanization.

The sources used to analyze both urban infrastructure costs in general and slum costs were mainly bibliographical research and the Guarapiranga program in São Paulo. Information and data from professionals specializing in budgeting and/or with experience in slum urbanization were incorporated, as were experiences and reflections noted by the members of team that compiled this study.

Factors affecting infrastructure costs in formal areas

For the initial analysis, a literature search brought in studies on infrastructure costs from MASCARÓ (1979 and 1987). Although the amounts of these costs are now outdated, they do provide an understanding of how infrastructure costs may be affected by urban planning and physical factors.
The database for these studies consisted of cost surveys for several Brazilian medium-sized cities in varying locations. The urban areas considered are in the formal sector, i.e. they are regularized both technically and legally in terms of urbanism. The technologies involved in executing the budgets used as the basis for the analyses are the conventional ones, and therefore follow Brazilian standards in force at the time.

These studies analyzed the costs of global supply systems for water, electricity and street lighting, sewerage, drainage, paving and gas. In view of the scope of the present study, we analyzed only the costs of infrastructure networks and so excluded treatment stations, generating stations, etc. The networks covered were water, sewerage, drainage, paving, electricity, and street lighting.

On the basis of the above studies, we analyzed cost variations per urbanized area and per house for these networks, in relation to variations in the following factors:

- type of layout of the network, basically depending on the design of the road system and to a lesser extent the layout of the network itself;¹
- size of urbanized greenfield site;
- shape of field;
- density of field;
- slope of field.

We proceed to present a summary of the influences of the factors mentioned on network costs per urbanized area and per house.

### Table 1: Urban infrastructure networks - costs per urbanized area and factors influencing them

<table>
<thead>
<tr>
<th>NETWORK</th>
<th>Type of network layout</th>
<th>Size of field</th>
<th>Shape of field</th>
<th>Density of field</th>
<th>Slope of field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>A (1)</td>
<td>B (2)</td>
<td>(-)</td>
<td>C</td>
<td>(-)</td>
</tr>
<tr>
<td>Sewerage</td>
<td>A (3)</td>
<td>C</td>
<td>(-)</td>
<td>(-)</td>
<td>B (4)</td>
</tr>
<tr>
<td>Drainage</td>
<td>(-)</td>
<td>A</td>
<td>B (5)</td>
<td>(-)</td>
<td>B (6)</td>
</tr>
<tr>
<td>Paving</td>
<td>A</td>
<td>(-)</td>
<td>(-)</td>
<td>(-)</td>
<td>A (7)</td>
</tr>
<tr>
<td>Electricity and lighting</td>
<td>A</td>
<td>C</td>
<td>(-)</td>
<td>(-)</td>
<td>(-)</td>
</tr>
</tbody>
</table>

**Source:** Adapted from MASCARÓ (1979 and 1987)

**Legend:**
- A - High influence; B - Medium influence; C - Low influence; (-) insignificant / not detected / not studied / inconclusive.

**Notes:**
1. Networks may vary in layout depending on the road system design - grids (conventional blocks) or the normal type with secondary cul-de-sacs off (perpendicular to or at an angle to) a main road. For the block-type design, the length and cost of networks for the same road design may vary with the size of the block and possible layout options for the network itself. These varying layouts were analyzed in relation to their repercussions on network cost and are shown in the tables.
Table 2: Urban infrastructure networks – costs per house and factors influencing them

<table>
<thead>
<tr>
<th>NETWORK</th>
<th>Type of network layout</th>
<th>Size of field</th>
<th>Shape of field</th>
<th>Density of field</th>
<th>Slope of field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>A</td>
<td>C</td>
<td>A</td>
<td>C</td>
<td>(-)</td>
</tr>
<tr>
<td>Sewerage</td>
<td>A</td>
<td>C</td>
<td>(-)</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>Drainage</td>
<td>(-)</td>
<td>A</td>
<td>B</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Paving</td>
<td>A</td>
<td>(-)</td>
<td>(-)</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Electricity and lighting</td>
<td>A</td>
<td>C</td>
<td>(-)</td>
<td>A</td>
<td>(-)</td>
</tr>
</tbody>
</table>

Source: Adapted from MASCARÔ (1979 and 1987)

Legend: A - High influence; B - Medium influence; C - Low influence; (-) insignificant / not detected / not studied / inconclusive.

The tables show that the most important factors affecting costs is type of network layout, and in this respect road system design - which imposes a certain layout - tends to be the predominant factor. Alternative layouts for the same road system, when possible, may affect costs, but are less important. In this respect, the author notes that the conventional urban “grid” design makes networks more expensive by requiring greater lengths for the same number of houses served. “Normal” plans with a hierarchical road layout (main road and secondary cul-de-sacs feeding into it), are less costly because they require less extensive networks and involve greater optimization of capacities such as paving.

Once the urban design is determined, the other important factor is density. Whatever the network type, the rule is the greater the density, the lower cost per house unit served.

This is due to the fact that additional population served in the same area requires smaller increments in the overall network cost. The cost of a network for 500 inhabitants, for instance, is not much more than one for 50 inhabitants in the same area.

Following the same author, we also show the costs breakdown for each network.

Table 3: Composition of cost of infrastructure networks

<table>
<thead>
<tr>
<th>Network</th>
<th>Incidence on costs (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>4.1</td>
</tr>
<tr>
<td>Sewerage</td>
<td>20.2</td>
</tr>
<tr>
<td>Drainage</td>
<td>16.5</td>
</tr>
<tr>
<td>Paving</td>
<td>47.1</td>
</tr>
<tr>
<td>Electricity and lighting</td>
<td>12.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Adapted from MASCARÔ (1979 and 2003)

As the table shows, the cost of drainage plus paving accounts for more than 60% of the total costs of infrastructure networks, and paving alone accounts for almost 50%. In this respect we once again see the importance of urban design for infrastructure costs, since it is the design of the road system that decides the extension and areas of paving, as well as the hierarchical layout of the latter.
The characteristics of slum areas, which are typically densely populated with a nested road system plan and smaller in area relative to a conventional subdivision, might suggest that network costs per unit served would be less than for a normal urban area, but this is not the case, as we shall show below.

**Factors affecting infrastructure costs in formal areas - benchmarks**

The costs from which the data shown above were extracted are in the above mentioned studies by Mascaro. However, the base date for the latter is 1975 with inflation-adjustment using the US dollar rate for 1979 and we believe that using the present value on this basis is not feasible after such a long period.

There are very few specialized publications or updated studies on this theme in Brazil that could provide updated benchmarks for infrastructure costs.

One of the few existing sources is derived from the study conducted by engineers Hélio de Caires and Guilherme Martins, as part of a method for evaluating urbanizable fields. Costs obtained using the methodology posed by these authors are inflation-adjusted and published in specialized magazines; they may be used as benchmarks in the absence of other costing data obtained from budgets or executed public works.

The table below shows a summary of the main infrastructure costs as published in the magazine CONSTRUÇÃO MERCADO (2003). Note that this methodology uses certain parameters and hypotheses to simplify the issues and it is also old, so it does not cover technological innovations or design criteria introduced over recent years that have probably reduced these costs, such as the use of PEAD for water networks, the use of simplified sewerage networks, etc.

**Table 4: Infrastructure cost for urbanizable fields (R$\textsuperscript{2} - May 2003)**

<table>
<thead>
<tr>
<th>Network</th>
<th>Cost per 1,000 square meter floor area</th>
<th>Cost per square meter raw field</th>
<th>Cost per 125 square meter lot</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>2,554.19</td>
<td>2.21</td>
<td>319.27</td>
<td>11</td>
</tr>
<tr>
<td>Sewerage</td>
<td>4,767.25</td>
<td>4.12</td>
<td>595.91</td>
<td>20</td>
</tr>
<tr>
<td>Drainage</td>
<td>2,398.33</td>
<td>2.07</td>
<td>299.79</td>
<td>10</td>
</tr>
<tr>
<td>Paving</td>
<td>11,296.84</td>
<td>9.77</td>
<td>1,412.11</td>
<td>47</td>
</tr>
<tr>
<td>Electricity and lighting</td>
<td>847.70</td>
<td>0.76</td>
<td>373.15</td>
<td>12</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>21,891.31</strong></td>
<td><strong>18.93</strong></td>
<td><strong>3,000.23</strong></td>
<td>100</td>
</tr>
</tbody>
</table>

Source: adapted from the table "Evaluation of urbanization field-cost" (CONSTRUÇÃO MERCADO, 2003).

Notes: The original table was altered as follows: average earthmoving taken as paving cost, as well as curbs and gutters. Project and administrative fees were eliminated and a rate of 33% included as project (3%) and IDB (30%). Cost of electricity and lighting was calculated at 12% of total cost.

\textsuperscript{2} The exchange value of 1 real varied was 3.0 per US dollar in June 1993 at the time the bulk of calculations for this paper were performed.
One should note that the cost weightings for networks are relatively similar to those in the tables shown previously. The biggest differences are for water and electricity, and this may be explained by the fact that Guilherme Martins' cost included only street lighting.

Another cost benchmark that may be used as a basis for infrastructure cost is the incidence of this cost in relation to the total cost of construction (house plus infrastructure), for housing projects or condominiums (gated communities).

Data from CARDOSO (1993) point to benchmark urbanization costs for low-income housing projects built in the Metropolitan Region of São Paulo, with weightings varying from 11 to 28% of total cost of construction (infrastructure plus houses). Professional cost estimators work with 15% of cost of infrastructure networks in relation to total cost of construction (infrastructure plus houses), for medium or large housing projects (over 300 units).

Taking 15% of infrastructure cost as our base number, for a low-income standard unit with 50 square meters built area, and a unit cost of R$ 500.00 per square meter, the average total cost of infrastructure networks per unit may be estimated at approximately R$ 4,500.00 on a preliminary basis.

**Factors affecting infrastructure costs in formal-sector areas**

Slum upgrading costs obtained from the literature and from surveys conducted for this study appear to be quite high in comparison with the references noted. Averages from the Guarapiranga program, the main source for this study, are around R$ 10,000.00 or more per family. Therefore we should analyze the composition of costs and their nature in order to understand variations in the same way as we approach infrastructure costs in formal-sector areas. This involves an examination, however cursory, of the main characteristics of slum upgrading work.

**General characterization of slum upgrading work**

Slums have specific characteristics making them quite distinct from formal-sector urban areas since they are usually located in areas that have not been subdivided, perhaps valley floors, or steep hillsides, and are not suitable for residential construction (COBRAPE, 2000). The situation is aggravated by disorderly and extremely dense occupation hindering work on access roads or water, sewerage, and drainage networks. In the absence of these networks, inhabitants may leave effluent and waste on the ground, thus aggravating soil instability and accentuating sanitary problems.

As we have seen in the initial section of this study, the first government interventions in these areas in the 1980s sought to mitigate the worst aspects. When possible, basic services such as piped water and electricity were installed and sometimes sewerage and drainage and retaining structures were installed too. However they did plan for interventions of a more structural nature. Obviously the costs of the interventions executed were quite low, perhaps even lower than in normal areas.

This study has taken the Guarapiranga Program executed in the São Paulo Metropolitan Region during the first half of the 1990s as a benchmark for actions currently being undertaken in the ambit of slum upgrading programs that are of a different nature. They aim to consolidate these areas as urban centers that are social and functionally part of the city, and ensure that certain minimum standards of environmental and sanitary
quality are upheld. Therefore, the interventions demand a wider scope of construction work, involving a certain minimum restructuring of the road system, reorganizing and/or relocating homes when necessary, as well as doing construction work that also oftentimes involves the area surrounding the slum.

The scope of these interventions, in general terms, and using the Guarapiranga program as a basis, usually includes the following points:

- building water supply and sanitary sewerage networks to serve all housing units following roads used by pedestrian and vehicle traffic;
- a road system to facilitate house-to-house collection of garbage and access to homes;
- a drainage system, including straightening and covering over streams when necessary;
- construction work of a geotechnical nature, such as retaining structures on hillsides;
- installing electricity network and street lighting;
- providing garbage collection services;
- treatment of common and collective spaces compatible with the availability of areas internally or adjacent to the center;
- building the least number of new housing units in different locations, and examining the possibility of creating new settlement areas and relocating homes within the slum area itself;
- building new housing units outside the slum area, to assist families relocated or re-housed to different locations;
- social assistance follow-up for the benefited communities in order to encourage participation at every stage in the program.

Although the project incorporated simplified criteria and more flexible features in relation to the usual approach, the aim was for slum networks to meet the same performance standards as those in normal areas. One example of this in the Guarapiranga program was the sewerage system, which required a minimum diameter of 200 mm, allowing condominium networks only in exceptional cases, not exceeding 3% of the total of the network and having 150mm minimum diameters.

Factors influencing costs

Studies of upgrading slum costs that we consulted showed that they are more complex in nature than infrastructure costs in normal areas, and this often impedes a modeling of their approach.

ROCHA et al (2002) studied a number of upgraded slums in the Guarapiranga Program and detected quite a large variation in their upgrading costs. They obtained an average of R$ 7,962.10 per family (base date August 1995), with a variation of approximately 30% around the average.

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3 COBRAPE (2000) shows all the project criteria used.
The causes of this variation were ascribed to a number of factors: different services executed in the different slums, varying unit costs of the same service from one slum to another; and application of different urban planning standards. The study does not provide a detailed exploration of all possible factors having a bearing on costs, but it does propose a simplified model for estimating slum upgrading costs on the basis of three components.

The first was infrastructure costs (drainage, cleaning or covering rivers or streams, paving, sewage drains). In the slums analyzed, a linear correlation between these costs and the area of the road system, modeled following a linear expression. Therefore by estimating the area of the road system planned, it would be possible to estimate the cost of this item. What was not so clear was how the area of the road system would be estimated.

The second is the cost of superstructure (relocating or re-housing). Relocation involves building homes in the slum itself, which corresponds to 20% of the cost of superstructure, in the cases we analyzed. The unit cost for relocation was estimated at R$ 12,684.61, with a coefficient of variation of 37.8%. By estimating in advance, on the basis of the diagnosis, the number of relocations to be made, the cost could be calculated directly. The weighting for relocating involving building new units in a different location may be calculated in the same way, i.e. taking the number of families to be relocated and multiplying by the unit cost of R$ 25,307.78 (August 1995), an amount that seemed to us to be rather high, since if adjusted by the CUB index through May 2003, the result would be approximately R$ 46,000.00.

The third and last cost component is related to operational activities (executive project, management and maintenance of construction work, technical consulting services and social assistance). Data obtained from the slums analyzed showed this cost being estimated at 30% of the total for infrastructure and superstructure combined. We thought this rather high as a criterion and no details of how the index was composed were provided.

Notwithstanding the above points, we applied this model to the slum (Parque Amélia), which was used as benchmark for the Guarapiranga program because it seemed closest to the actual costs. On this basis, our estimated cost was R$ 8,404.50 per family (August 1995), which came very close to the actual cost (R$ 7,603.90 per family, according to the data obtained).

Another important source we consulted was ANCONA & LAREU (2002), which analyzes a series of 32 slums upgraded as part of the Guarapiranga program to arrive at a total cost of R$ 10,623.94 per family on the base date of December 2000. Of this amount, R$ 9,701.47 (91.3%) related to infrastructure work (drainage, water, sewerage, paving), retaining structures and preliminary services (site, demolition, temporary buildings). The difference was related to the cost of relocation, which was not analyzed in the study. However, the cost of R$ 9,701.47 was the average of a range that varied from R$ 4,099.86 to R$ 30,793.02. The study looked at possible explanations and related costs to the following factors: slope, number of families, area of slum, density and duration of construction work. This latter factor had a major impact on the cost of preliminary costs.

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4 CUB index is one of the price index in Brazil, most commonly used by the construction sector.
5 A home built under the PAR program, for instance, costs about R$ 27,000.00.
6 Current practice in major enterprises place benchmark estimates for project and administrative costs at 5% and 3% of total costs respectively. Other costs are included in operational activities, so we believe it is important to have a breakdown of this index if it is used as a general criterion.
7 This slum was taken as benchmark because it is relatively isolated and according to our information has no unique feature that might raise or lower costs excessively.
services, including monthly cost items such as site maintenance. However, they did not find a correlation that could explain variations on the basis of the factors considered.

Note also that costs were inflation-adjusted for the date December 2000 using the wholesale prices index (IGP-M), which in our opinion does not accurately reflect variations in this activity, basically civil engineering and building work. Table 5 shows a number of price indices and their increases for the period August 1995 - June 2003; building costs in São Paulo rose between 74.36% and 101.30%, whereas the IGP-M rose by 135.64%.

Figure 1 shows indexes for the 1994-2003 period.

Table 5: Price indices - August 1995 - June 2003 (%)

<table>
<thead>
<tr>
<th>Indices</th>
<th>Construction Industry</th>
<th>Economy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Period</td>
<td>SINAPI SP</td>
<td>CUB SP</td>
</tr>
<tr>
<td>August 1995 - June 2003</td>
<td>74.36(1)</td>
<td>81.18(2)</td>
</tr>
</tbody>
</table>

Notes: (1) Calculated on the basis of IBGE data; (2) Calculated on the basis of data from the magazine Construção Mercado; (3) Calculation considering average composition of infrastructure costs, following the methodology of Fernando Guilherme Martins and values published in the table “Evaluation of Field-Cost for Urbanization” (CONSTRUÇÃO MERCADO 2003). (4) Calculated on the basis of data from FGV, Fundação Getulio Vargas.

The third study we examined was a report on slum upgrading compiled by COBRAPE, the management company for the Guarapiranga program.

Weighted average\(^8\) costs of the program for slum upgrading projects coordinated by PMSP and CDHU were reportedly R$ 10,623.94 and R$ 10,323.30 respectively (averaging R$ 10,473.62) The base date is not explicitly stated in the report but according to the authors' of the study previously mentioned, which used the same base date as the report, costs were adjusted using the IGP-M index through December 2000. The report examines the varying costs for different slums and poses a number of points to explain this variation.

The first point is that costs of services were higher than initially estimated. The cost initially planned was US$ 1,300.00 per family, which corresponds to R$ 3,900.00 per family today, which is similar to the benchmarks presented previously for urbanization of normal areas.

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\(^8\)Weighting reflected the number of families in each slum and the cost of each slum.
Some of the reasons for exceeding the initial estimate are mentioned. One was that scope was broadened—only sewerage and paving was planned initially and water was supposed to be installed by SABESP. Estimates erred in not taking into account the need for earth moving work to cover distances of over 1 km.

The Report also analyzed variations in the costs of services and slums that were much higher than average, and posed the following factors in explain these variations:

a) Paving

The key factors for costs were the situation of the surrounding area, its topography and the structure of the center of the slum. Slums located longitudinally along streams tend to involve higher costs, which is in line with the cost analyses posed at the beginning of this section. Very uneven terrain and deficiencies in the urban structure of surrounding area also tend to raise costs.

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*We were told that environmental agencies would not allow material to be dumped near water sources (springs) so transport distances jumped to 10 - 35 km.*
b) Water

The main factor is the situation of surrounding area. Costs increase when there is a need to extend networks to connect to the slum and decrease when there is a pre-existing supply network, although partially.

c) Sewerage

Costs related to conditions in the surrounding area - lack of infrastructure - and larger numbers of families require more network installation. This contradicts the analysis posed at the beginning of the section in which higher density reduced the length of network required per family.

d) Drainage

Costs are higher for slums containing small numbers of families where rivers or stream shave been covered and where there is no paved road infrastructure around the area.

e) Retaining structures for hillsides

Costs depended on topography; the more uneven the terrain, the higher the cost. It was also found that amounts were higher than average in small slums (less than 100 families).

f) Relocating or building new housing units

This item basically depends on the size of the slum. Those containing less than 100 families generally do not involve relocations. In medium-sized slums (100 - 300 families) less than 8.5% need relocating. In large slums (over 300 families) more than 8.5% and as much as 28% may need relocating.

The report also points to difficulties in construction work due to the characteristics of the slums (high density and unhealthy settlements, precarious buildings, difficulties in access, problems with floods and low load-bearing capacity of the soil), that also drive up costs, although these items were not measured. From this angle, the relevant points were:

- difficulties involved in using equipment, requiring its vertical transport, manual excavation of ditches and drains;
- construction work when families remain in the same location, requiring special tasks and techniques to ensure residents' safety, such as retaining structures and lowering the water level to allow excavation;
- need for continuous revision of projects, given the extreme mobility of the families, their constant extensions or new buildings, and the need for temporary lodging to accommodate families whose houses are affected in the course of the work or found to be in imminent-risk situations.

The larger the slum, and the more densely it is occupied, the more these factors seem to be accentuated.

In view of the above data, we may summarize factors influencing costs in table form, as we did for infrastructure in formal areas, as follows.
Table 6: Slums upgrading costs per family and factors affecting them

<table>
<thead>
<tr>
<th>NETWORK</th>
<th>Size of slum (number of families)</th>
<th>Topography</th>
<th>Situation surrounding area</th>
<th>Layout and location (along streams)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td>(-)</td>
<td>(-)</td>
<td>A</td>
<td>(-)</td>
</tr>
<tr>
<td>Sewerage</td>
<td>A</td>
<td>(-)</td>
<td>A</td>
<td>(-)</td>
</tr>
<tr>
<td>Drainage</td>
<td>B</td>
<td>(-)</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Paving</td>
<td>C</td>
<td>A</td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>Retaining structures</td>
<td>C</td>
<td>A</td>
<td>(-)</td>
<td>(-)</td>
</tr>
<tr>
<td>New housing units and relocations</td>
<td>A</td>
<td>(-)</td>
<td>(-)</td>
<td>(-)</td>
</tr>
</tbody>
</table>

Legend: A - High influence; B - Medium influence; C - Low influence; (-) insignificant / not detected / not studied / inconclusive.

We see that one of the main factors affecting costs is the size of the slum, i.e. number of families. Apparently, the more families living in the slum, the higher the cost per family, although this does not apply to all services. This factor, we believe, calls for further research, since there is no clear characterization and the data contradict the points made at the beginning of the section.

Another key factor is the situation of the surrounding area, and here there can be no doubts as to its importance. The more precarious the infrastructure of the surrounding area, or the more distant the slum is from urbanized areas, the greater the cost involved and vice-versa.

According to the COBRAPE report, costs for 30% of the slums analyzed were higher than the weighted average most of them were in areas with no infrastructure, so there are no doubts as to the major influence of this factor.

On a different level we have factors related to the physical conditions of the slum, its topography (the more uneven the terrain the greater the cost) its layout and location; slums laid out longitudinally along streams are more expensive to urbanize.

From the data obtained, it was not possible to detect a relation between the two main factors, in other words whether the larger slums tend to be located in worse or better situations in relation to surroundings. It is possible that the larger slums are located in or near areas that have better infrastructure, which would favor their cost in this respect. Small slums may tend to be located in more distant locations with less urban equipment, which would make them more expensive to urbanize. On the other hand, large slums tend to be more densely populated and involve more difficulties for construction work and more cases requiring relocation. These aspects too require further research in our opinion.

Cost per service

Based on the factors listed above and costs incurred, the COBRAPE report classifies slums in two groupings. One comprises 'average' slums, in which the quantities of services and costs required correspond to an average frequency interval of 70%. In other words, this grouping accounts for about 70% of the slums for which requirements of services and weighted average costs were calculated. The other set comprises complex slums, for which services requirements and costs significantly exceeded the weighted average, as shown below.
Table 7: Services (quantified) and average costs for normal and complex slums

<table>
<thead>
<tr>
<th></th>
<th>Weighted averages - normal slums</th>
<th>Weighted average costs - complex slums</th>
<th>Weighted average costs - normal slums</th>
<th>Weighted averages - complex slums</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>R$ per family – December 2000</td>
<td>%</td>
<td>R$ per family – December 2000</td>
<td>%</td>
</tr>
<tr>
<td>Water meters per family</td>
<td>3.40</td>
<td>8.83</td>
<td>328</td>
<td>5.73</td>
</tr>
<tr>
<td>Sewerage meters per family</td>
<td>4.55</td>
<td>9.54</td>
<td>1,321</td>
<td>23.07</td>
</tr>
<tr>
<td>Drainage meters per family</td>
<td>1.56</td>
<td>9.20</td>
<td>1,528</td>
<td>26.69</td>
</tr>
<tr>
<td>Paving sq. meters per family</td>
<td>13.44</td>
<td>39.90</td>
<td>1,069</td>
<td>18.67</td>
</tr>
<tr>
<td>Retaining structures sq. meters per family</td>
<td>6.00</td>
<td>19.64</td>
<td>508</td>
<td>8.87</td>
</tr>
<tr>
<td>New housing units and relocation</td>
<td>6%</td>
<td>Over 8.5%(1)</td>
<td>972</td>
<td>16.98</td>
</tr>
<tr>
<td>% of total families</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td>5,726.00</td>
<td>100</td>
<td>16,817.00</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: adapted from COBRAPE (2000)  
Notes: (1) estimate  (2) not available

Summary of global costs

The table below shows summaries of global costs obtained from the studies mentioned above (COBRAPE, 2000) for the Guarapiranga program. Data are divided for areas covered by PMSP (local acronym for the municipality of São Paulo) and those under the CDHU (local acronym for the São Paulo State Housing Company), i.e. the municipalities of Embu, Embu-Guaçu and Itapecerica da Serra. There is also an estimate of costs for Guarapiranga based on ROCHA et al (2002). The ANCONA & LAUREU (2002) data are not included in this summary, since their overall costs are the same as those in COBRAPE (2000).

Adaptations were made, supplements added and amounts inflation-adjusted in accordance with the following criteria.

For Guarapiranga PMSP and CDHU cost data, obtained from the above-mentioned works (COBRAPE, 2000), data were grouped under three items (infrastructure, superstructure and social work / casuals / project / administration); for project and administration we estimated a cost of 8% of the total cost of the other items. Costs were inflation-adjusted using the CUB-SP index for December 2000 as base date for the costs shown through June 2003.
For the estimate based on the study of ROCHA et al (2002), the urbanization standard used was located between alternatives 2 and 3 described therein. Costs were inflation-adjusted using the CUB-SP index for August 1995 as base date for costs shown through June 2003.

Note that the totals are quite similar, but there are significant differences between the three groups in their incidence.

Table 8: Overall slum upgrading costs summarized - Guarapiranga program

<table>
<thead>
<tr>
<th></th>
<th>Guarapiranga PMSP (1)</th>
<th>Guarapiranga CDHU (2)</th>
<th>Estimate Guarapiranga (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infrastructure (3)</td>
<td>8,824.24</td>
<td>11,849.79</td>
<td>76.91</td>
</tr>
<tr>
<td>Superstructure (4)</td>
<td>1,674.33</td>
<td>2,248.40</td>
<td>14.59</td>
</tr>
<tr>
<td>Social work / Project / Administration</td>
<td>975.28</td>
<td>1,309.67</td>
<td>8.50</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>11,473.86</strong></td>
<td><strong>15,407.86</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Notes and sources:
(1) Adapted from COBRAPE (2000);
(2) Adapted from ROCHA et al (2002);
(3) Infrastructure, water, sewerage, drainage, retaining works and paving;
(4) Superstructure: housing units, construction or repair.

Strategies for reducing costs and improving cost / benefit ratios for interventions

For the identification of certain key cost factors, we recommend using strategies for reducing costs and/or improving the cost / benefit ratio for interventions, also making use of contributions in COBRAPE (2000):

- undertaking careful diagnostic analysis covering conditions in the slum and especially the situation of surrounding area and way in which the slum relates to the latter, in order to estimate possible costs and on that basis decide the main lines of the intervention;
- reevaluating the upgrading of small slum areas distant from the urban fabric (often the case of water-resource or spring areas), since intervention involves high costs and encourages irregular occupation in adjacent areas;
- analyzing as special cases slums located along streams or in very adverse sites (topography, stability, soil type, etc), since these factors will require large amounts of resources;
- evaluating the possibility of designing the executive project on the construction site itself, in order to efficiently match the dynamics of the slums and minimize problems arising from exceeding initial costs due to modifications. The executive project would follow the general guidelines and project criteria defined in the basic project. According to information obtained by the team, this procedure is being used in Rio de Janeiro;
- considering the use of network technologies using materials that can be transported manually, minimizing connections and improving sealing properties, such as plastic systems;
• including home facilities in the interventions, using prefabricated or pre-assembled components, such as installation kits and depending on the location, prefabricated bathrooms;
• evaluating the possibility of using concrete blocks interlocking or paving stone instead of asphalt paving, since they are suitable for slopes, are more permeable and may be installed manually;
• organizing systematic sanitary and environmental education campaigns (after interventions) to improve conservation of equipment and discourage further occupation. Assistance for communities would include - in addition to urbanization aspects - social involvement, employment and income generation, etc

Slum upgrading cost data

This section presents summaries of cost data obtained from slum upgrading programs in 3 Brazilian state capitals: São Paulo, Rio de Janeiro and Salvador.

The three were seen as quite positive experiences, which encouraged further study and research (including dissertations and thesis), and thus provided data for this study.

Comparative analysis of three programs: Guarapiranga, Favela-Bairro and Ribeira Azul)

Tables 9 and 10 and Figures 3 and 4 below summarize bibliographical data from section 3 and data obtained from the three programs:
### Table 9: Slums upgrading costs – JUNE/2003

<table>
<thead>
<tr>
<th>Programs Sources</th>
<th>Guarapiranga/SP</th>
<th>Favela-Bairro/RJ</th>
<th>Ribeira Azul/BA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SUPERSTRUCTURE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>R$</td>
<td>%</td>
<td>R$</td>
</tr>
<tr>
<td><strong>INFRASTRUCTURE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>R$</td>
<td>%</td>
<td>R$</td>
</tr>
<tr>
<td>Water</td>
<td>11,849.79</td>
<td>76.91</td>
<td>10,300.19</td>
</tr>
<tr>
<td>Sewerage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drainage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paving</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retaining structures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electricity</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lightning</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Garbage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landscape</td>
<td>1,216.7</td>
<td>0.73</td>
<td>1,177.00</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>15,407.86</td>
<td>100</td>
<td>14,971.85</td>
</tr>
</tbody>
</table>

### Table 10: Slums infrastructure costs – JUNE/2003

<table>
<thead>
<tr>
<th>Programs Sources</th>
<th>Guarapiranga/SP</th>
<th>Favela-Bairro/RJ</th>
<th>Ribeira Azul/BA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SUPERSTRUCTURE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>R$</td>
<td>%</td>
<td>R$</td>
</tr>
<tr>
<td><strong>INFRASTRUCTURE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>R$</td>
<td>%</td>
<td>R$</td>
</tr>
<tr>
<td>Water</td>
<td>6,796.28</td>
<td>100</td>
<td>22,962.70</td>
</tr>
<tr>
<td>Sewerage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drainage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paving</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Retaining structures</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Electricity</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Lighting</td>
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<td></td>
<td></td>
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<tr>
<td>Garbage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Landscape</td>
<td>1,216.7</td>
<td>100</td>
<td>1,177.00</td>
</tr>
</tbody>
</table>
Figure 3: Breakdown of costs of infrastructure services

Figure 4: Breakdown of infrastructure services
Data obtained from the three programs prompted the following observations:

- Total cost for the Guarapiranga program is similar to that obtained in studies shown in Section 3;
- Costs in São Paulo were highest;
- Costs were higher in Bahia than in Rio de Janeiro, and both were lower than São Paulo. The most costly item in Bahia was superstructure, but the reason for this was not identified;
- Paving and retaining structures in Rio de Janeiro were highly weighted (more than others). In Bahia, according to our reports, there are few sloping sites, but we were unable to assess the impact of this fact on costs as a whole;
- Data for all costs in the scope of the study were obtained. Electricity network costs for Rio de Janeiro were not obtained, but Rio was the only city to supply data on garbage collection;
- In relation to infrastructure costs, water supply costs are quite uniform across all programs; sewerage, drainage and paving costs varied more. Some costs, such as paving items were lower in São Paulo;
- No correlations were found for different typologies and costs, except for São Paulo, where data obtained correlated infrastructure costs for medium and complex slums, which are very different.

Conclusions and recommendations

In relation to general guidelines for interventions

Slum areas in Brazil have expanded greatly, and particularly in the last two decades.

The initiatives taken by the government in relation to this issue have evolved from superficial actions and measures aimed at minimizing infrastructure deficiencies to broader interventions seeking to consolidate newly upgraded slum areas as part of the city. This requires more far-reaching construction work and involves at least some restructuring of the road system, relocating and/or re-housing when necessary, and doing construction work that often affects areas surrounding slums.

The three slum upgrading programs analyzed in this study were the Guarapiranga program in São Paulo; the Favela-Bairro program in Rio de Janeiro; and the Ribeira Azul program in Salvador.

In all these cases, we saw that the scope of the work is framed within the characteristics described above. The cost components of the programs include a varied spectrum of actions that may be grouped under three main headings:

- Infrastructure, water supply and sewerage networks, road systems, paving and drainage, retaining walls or structures for hillsides, electricity and street lighting networks and garbage collection;
- superstructure: building houses and relocating in the slum area itself and/or building new housing units in different areas, treatment of shared areas and collective equipment;
- social assistance for the benefited communities, design and administration.
We found that certain initiatives were not implemented with the same intensity as others, even though they were in the guidelines for the programs; this is the case for property-title regularization and post-occupancy social work assistance.

It was also found the option of providing an urbanized lot for families relocated from slums has not been used as an alternative to providing finished housing units.

5.2 In relation to upgrading costs

The conclusion is that slum upgrading costs are not similar to formal-sector costs and this relates to three aspects.

One is that urbanization costs in formal-sector areas are restricted to infrastructure networks, whereas for slums the networks constitute a component of overall costs, although one with a heavy weighting (70 to 75% in São Paulo and Rio de Janeiro and 50% in Salvador). There are also programs not examined here, such as the Cingapura program, in which urbanization has still less importance within the global scope.

Another is that slums have specific features, so upgrading costs are of a different nature in relation to formal-sector areas where the cost factors are road system design and density of occupation. In slums the data obtained for cases in São Paulo show that the factors weighing most on costs are: firstly, the size of the slum, in terms of number of families, and the situation of the surrounding area - larger slums and those with more precarious infrastructure are more expensive to upgrade; secondly the physical conditions of slums (topography, geotechnical conditions and locations alongside streams or rivers). It was also found that very densely occupied slums in critical situations physically drive up the costs of building due the increased number of construction tasks and services and the need to use special techniques or manual labor for jobs that could be done mechanically, such as excavations.

In this respect, the costs of slum upgrading are higher than those for formal-sector areas.

Based on the theoretical costs of slum upgrading infrastructure (following the studies we consulted) for São Paulo's Guarapiranga Program, inflation-adjusted through June 2003 - approximately R$ 11,000.00 per family on average, and the costs of the same program obtained by our own team of R$ 9,502.00 per family - we see that these costs are two to three times the theoretical costs of urbanizing a formal-sector subdivision. The costs obtained as benchmarks for an urbanized formal-sector lot, as shown in Section 3, are approximately R$ 3,000.00 and R$ 4,500.00.

On the other hand, we found that the costs of slum upgrading infrastructure amount to approximately one third the cost of a completed low-income standard home, which is estimated at around R$ 30,000.00.

The third characteristic aspect of upgrading costs is that, factors vary greatly from one slum to another so there is a wide range of costs across different slums. The analysis made by our team using data from the Guarapiranga program the weighted average cost was R$ 16,716.59 per family, but the costs ranged from R$ 7,320.53 to R$ 45,898.11, so the coefficient of deviation was 57.07%.

For the other locations analyzed in Rio de Janeiro and Salvador, although there are some issues in relation to the data obtained, we saw that the comparable costs are also high, although less than in São Paulo (lower than São Paulo by 46% and 33% respectively) and coefficients of deviation between slums are also over 50% in both locations.
We believe that this conclusion poses the need for planning initiatives to make advance estimates of the magnitude of costs involved in upgrading the areas in question and using the data as criterion when deciding slums to be covered.

Other conclusions related to cost analyses made were:

- there is a need for updated and in-depth data that covers upgrading costs, with benchmarks for costing studies and estimates, as is the case for normal housing projects. In this respect, the suggestion is to create a national index of urbanization costs for formal and informal areas, similar to the SINAPI index for formal housing projects;

- there is a need for more in-depth analysis of factors affecting slum upgrading costs since those identified refer only to slums in São Paulo; they are qualitative and are not well characterized in some cases; in this respect we would suggest that related studies use more powerful statistical instruments to build quantitative models for the behavior of costs in São Paulo and other locations;

- we found that inflation-adjusting for costs varied across and among studies and works consulted and the agencies that supplied the information. This problem was aggravated by the fact that certain data - those for São Paulo - date back to August 1995. In this respect, we suggest conducting studies to update costs through actual current prices rather than using indices.

We also concluded that when there is a need for inflation-adjustment indices, the ones that best reflect variations in slum upgrading costs are the construction industry indices for each location. We would emphasize the suggestion of creating an index for urbanization costs that could also be used as a parameter for inflation-adjustment.

In relation to the data obtained

The data obtained for São Paulo, Rio de Janeiro and Salvador comprise samples that may be taken as representative since they refer to some 45% of the slums covered by the Guarapiranga program in São Paulo, 40% of the population assisted by the Favela-Bairro program in Rio de Janeiro and 15% of the families assisted by Salvador’s Ribeira Azul program.

Costing data were obtained for all items falling within the scope of this study, as listed at the beginning of this section. Note that only Rio de Janeiro provided data for garbage collection. We therefore suggest that future studies should research the costs of this item. For items relating to project and administration costs, no data were obtained from Salvador and there are dubious aspects in relation to those from Rio de Janeiro. Future research should undertake more in-depth study of the latter.

Our study of the Guarapiranga program in São Paulo was much more in-depth than that of the other locations due to its proximity. Research in São Paulo involved not only collecting numerical data, but also interviewing professionals who participated in the program, visiting the locations upgraded, and consulting a relatively large amount of material made available by the agents responsible. For the other cities, contacts were made by telephone and e-mail and data obtained in the same way. Not much information obtained for the physical characteristics of the slums in these locations, so we were unable to correlate costs and those characteristics, as we had done for São Paulo, although only in part. There were issues and lacunae in the data from Rio de Janeiro and Salvador and they could not be solved in time for this study. Therefore the data for São Paulo may
be generalized to the Metropolitan Region of São Paulo, but not to other locations. For Rio de Janeiro and Salvador, the data could be used as an initial benchmark, but they should not be generalized to these locations unless there is more in-depth analysis of the latter.

In this respect, we strongly recommended that this research be continued.

In relation to strategies and technologies

Section 3 concludes with several recommendations relating to strategies and technologies for minimizing costs or raising the cost-to-benefit ratio of interventions:

• post-occupation performance and evaluation for upgraded slums, in the sense of updating project criteria, technologies and basic guidelines for the interventions, which could assist in compiling a technical project manual for slum urbanization;

• operational and maintenance costs for equipment and services related to slum upgrading, in the sense of covering the overall costs of these interventions;

• monitoring costs of projects using a cost-tracking spreadsheet and systematic and continuous collection of life cycle data (conception, execution, maintenance and post-occupation).

References


SLUM GROWTH MODEL: THEORY, METHOD, IMPLEMENTATION AND EVALUATION

Remy Sietchiping*

Abstract
This paper provides an improved methodology for analyzing the dynamics of slums in Developing Countries (DC). In particular, it demonstrates how Geographic Information Systems (GIS) and Cellular Automata (CA) can be integrated to model, simulate, predict and dynamically visualize the growth of slums, and thus will improve future planning practices in DC. The paper first examines factors that contribute to the existence and spread of informal settlements (IS). It then assesses past and current slum policies to conclude that they are failing to contain the rapid expansion of slums. It is argued that weaknesses of these policies include on the one hand, planning instruments that are often rigid, inappropriate and outdated, inherited from former colonial powers. On the other hand, urban planners often overlook future spatial extension of slum areas. This paper also explains how factors underpinning emergence and growth of slums are accommodated within an Informal Settlement Growth Model (ISGM) that loosely couples a GIS with a CA model. In this way it is demonstrated how a VISUAL BASIC macro can be linked with GIS to design a flexible and generic modeling environment. Here, the ISGM is applied to simulate and predict the growth of IS in Yaoundé, Cameroon with slum allocation accuracy of up to 73%. In doing so, the model tests various mechanisms that motivate slums' growth, such as proximity to roads, rivers, market places, existing informal settlements, and cultural and ethnic groups. By integrating physical, socio-cultural and economic factors that underpin slums growth, the ISGM provides a much stronger practical framework to achieve slum reduction.

Finally, the paper demonstrates how such spatio-temporal simulation and visualization of urban dynamics are critical for the appraisal of the past, present and probable future location of slums. Moreover, it is argued that dynamic visualization via movies can provide new insight into the emergence and growth of IS. The ISGM is also evaluated in terms of sensitivity, reliability, validity and usability, for which it generally scores highly. The paper concludes that the proposed model can potentially enhance decision-making processes in urban planning, informed prospective slum policies and help predict the likelihood of slum emergence and growth, which will eventually improve the quality of life within developing countries’ urban areas.

Keywords: Urban growth; Slum policies; Urban planning; Modeling and simulation; Trends and prediction; Developing Countries; Yaoundé.

Introduction
Recent surveys indicate that between 40-70% of urban dwellers in Developing Countries (DC) now live in slums and the trend does not show any sign of slowing down (UN-Habitat, 2003; Davis, 2004). There is growing evidence that the informalization process of urban centers in DC will persist and that existing policies and programs will do little to curb the expansion of slums. This paper assesses and highlights the
weaknesses and achievements of past and current informal settlement policies and programs in DC since the 1950s. One of the key lessons of this assessment is that past and current slum policies act and react on existing slums and fail to capture and incorporate preventative and proactive measures that could reduce the spread of future slum growth and ultimately mitigate the effects of unplanned settlements on the majority of urban dwellers in DC. It is now well established that the proliferation of slums associated with the lack of security of tenure is changing not only the urban form and structure, but also (and more importantly) is exacerbating poverty, housing problems, inequality and social exclusion in most cities in DC. In the meantime, urban and slum policies have reached a 'deadlock' situation whereby innovative and effective measures to properly address the challenge of slum growth barely exist.

This paper therefore argues that to improve current practices and their cost-effectiveness, future slum policies and programs should be proactive in their design and implementation, that is, oriented to address future growth and associated issues before they occur. Such forward thinking strategies and slum prevention policies would go a long way in achieving the long-term reduction and management of slums. To implement such a paradigm shift, this paper proposes that one way to reduce slum occurrence should be an integrated conceptual framework based on spatial technologies such as Geographic Information Systems (GIS), and a modeling approach such as Cellular Automata (CA). The paper will then present a methodological framework of an Informal Settlement Growth Model (ISGM), which can predict the emergence and growth of informal settlement patterns. The model is built around the theories of slums growth and factors pertaining to their emergence and growth. Such factors (physical, economic and socio-cultural) include topography, transportation network, existing pockets of slums, source of income (informal economic sector), places of worship, and cultural and ethnic groups.

The application of the slum prediction model to Yaoundé (Cameroon in Western Africa) shows a slum allocation accuracy of up to 73%. This strongly indicates that the model has the potential to inform future urban policies and assist urban planners and other slums stakeholders in their quest to improve the management of the informalization of cities in DC. Urban planning policies and programs also stand to gain by using such a modeling tool to proactively address the long-term and the potential problems of slums. This is in contrast to the quick-fix measures that are often adopted in DC. The result is encouraging and challenges the view that slums are 'spontaneous' and cannot be predicted and 'planned'. More importantly, the dynamic visualization outputs of the model add another insight into slum emergence and growth and thus indicate that urban and slum stakeholders (such as public, private, financial institutions, practitioners and NGOs), could have an improved knowledge of the location of new and future informal settlements and therefore could take proactive measures for the 'planning' and provision (or at least facilitate the provision) of decent infrastructure and services for the potential and future slum/urban dwellers. However, the proposed slum framework will require fine tuning to make it more 'user friendly' to a larger audience (for instance by upgrading the programme to a menu-driven software). Nevertheless, the model constitutes a slum growth benchmark that will benefit from further tests on other cities in DC.

This paper first discusses the factors that underpin the emergence and growth of informal settlements along with various slum policy initiatives. Secondly, it elaborates on the usefulness of simulation and modeling in informing the design of future slum policies. Thirdly, the paper presents a simulation, modeling and dynamic visualization approach that was developed using a GIS/CA programming framework. Finally, the paper
demonstrates how the proposed slum simulation model is implemented in Yaoundé, Cameroon, and it then evaluates its strengths and weaknesses when it comes to informing future urban policies.

Informal Settlements: Why, How and Where?

The UN-Habitat (2003) estimates that 78.2% of city dwellers within Developing Countries (DC) live in slums1. These slums are often described by their low-standard housing, overcrowding, acute shortage of basic physical and social services and infrastructure, high environment and health threat, non-compliance to planning regulations, insecurity of tenure, faulty alignment of streets, social composition (especially in relation to migration) and unfavorable socio-economic and living conditions. This section first presents the spatial dynamics and the importance of slums in the DC context, and it then discusses the factors that often trigger the emergence and growth of slums.

Informal Settlement in Developing Countries: An Implosion

Since the 1950s, the number of urban population living in slums has continued to grow in most DC cities. An earlier pilot survey of 14 cities in DC by the UNCHS (1982) reported that the informal sector (IS) housed between 32% and 85% of the urban population. The UNCHS (1996) and Jenkins (2001) report that slums make up as much as 32% of Sao Paulo, 33% of Lima, 34% of Caracas, and 59% of Bogota in South America, and 44% in Maputo, 60% in Dar-es-Salaam, 70% in Luanda, and 85% in Addis Ababa in Africa. In some countries, slums now constitute the essential characteristic of the urban landscape. For instance, the Global Urban Observatory (2003, p.81) reports the case of Ethiopia (99.4%), Chad (99.1%), Afghanistan (98.5%) and Haiti (85.7%). Also, Pugh (2000) estimates that slums grow at a rate of 30-70% of the housing stock in most cities in DC.

One of the explanations for such increase of slum dwellers is that the urbanization in DC was initially perceived as a mechanism for improving living conditions and the environment, especially for city dwellers with greater access to income. A corollary effect, however, was to induce significant migration from the rural areas to the city context where housing was not available or affordable to cope with the significant influx of people and thus contributing to the expansion of IS. Coupled with the high natural population increase in urban areas and the continuous decrease and depreciation of competitive opportunities in rural areas, rural populations have continued to move to urban areas (Rempel, 1996; Kengne & Sietchiping, 2000, Davis, 2004). It is worth noticing that recent slum expansion in DC is largely controlled by four additional factors: intra-urban migration, natural population increase, reclassification and annexation (UN-Habitat, 2004).

In DC, cities have since grown at such high and uncontrolled rates that a combination of factors now explain why IS are the dominant land use pattern in most urban areas (Obudho, 1992). For instance, insufficient urban infrastructure (especially housing) and services, the poor vision of city planners, the inconsistency of

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1 It is worth noticing that there is no commonly agreed definition of 'slum', because the term can vary extensively depending on a range of factors including the country or region, legal status or insecurity of tenure (squatting and land invasion/grabbing), location and size, compliance with planning regulations (informal settlement), poor socio-economic conditions of its inhabitants, lack or decay of services and infrastructure (slum). In this paper, and for the modelling purposes, 'slum' is used interchangeably with other expressions such as informal settlement, squatter settlement and unplanned settlement to indicate common characteristics in some urban areas in DC. They include poverty and overcrowding, poor or informal housing, inadequate access to safe water and sanitation, and insecurity of tenure (Davis, 2004; UN-Habitat, 2003).
urban land use management, inadequate planning schemes, clashes of land rights, and economic crisis (e.g., structural adjustment and unemployment) are all further contributing to the slum expansion. It is now a well-documented fact that, since the 1980s, international neo-liberal policies such as Structural Adjustment Programmes and globalization have and will lead to rapid proliferation of informal settlements, increase of social inequalities, and spread of poverty in DC (Balogun, 1995; Portes & Hoffman, 2003; UN-Habitat, 2003; Davis, 2004; Shatkin, 2004).

The impoverishment of city dwellers, in particular, reflects on the inadequate and decaying quality of housing. The low standard of housing (which can be translated at the citywide scale as informal settlement) is important to study because the quality of dwellings is one of the spatial and visible expressions of the deterioration of living conditions in cities in DC. The problem facing the IS dwellers can be so acute that for them, the informal land and housing markets are considered the only plausible answer. A complicating factor is that the degradation of residential urban land use is now so severe that from the poverty perspective, there is enough evidence to support the argument that poverty is becoming more prevalent in urban areas than in most rural areas in DC (Pugh, 1997; Satterthwaite, 2001).

Such rapid and continuous deterioration of living conditions in urban centers highlights the need for more innovative responses to the slums issues (Pugh, 1997; UN-Habitat, 2003). Without innovative and proactive measures, the amalgamation of shelters outside the official building schemes and regulations, will continue to develop into slums, underlining the prevalence of unplanned developments as the new form of urban extension.

How and Where Informal Settlements Emerge and Expand?

Various reasons are often put forward to explain the emergence and growth of slums in DC. For instance, research shows that slums tend to form in marginal or less valuable urban land such as riverbanks, steep slopes, dumping grounds, abandoned or unexploited plots, along transportation networks, near industrial areas and market places, and in low lying areas or wetlands (Blight & Mbande, 1998; Global Urban Observatory, 2003).

Other work suggests that slums seem to be mutually attracted, at least in part, by spiritual or religious activities (Berg-Schlosser & Kersting, 2003; Davis, 2004). Such correlation is also well documented for new urban migrants who prefer to settle in neighborhoods that share similar socio-cultural backgrounds (Malpezzi & Sa-Adu, 1996). It could therefore be argued that the knowledge of dominant ethnic, cultural and religious groups in existing neighborhoods or slums could provide useful clues for exploring future expansion and location of slums. Such knowledge is valuable for the spatial prediction of slum growth, especially in cities where ethnic, cultural and religious differences highly influence the location choice of the urban dwellers.

Moreover, there is now sufficient evidence to argue that IS dwellers tend to have been born in cities and previously lived in informal settlement (probably nearby) or they are planning to move to a future informal settlement and preferably in the peri-urban areas (UN-Habitat, 2003). This suggests that established slums can duplicate themselves and serve as a stepping-stone for the emergence of future settlements on the nearest available land.

Another important factor is the close correlation between the informal economy and IS (Kengne, 2000). This is because knowledge, skills and experience are not often pre-requisites for accessing the informal job market, as it is the case within the formal or public sector (Happe & Sperberg, 2003). Migrants to the urban areas have long fuelled the informal economic sector (often represented by popular market places), which
employs more than 70% of the labor force, and contributes an average of 40% of the GDP of developing cities (Kengne, 2000). Another important factor that helps to explain the proliferation of slums is the rigidity of urban planning regulations associated with other factors such as poor governance, corruption and nepotism, which all lead to a severe shortage of land and urban housing, squatting, and infringements of building regulations (Fekade, 2000).

The end result of all these factors is rapid, unstructured and unplanned expansion, conflicting land tenure and property rights, poor quality dwellings, decay of the physical environment, unhealthy living environment, severe social problems, and low socio-economic status for IS occupants that all constitute the common characteristic of IS. Various measures have constantly been undertaken to improve the conditions of slums in DC, but their effectiveness is often questionable.

**Slum policies in Developing Countries: A Review**

Slums are often conceived and portrayed as institutional failures in housing policy, housing finance, public utilities, local governance and secure tenure. Thus, measures to address their existence and appearance have evolved around such thinking. During the postcolonial period, particularly in the 1950s and 1960s, the issue of slums in Developing Countries (DC) emerged as an important area for urban research and policies (Pugh, 1997). As a result, various slum strategies were implemented to (at least) mitigate the socio-economic, physical and health wellbeing of slums and their residents. This section discusses governmental attitudes, responses and policies towards slum since the 1950s. These changes can be categorized into three main approaches: centralized control of housing, the neo-liberal approach and the emerging preventative approach. For the purpose of this paper, these three approaches are discussed following five major chronological categories: laissez-faire attitudes in the 1950s and 1960s; site and service programs in the 1970s, slum upgrading in the 1980s, enabling strategies and security of tenure in the 1990s, and the Cities-Without-Slums action plan in the 2000s. The following analysis will first invoke the instruments various DC have used to implement each policy. The successes and shortcomings of each policy and program will then be highlighted in regards to the experience of each country. Finally, I demonstrate how this succession of policies and programs has done little to secure a sustainable long-term response to the shortage of shelter and contain the expansion of slums in DC.

**Laissez-faire Attitude: 1950s-1960s**

During the tolerance period in the 1950s and 1960s, urban authorities in DC turned a ‘blind eye’ to slum and focused on public housing (Farvacque & McAuslan, 1992; Rakodi, 2001). Slums were considered ‘relics of traditional villages’ and in the process of being absorbed by the new urban planning scheme inherited from Western societies— with little consideration of local and cultural realities (Gaskell, 1990; Njoh, 2003). However, many urban dwellers, especially new migrants in the low-income category, could only afford shelter in marginal and unsuitable land around these new ‘planned settlements’. In fact, policy-makers and urban planners regarded the existing slums as a temporary situation, and thus a minor threat to long-term urban development. The perceived ‘low-income’ shelter strategy was to develop public housing projects.

Unfortunately, these projects were implemented in a discriminatory fashion, largely because the ‘indigenous’ political rulers, who replaced the colonial power, perpetuated the existing social and class divisions as the previous ‘master’ (Fanon, 1963). In fact, the main beneficiaries of formal public and planned housing schemes were civil servants and middle and upper-income earners (Fekade, 2000). Moreover, nepotism, corrupt practices,
poor governance and incompetence significantly and rapidly contributed to the expansion of slums, and widened the gap between those who were in positions of power or had some sort of ‘connections’ and the rest of the urban population (Global Urban Observatory, 2003).

Overall, it appears that between 1950 and 1960, most urban authorities in DC adopted a laissez-faire attitude towards burgeoning slums. The alternative choice, public housing schemes, performed poorly in terms of meeting housing demands in many cities in DC. For example, Hope (1999) reports that public housing schemes across Africa as a whole provided less than 5% of housing needs. The failure of public housing can also be attributed to factors such as cost, socio-economic discrimination, and inappropriate design (Malpezzi & Sa-Adu, 1996; Hope, 1999). Thus, such public housing schemes were unable to supply sufficient dwellings. Instead, the approach marginalized the majority of urban dwellers and ignored low-income urban dwellers and rural urban migrants who settled there, generating more slums. Furthermore, it is now clear that the urban effort and resources directed towards providing public housing have ended up serving a small portion of urban dwellers and usually those that were largely better resourced than the majority (Adeagbo, 2000).

Site and Service Scheme: 1970s

In the 1970s, most governments in DC opted for a direct and centralized (State) intervention, executed through World Bank’s instigated programs such as the site and service scheme. This particular scheme advocated the clearance of centrally located slums and their relocation to newly serviced plots often outside the existing urbanized areas. This policy was driven by affordability and cost-recovery strategies (van der Linden, 1986). Site and service schemes are credited with enabling shared responsibilities between slum dwellers and government. On the one hand, the program emphasized the participation and the contribution of the beneficiaries to the resettlement process. Similarly, the programs acknowledged and capitalized on the ability of low-income dwellers to mobilize informal resources. On the other hand, local governments were no longer acting as ‘providers’ but as ‘facilitators’, which saved them some resources (Pugh, 2001).

The implementation of site and service scheme was heavily criticized especially its demolition and eviction components. In some cases evicted slum dwellers were relocated to other parts of the city (for example chirambahuyo in Harare). In many other instances, slum dwellers were left in ‘limbo’ without alternative housing and land arrangements or compensation (Butcher, 1986). The demolition without adequate relocation process actually aggravated the housing shortage partly because there were not sufficient plots available to relocate those whose houses had been demolished.

Other shortfalls of the scheme included the relatively low number of beneficiaries, the lack of understanding and clarity around the role of the private sector, the lack of planning around the location of new serviced plots, low or non-existent standards, and the failure to achieve cost recovery (Pugh, 2001). For instance when assessing the number of beneficiaries, Hope (1999) found that less than 6% of intended beneficiaries in Kenya, Zambia and Zimbabwe actually benefited from the scheme for the paradoxical reason of affordability. This was so because the transitional period between the demolition and the new establishment was not always well negotiated (lack of slum dwellers’ participation). Moreover, some evicted slum dwellers had difficulties accessing or being qualified for new serviced parcels due to lack of land titles and rights (the majority could not legally claim and prove their tenure right), illiteracy (most documents were written and they needed to fill out applications), corruption and bureaucratic hurdles (Malpezzi & Sa-Adu, 1996).
Overall, the implementation of site and service schemes failed to address slum management issues and there was often no provision made for preventing or reducing the future expansion of slum. The magnitude of the negative impacts and shortcomings easily offset the positive aspects to a point where new strategies had to be introduced with the hope of curbing the rapid and continuous degradation of slum areas.

**Upgrading Strategies: 1980s**

In the 1980s, the upgrading strategies emphasized the improvement of communal infrastructure and services within the established slums (Banes et al., 2000). In particular, the upgrading projects targeted the improvement of basic services (e.g., sewerage, water, sanitary, garbage collection, electricity) and infrastructure (e.g., road, market, healthcare and education centers) that were lacking or decaying in slum areas (Pugh, 2000). Upgrading projects were to be implemented with less intervention of government than in site and service schemes. Local upgrading strategy was appealing because it avoided (unnecessary) demolition, was cheaper per unit than site and service approach, and preserved social and economical networks. The upgrading program aimed to achieve three main goals: affordability, cost recovery and replicability.

In terms of affordability for instance, there were some instances of success. Earlier assessments of onsite upgrading projects were encouraging (World Bank, 1994). For instance, in his evaluation of Visakhapatnam (India), slum upgrading, Abelson (1996) reported that the beneficiaries’ income rose by 50% and their land value and assets improved by 82%. In other instance, the San Martin Pores (Manila) upgrading project was praised for the community participation and legal and institutional planning outcomes (Santiago, 1987; Kessides, 1997). The importance and success of grassroots participation in various Word Bank funded upgrading schemes have been reported for projects in Indonesia (especially the Kampung Improvement Program) and other projects in South America countries such as Bolivia, Brazil, Mexico, Costa Rica and Peru (World Bank, 1995; 2003).

Despite these specific successes, upgrading programs also had many shortcomings and overall, failed to meet their expectations. Generally, they were criticized at four main levels: failed financial commitment, negative socio-economic impacts, insecurity of tenure and the non-replicability of ‘best practices’. First, the program was implemented and financed by foreign agencies, which over time gradually reduced their financial support to the various projects. For instance, the relative importance of the upgrading budget of the World Bank went from 42% of funding available in the late 1970s to less than 8% in the late 1980s (Brennan, 1993). Similarly, local government could not sustain the financial cost of upgrading. As the funding dried up, many programs were suspended, and the lack of income meant that infrastructure and services could not be created, completed, sustained or maintained.

Second, upgrading programs did not produce the socio-economic impacts projected. For instance, in his review of the upgrading programs in Indian cities, Amis (2001) indicated that the program had no contribution to poverty reduction or problems related to unemployment and land security, which the program had aimed to achieve. Ironically, improving infrastructure and services had led to an increase in real estate value, thus encouraging land speculation. Low-income dwellers were, therefore, displace from the upgraded areas for the benefit of middle and high-class urban dwellers. The UN-Habitat (1999) illustrates this problem with the example of Dandora, a slum in Nairobi, where in the 1980s, the World Bank financed an upgrading program. A survey in the area 10 years after the completion of the program revealed that more than half of the current inhabitants were middle or high-income city dwellers, and were not resident at the commencement of the program.
Third, upgrading programs did not often integrate security of tenure with employment or income-enhancing activities. There was no evidence from any of the upgrading programs to support the argument that such a project could be duplicated elsewhere, nor sustained in the long term (Durand-Lasserve, 1996). Sehgal (1998) indicated that instead, many associated negative factors jeopardized the sustainability and the success of upgrading programs: local politics, corruption, conditions attached to foreign aid, the value of real estate and the location of a particular slum or squatter settlement.

Fourth, upgrading programs only reached a small portion of slums and did not develop into an ambitious project that could address the shortage of shelter on a citywide scale. The upgrading of communal infrastructure and services did not improve individual dwellings. Therefore, on many occasions, the socio-economic and physical environment within the upgraded areas continued to deteriorate (Werlin, 1999). The insecurity of tenure deterred slum dwellers' ambition to undertake housing improvements or upgrade individual shelter. The lack of security of tenure also inhibited the efforts of public and private service providers (such as electricity, water and telephone companies) to invest in unplanned areas. Moreover, the upgrading model did not address the issue of emerging slums, nor did it provide a proactive approach towards the creation of future slums.

Security of Tenure and Enabling Approach to Slums: 1990s

One of the major ways in which urban planning strategies have been approached to improve slum conditions has been the development of practical mechanisms to consolidate and secure land tenure. The security of tenure campaign is closely associated with the enabling approach (World Bank, 1993). The enabling approach advocated seven major points: development of housing financing systems, targeting of subsidies, encouraging property rights (including security of tenure), improving infrastructure, auditing and removing barriers, restructuring building industries and reforming institutions (Pugh, 2001). The enabling approach is understood as advocating that legal, administrative, economic, political, urban stakeholders and financial institutions should facilitate and secure the shelter and tenure of the most vulnerable portion of urban dwellers. In the 1990s, the enabling approach was implemented through security of tenure strategies largely supported by international agencies, namely UN-Habitat and the World Bank, as a contingent measure to limit the eviction and demolition threat in slums (Jenkins, 2001). The assumption was that although slum settlers do not necessarily have the legal title over the land, they could undertake improvement on their properties without fear of eviction. The enabling approach, via its emphasis on security of tenure, also postulated that the availability of and the accessibility to urban land provide a sense of 'belonging' and brings stability to an urban area (Kombe & Kreibich, 2000).

The security of tenure approach derives from the assumption that when the residents have the sense of appropriation, they also have the confidence, motivation and will to invest, upgrade or improve their environment. The capability of slum dwellers to significantly improve the quality of their environment can be illustrated with a project in Dar-es-Salaam in Africa whereby through securing the land, residents had the incentive and the motivation to clean up the neighborhood (Durand-Lasserve & Royston, 2002). The regularization of this informal environment will help address the problem of tenure insecurity in already established slums, which otherwise would translate into a vicious cycle of construction, destruction, eviction and reconstruction. In contemporary Africa for instance, South Africa is leading the land regulation campaign by providing secure tenure with basic services to displaced squatter dwellers. Before destroying a slum, the government in South Africa allocates new plots with basic functional services such as roads, water and sewerage (Masland, 2002).
The security of land policy, however, has two major limitations. First, this policy favors land grabbers and informal ‘conquistadors’, rather than those who reside there. So, when regulation does occur, the slumlords (who do not necessarily live in the settlement) will resell or rent the land to city dwellers, eventually at a higher price because the land value has increased with the security (Payne, 2004). Therefore, slum settlers who failed to claim their land rights, or who were renting, will seek another site to develop or create slum-like settlements (Fernandes, 1999). It is also fair to query how the security of tenure intends to address the availability of urban land (especially access of low-income dweller to planned settlements) and removal of artificial land shortages. Second, the implementation of security of tenure does not guarantee any long-term solution to the expansion of emerging and future slums. This is an important gap that the security of tenure policy has failed to address.

**Cities-Without-Slums Action Plan: Post-2000s**

The new century has called for new strategies and plan for slum. In 1999, the World Bank and the UN-Habitat initiated the Cities-Without-Slums (CWS) action plan, which constitutes a part of the United Nations Millennium Declaration Goals and Targets. Specifically, the action plan aims at improving the living condition of at least 100 million slum dwellers by the year 2020 (UN-Habitat, 2003). The main innovation in this policy is to move from the physical eradication or upgrading of slums adopted by past policies, to start to address one of the fundamental reasons why slums exist in the first place: poverty. The action plan recognizes that slums are largely a physical manifestation of urban poverty, and to deal with them effectively, future actions and policies should also associate urban and slum stakeholders with poverty reduction or eradication campaigns.

This extended approach of CWS action plan is encouraging, but raises four important concerns. Firstly, poverty is just one of the components of the incidence of slum (Shatkin, 2004). The CWS is not comprehensive enough to determine other variables that also account for slum incidence. Such variables could include (at the macro and cross-country levels) debt burden, health issues, social and political instabilities and natural disasters. Secondly, the number targeted is far too modest to significantly change the number of slum dwellers by the year 2020. In 2000, it was estimated that 850 million people live in slums and it is projected that by 2020 the number will reach 1.8 billion (UN-Habitat, 2003). It is clear that this target will do too little too late to effectively improve the living conditions of more than 1.7 billion slum dwellers. Thirdly, there is no clearly defined variable to measure the ‘improvement of living conditions’ of 100 million slum dwellers. One can reasonably query how it will be possible to differentiate between ‘improved living conditions’ driven by CWS –in different cities, realities and contexts– and other city development strategies. Such uncertainty suggests that the operational and methodological components of the CWS action plan are yet to be defined or fine-tuned. Finally, the CWS action plan does not articulate what measures should be taken or formulated to curb the emergence of new slum. Similarly, there is no provision or indication as to what actions various urban ‘stakeholders’ at all levels (local, national and international) should undertake to reduce, if not stop, the mushrooming of new slums. Unless these concerns are properly taken on board, the ambitious ‘Cities-Without-Slums’ action plan remains a slogan.

**Where Do We Go From Here?**

The review clearly shows that despite a few ‘best practices’ recorded in implementing slum policies, slums have continued to dominate the urban landscape of most cities in DC. Some of the weaknesses of past slum
policies are that conditions pertaining to the incidence of slums were not taken into account. Such conditions include the negative impact of international interventions (e.g., Structural Adjustment Programs), the impacts of neo-liberal policies (e.g., liberalization and globalization), urban poverty (or income gaps), poor governance, socio-economic and political instabilities, rapid urban growth rate, inadequate planning regulations, poor housing financing (especially for the low-income earners), and limited access to sustainable source of income (Shatkin, 2004). Moreover, all the five major approaches towards slums point to short-term and 'quick-fix' measures rather than a long-term vision of the prospects of slum incidences (Jacobsen et al., 2002).

The literature also indicates that past and existing slum policies and programs have been largely counterproductive because, at the end of the operation, the poor are not the main beneficiaries; instead, middle and high-income earners take over improved dwellings (Jacobsen et al.; 2002; Davis, 2004). It is not, therefore, surprising that "what is happening in most cases is the reverse: piecemeal, undirected or impractical policies that cannot be implemented or which, in practice, benefit only those in power" (UN-Habitat, 2003, p. 5).

This situation raises three issues. Firstly, that housing in urban areas is not the sole problem of low-income people, but an urban crisis that needs to be tackled irrespective of the income level. Because of the shortage of planned development, it is clear that high, medium and low income urban dwellers are actively involved in informal land and housing provision (Smart, 1986). Secondly, the outcome of these policies indicates that housing schemes or urban planning that target a specific population group is not viable. Notwithstanding, designing urban planning for the poor is discriminatory. Finally, such repetitive failures are a clear indication that partial slum policies and programs, which have aimed to address one or a few aspects of slums thus ignoring other components, could only perpetuate the existence and expansion of slums. To start reversing this way of thinking, future slum policies should engage in a more holistic and comprehensive approach that will not only integrate factors of emergence and growth of slums, but will also co-operate with various national and international urban slum stakeholders.

Moreover, one of the most intriguing outcomes of past and current slum policies and strategies relates to their lack of long-term perspective in relation to housing needs in urban areas. Significantly, urban authorities do not always have the means to appreciate the social and spatial scope of slums, nor do they have the adequate land management instruments and appropriate appraisal tools (Brennan, 1993; Jenkins, 2001).

Can Simulation and Modeling Help Slum Policies?

As discussed above, it is now well established that there are common factors that can explain the incidence of slums in DC (even for variables that might have been overlooked in previous and current slums policies). Such knowledge constitutes an advantage that a modeling method could use to determine the contribution of these variables in the emergence and growth of slum. Although all factors pertaining to the emergence and growth of slum are difficult to capture and model realistically with the help of GIS, there is still a range of key IS variables that could be accounted for in IS dynamic modeling and simulation. These factors include topography, markets, places of worship, vacant land, transportation networks, river systems, and other land uses. It will be demonstrated how such key selected spatial and temporal variables could be used to simulate the growth of informal settlements. Whilst a model of incidence of slum will not be able to account for all the

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2 Vacant land refers to any cell, which does not belong to a built-up on the reality maps. Vacant land will therefore include peri-urban land and villages, 'unplanned' areas, land without clear tenure, non-protected areas and public land prone to squatting.
factors that explain the emergence and expansion of slums, a slum growth model can, for instance, help inform the decision-making process for preventive slum expansion.

Developing a model is one strategy that could help improve urban land-use management in many DC. It is clear that a slum or informal settlement model would not intend to address all the issues raised in this paper concerning the failure of responses to the expansion of IS. For example, it is very difficult for a spatio-temporal model to account for other issues of slum growth such as lack of political will, legal and policy impediments and funding issues. However, an informal settlement model that outlines the context and spatial dimensions of emergence and growth could provide critical information to a range of key stakeholders for an improved understanding and response to these complex urban dynamics processes that define many cities in DC.

One of the underlining assumptions of the proposed model is that the scope of the slums could be appraised from historical trends to give a future perspective using socio-economic and physical data in GIS and modeling frameworks. Such a model could also use factors that contribute to the emergence and growth of slums as discussed above. Knowledge about the long-term expansion of slums can be achieved using an approach that would clearly demonstrate the historical trends while, at the same time, project the possible location of future slums and their growth patterns (Abbot, 2002). Specifically, this paper suggests that a long-term perspective and proactive approach is required to predict where new unplanned settlements will occur and therefore act accordingly. This new proactive approach entails a good knowledge of contributing factors to the emergence of and growth of IS (Abbot & Douglas, 2003). These factors include transportation networks, sources and places of income and employment (e.g., market places), worship places, existing slums areas, and topography (e.g., slope gradient).

A computerized GIS, a spatial technique, can greatly contribute in this IS representation process, especially helping with the organization of data, for instance using an overlaying method, and establish correlations between physical factors and the location of IS (UN-Habitat, 2003). Simulation of the historical expansion of IS could provide clues as to where future settlements will occur. Moreover, the simulation and modeling techniques can be used to obtain new insights into the process and intrinsic correlation between the factors underpinning the expansion of IS and their future location.

One of the advantages of adopting the simulation and modeling approaches is their capacity to incorporate the dynamic behavior of IS and visually represent their expansion. The proposed IS model would seek to add dynamic visualization to the human and geographical dimensions of unplanned developments, in order to gain better insights into the prospects of future distribution and tendency of slums. The capacity to map and visualize IS expansion will help in designing a better and more efficient decision-support system and policies for managing slums in DC cities (Sietchiping et al., 2004). This model could also assist in the development of contingency plans to make land and housing available for and accessible to all urban dwellers.

Compared to other approaches (such as static mapping), the dynamic modeling and simulation approach will result in better-informed policies and facilitate the decision process. The main challenge is, however, in relation to how to conceive, design and implement a model of IS emergence and growth. One question for instance is: can the dynamic representation and modeling of IS be achieved within GIS technology, in parallel with another technique, or through an integration framework between a spatial technique and simulation and modeling techniques? The next section will evaluate how the spatial techniques such as GIS can be used...
in combination with modeling and simulation techniques, namely cellular automata, to investigate the dynamic behavior of slums in DC.

**Modeling Informal Settlement: Methodology**

This section discusses how the key factors pertaining to the emergence and growth of slums, can be used to develop a dynamic Informal Settlement Growth Model (ISGM). The model is developed around two main approaches: Geographic Information Systems (GIS) and Cellular Automata (CA).

**Geographic Information Systems and Urban Dynamics**

In the context of urban modeling, Geographic Information Systems (GIS) can be primarily considered as a tool for capturing, storing, displaying, manipulating and analyzing spatial data. It has been demonstrated that GIS does not have modeling capabilities per se and its integration with other approaches is usually suggested as a possibility to address this weakness (Yates & Bishop, 1998; Batty & Jiang, 1999). Yet, GIS is useful because it helps prepare input data (from various sources) and it can support the display and the visualization of models' output.

One of the main criticisms of using GIS as a modeling tool is that modeling within GIS is static, whereas all geographic phenomena are dynamic. Modeling within GIS is also selective and restrictive (separating growth from location). In other words, existing GIS-based urban models lack the temporal and predictive dimensions (Batty & Xie, 1994a and 1994b; Clarke et al., 2002; Batty, 2003). Consequently, there is now a growing interest in incorporating a predictive, modeling dimension within GIS software (Raines et al., 2000; Couclelis, 2002).

**Cellular Automata and Urban Dynamics**

Cellular automata (CA) are best described as mathematical models where space is dynamically expressed by means of discrete time increments and processes. Any CA consists of regular grids of cells; which can adopt any one of a finite number of possible states, the latter being updated synchronously in discrete time steps according to a local interaction rule. That is, the state of any cell is determined by its previous state and the states of a surrounding neighborhood of cells (Batty & Longley, 1994).

Whereas GIS reproduces static urban forms and structures, CA is suitable for simulating the complexity of dynamic urban forces and their resulting features. Theoretical studies have laid the foundation for various applications of CA models of urban growth within hypothetical or real cities of developed countries (Cecchini, 1996; Phipps & Langlois, 1997; Wu & Webster, 1998). Moreover, a strong body of urban dynamics research supports the introduction of CA into urban studies (Batty & Longley, 1994; Wegener, 1994; White & Engelen, 1997; Batty, 2003).

**Integrating GIS and CA for Urban Dynamics**

Researchers have realized that in order to build a more realistic dynamic model able to mimic and forecast real urban situations, there is a significant need to combine and complement the capacities of GIS data with the CA model. For example, Wagner (1997) compared GIS and CA and pointed out that they are both space-time models of their universe and based on a two-dimensional plane. Moreover Wagner showed that
GIS and CA are similar, and complementary in many other ways. For instance, GIS provides a good environment for retrospective analysis of data and their visualization capacity has significantly improved the realistic simulation of urban patterns when a CA approach is used.

Additionally, Couclelis (1997) provided a generic framework for the exploration of the common features within the GIS and CA environments, in order to develop better computer models of real urban dynamics and structures. A good illustration is the Clarke's Urban Growth Model (UGM), which has been tested in different cities such as the San Francisco Bay area, Buffalo, and Baltimore in the US, and Lisbon and Porto in Portugal (Clarke & Gaydos, 1998; Silva & Clarke, 2002). The UGM has also been adapted to model the expansion of urban areas within developing cities (Leao, 2002; Sietchiping, 2003b). Accordingly, the proposed ISGM draws its origins from the concept, theory and technologies of both CA and GIS.

Designing an Informal Settlement Growth Model

This section presents the background of the proposed Informal Settlement Growth Model (ISGM). First, the conceptual framework of the model is outlined, followed by the description of its technical and operational configurations.

Conceptual Framework of the ISGM

The proposed ISGM draws from existing urban dynamics models, which are based upon the integration of GIS and CA, such as those developed by Clarke and Gaydos (1998), Batty et al. (1999), and Yeh and Xie (2001). Following similar principles developed by these models, the ISGM loosely couples GIS and CA technologies to predict the emergence and growth of IS patterns. That is, the ISGM is conceived on CA principles whereby pixels or cell-based grid squares change one by one. Their multiple states are synchronously updated in discrete time steps according to generic rules. In other words, the previous states of neighboring cells determine the state of each cell at any given iteration. The ISGM uses various forms of the Moore extended neighborhood, and it can accommodate an unlimited number of user-defined rules. It is worth noting that the cellular automata developed within the ISGM is extremely flexible due to its ability to incorporate functions such as thresholds, constraints, probability factors, attraction variables and edge-shaping factors. Moreover, general assumptions of IS growth can be fine-tuned to suit the local conditions in this model whilst still maintaining the general conditions pertaining to the emergence and growth of IS. Such assumptions are drawn from the factors behind IS emergence and growth (as discussed above) to design the proposed model.

Technical Specifications of the ISGM

The technical specifications of the ISGM are as follows:

(a) the model's space is made up of a two-dimensional matrix of square, equal size cells;

(b) it accommodates an unlimited amount of input data with the same format and properties;

It's important to note that this assumption is the proxy of the core characteristics of IS which include, poor services (e.g.; water, sewage, electricity and schools), social insecurity, lack or decay of infrastructure, insecurity of tenure, densely built-up areas and poor socio-economic conditions of its inhabitants (mostly poverty).
(c) each layer consists of at least two states (e.g., road and non-road);

(d) each layer is in raster format and each cell has a unique identification number (ID) because changes operate at a cell level (bottom-up approach);

(e) changes operates only on vacant or available land2 on the defined matrix of 4 x 4 extendable Moore neighborhood;

(f) cells change according to predefined and homogeneous rules;

(g) each layer has a unique identification number (ID) (e.g., water: 20, vacant land: 1). This allows the macro program to read and convert the value of each land use category into ascii format, as well as set up the spatial neighborhood filters in a logical way; and,

(h) the selection of any one cell is random.

The essence of the ISGM is its defining of CA-like conditions under which any matrix cell should behave at each time step. It can accommodate an unlimited number of rules, however, and the following were declared to express the general conditions under which IS are thought to emerge in the test city:

1. Existing, formal land-use classes are not changing. This is so because IS resulting from the decaying of planned developments is marginal and therefore, beyond the scope of the proposed ISGM. That is, all new IS occur on vacant land. However, using a framework similar to the ISGM, Wyatt et al. (2002) demonstrate that it is quite possible for an ISGM to take into account the conversion of planned developments into IS.

2. No cell ‘dies’ after emerging. That is, it evolves and maintains its state. This condition suggests that an IS cell cannot return to its previous state or mutate to another land-use type once it is created. This rule is in line with the emergence and expansion of IS patterns observed within cities where unplanned developments prevail.

3. If a cell does not contain at least one IS cell in its defined neighborhood, a new IS cell cannot emerge. This condition prevents IS emerging in an isolated area, and also performs the consolidation of IS patterns. The specific rule also mimics the emergence and expansion of IS in the peri-urban areas.

4. Any new IS cell is generated with a user-defined probability. The probability depends on two conditions: the stages of growth the model is in, and the properties of the surrounding cells (land uses). There is, however, an exception: if a vacant cell is located on a high slope, then its probability of becoming an IS cell at the next iteration decreases (the bust factor).

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4 For the purpose of this application of ISGM within Yaoundé and giving the marginal occurrence of isolated informal settlement patterns, the proximity (neighbourhood) approach within a cellular-like framework was applied. In some occasions, however, isolated patterns of informal settlements can emerge in areas, which might not satisfy the general conditions outlined in this paper. In such circumstances, the ISGM offers three options:

1a. adding the subsequent factor that would account for the emergence of such dispersed distribution;

2b. extending the neighbourhood to include the areas where potential slum could emerge. However, a large neighbourhood (8 or 16) could, however, slow down the program;

3c. altering the general condition and/or probability to suit the specific need.
5. If a vacant cell is located close to IS (e.g., less than four extended neighbors away from IS cell) emergence factors such as a road, river, market place, worship place or low slope cell, then its probability to become an IS cell increases by a user-defined value (boost factor). Moreover, if a vacant cell is close to railway and road, its probability of becoming an IS cell becomes even greater.

Additionally, the general probability of IS emerging on vacant land is either boosted or inhibited by the type of dominant cultural and ethnic group located within its neighborhood.

The model provides possibilities to fine-tune its rules in order to adapt to a specific condition and to improve its accuracy. Accordingly, the model underwent several instances of refinement and modification to increase its simulation capacity and rest the validity of its underlying assumptions. This is because the ISGM is written using the Excel® macro, from the same family as Microsoft VISUAL BASIC (VB). VISUAL BASIC macro language was chosen because it is reasonably easy to learn, write and modify. More importantly, the CA-like behavior can be written in VB and then linked to a GIS environment. Moreover, unlike other GIS programs that have specific languages, VB macro is a cross-platform language that is appropriate for prototyping and which can be supported by almost any GIS environment.

In comparison then, to other CA models, the ISGM is transparent in the sense that one can access and modify its source commands, record new macros, manipulate the model's spreadsheet and so directly check its consistency. The macro language code for ISGM is a stand-alone programme that utilizes a GIS interface to identify the input files and display the results of the application. For this application, Idrisi © GIS software is used as the display interface, because of its ability to preserve the properties of input and output files. Similarly, Idrisi© offers the possibility of calibrating, validating and statistically comparing the output of the simulation.

The proposed ISGM can be divided into five sequential modules: setting up, calibration, looping, application of rules, and display as follows:

- First, in the dimension module the user states the general condition of the macro and lists all the files to be used for the calibration.
- Second, in the calibration module the user states the base year and the final_year. This automatically generates the number of iterations (annual changes for the calibration), the net_pixel_gain (which is the amount of space or cell to be converted into informal settlement) and the annual_target (which is a constant that divides the expected number of new IS cells by the number of iterations). The annual target can be formally expressed as (equation 1):

$$\Delta_t(X, Y) = | N_{\text{pixel}}(Y, t) - N_{\text{pixel}}(X, t) |$$

where:

- $\Delta t(X,Y) =$ Net gain pixel of land use t from year Y to year X
- $N_{\text{pixel}}(X, t) =$ Number of pixels characterizing a land use of type t for a year X

- Third, in the looping module, five loops are automatically set: (1) the iterations loop that checks the user-defined number of iterations at different temporal growth stages; (2) the annual change loop that resets the
changes to zero; (3) the random cell loop that continuously checks the map to locate a random cell; (4) when a random cell is not found, the non-changing cell loop sends the operation back to the random cell loop; (5) otherwise, the macro proceeds to search for the cells at the edge (neighborhood) of the existing IS cell.

- Fourth, the transition rules module executes the conditions (using If Statements) and the probabilities (local and general) under which a vacant cell can change to an IS cell. This will be effective only if all the stated conditions are satisfied, and the specified quota (annual_target) has been reached. The macro can then record the new (update) value of each cell into the output file.

- Finally, the display module sets the parameters for automatic display of the calibration results based upon the user-defined, GIS environment, image format, size, and color palette.

Figure 1 summarizes a step-by-step procedure to successfully execute the five modules of the proposed model.
Figure 1: Sequence of operations and flowchart of the Informal Settlement Growth Model execution

1. Dimension
   - Set calibration parameters:
     - Rows = 25, Cols = 315
     - Starting Year: 1975
     - Final year: 1988
     - Net Pixel gain = 7493
   - Set neighbourhood search radius (=3)
   - Set dimension (rows x cols) arrays for land use, slope, cultural groups, etc.

2. Calibration
   - Display 1975 and 1988 images in IDRISI
   - Convert 1975 image to ASCII and read in each pixel's value.
   - Repeat other layers such as slope, cultural groups, major roads and markets/churches

3. Iterations Loop
   - Begin
     - Calculate temporal stages (= 1, 2 or 3)
     - Calculate iteration's IS pixels target (increases with stages)
   - Choose a random cell
   - Land use in informal settlements?
     - NO
     - YES
     - Search randomly outwards for nearest vacant land cell
     - Found?
       - NO
       - YES
     - Write values into iteration's output file
     - Iterations complete?
       - NO
       - YES
   - Change cell to IS
     - Annual pixel quota reached?
       - NO
       - YES
     - Probability of change to an IS cell = 0
     - Find closest cell which is road, river, etc.
     - Closes(m), where m = land use code % of neighbourhood outwards (neighbourhood grows with stage)
     - If closest (m) > d then road, rail, etc. = 1, else road, rail etc. = 0
     - where d = critical distance

4. Apply Transition Rules
   - Probability > Random Nb (0-1)?
     - NO
     - YES

5. Display Results
   - END
Implementation of the Proposed ISGM to Yaoundé

This section briefly introduces urban growth experienced in Yaoundé, the capital city of Cameroon in Central Africa, and presents how the data are prepared and used within the proposed ISGM.

An Overview of Yaoundé Urban Informal Settlement Growth

Yaoundé is the second largest city (after Douala) and also the capital city of Cameroon in Central Africa (figure 2). It has been selected for testing the ISGM because of its rapid urban population growth and the extent of its unplanned development. The urban area of Yaoundé has grown by almost tenfold in less than five decades. Specifically, with an urban area of about 1,500 ha in 1956, Yaoundé covered 5,300 ha in 1980 and about 14,000 ha in 2000 (Sietchiping, 2003a). Research shows that 80% of settlements in Yaoundé are informal (against 30% in 1960s) and accommodate about 85% of city dwellers (Franqueville, 1984; Pettang et al., 1995). Similarly, the informal market represents more than 80% of housing stock and Yaoundé last had a planning document in 1982 (Pettang, 1998; Bopda, 2003).

Figure 2: Location of the study area, Yaoundé, Cameroon in Central Africa

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5 All data were sourced from official documents, except the worship and market places layers, which were derived from Bopda’s work (Bopda, 2003). For instance, roads, rail line, airport area with runway and land use maps (scale of 1:12000) were derived from the official urban planning documents by the Ministry of Urban Planning (MINUH, 1990). Rivers, contours, spot heights, and other layers were compiled from two topographic maps of Yaoundé at a scale of 1:12000 obtained from the National Institute of Cartography of Cameroon. All these layers were digitized using ArcInfo, then exported into Arc View for georeferencing, analysis and editing."
Moreover the informal market represents more than 80% of housing stock (Pettang, 1998), which means that in the context of Yaoundé, new urban land uses are more likely to expand through the informal mechanism (provision, finance, construction, allocation, etc.). Three main types of housing can be identified based on the density of the built-up area per hectare and dwellers per unit: low density planned developments in wealthy areas, medium density in municipality or community housing for city public servants, and high density unplanned developments for the majority of the population. This paper focuses on the expansion mechanisms of the IS category, which constitutes the most dynamic land use in Yaoundé in terms of land acquisition, spatial densification and numbers of actors.

Data Preparation and Use for the ISGM

Various Geographic Information Systems (GIS) software (ArcINFO®, ArcView® and Idrisi32®) are used to prepare a series of layers. As demonstrated in section 1.2, these layers were selected because they constitute key factors for the emergence of slums. Maps5 considered include transportation networks (railway, major roads, other roads and proposed ring road), land use classes (base and final years), river systems, places of worship, market places, topography, and ethnic and cultural groups. As will be shown later, only lines and areas features will be sensitive to the model.

It is worth mentioning that the attempt to use markets and places of worship as points to determine the expansion of IS was not satisfactory. In fact the spatial insignificance of these point features will render them inadequate to trigger change, even if their probabilities were significantly greater than those for the other factors. This problem could only be corrected by representing market and worship places as polygons (areas).

Some of these layers are used individually (figs. 4b, 4c, and 4d) and others are merged (figs. 4a, 4e and 4f) to improve the model performance. Figure 3 shows the final layers used in the calibration of ISGM on Yaoundé, Cameroon.

6 It is worth noting that there are more than 200 cultural/ethnic groups in Cameroon and it is likely to find more than a dozen in cosmopolitan Yaoundé. Based on population census (1976 and 1997) and previous study (Bopda, 2003; Franqueville, 1984), this paper represents the four main ethnic/cultural groups that dominate the Yaoundé urban space: Ewondo, Eton, Bamileke and Haoussa. The Ewondo (and Bané) are the indigenous population of Yaoundé whereas the Haoussa, Bamileke, Eton and others are ‘migrants’. The map of cultural and ethnic groups was obtained from the percentage (simple majority of ethnic/cultural origin in each neighborhood) of the origin of its inhabitants. The likelihood of each neighborhood influencing the emergence of new slums was a function of the historical slum trend in each neighborhood, the composition of its surroundings and the probability of other variables considered. The ethnic/cultural map was extrapolated to the entire area of study to so that the prediction module could account for the ethnic/cultural group. This was so because there is a strong link between cultural/ethnic background and prevalence of IS and an even stronger the relationship with land use.
Figure 3: Final maps layers used for the calibration of ISGM on Yaoundé, Cameroon

a. Base year 1975 land use

b. Final year 1988 land use

c. Ethnic and cultural groups

d. Slope in degrees

e. Excluded areas (White)

f. Market areas

g. Worship places
Calibration Results of the ISGM

The ISGM underwent a series of modifications to optimize the output. To statistically validate the model, the VALIDATE module in Idrisi© (Release 2) was used to assess the level of accuracy of the model’s outputs. To achieve such statistical validation, the reality map (1988) and the simulated map (1988) of each version were converted into two classes: informal settlement and non-informal settlement. The Validate function then returned a series of kappa and other statistics about the quantity and location accuracy of the simulation outputs (Pontius, 2000). Overall, the quantity scores of the simulated maps perfectly agreed (100%) with the reality map, because in the ISGM, the user predefines the quantity of simulated IS cell before the calibration. In contrast, the locational scores varied greatly among simulations.

This section describes some of the modifications introduced into the ISGM and the subsequent results, which indicate how the model is sensitive to different input parameters. Selected samples of calibration results based upon the IS growth criteria are presented in figure 4 (for clarity and space, the map scale and legends for the simulated maps are purposely omitted). These results are displayed with their kappa location score (V as the percentage of location accuracy, that is the number of times the location of IS cells on the simulated map exactly matches the location of the cells on the reality map)
Figure 4: Sample of the calibration of ISGM in Yaoundé

a. 1975  

b. 1988  

c. Exponential: V=42.1%  
d. Compact/constraint V=45.7%  

e. Road only V=42.3%  
f. Road and River V=46.5%  
g. Topography V=60.9%  
h. Cultural and others V=72.7%

Figure 4 presents six different calibration results that were obtained by changing different input parameters and by fine-tuning the ISGM. Each simulation result would be compared with the pattern in the base year (fig. 4a) and the actual configuration of IS in the target year (fig. 4b). The exponential growth (fig. 4c) tests the ISGM when it runs without any constraints and returns a location accuracy of 43.1%. Informal settlement cells emerge at the proximity of existing IS cells with a probability of one. That is, only existing IS are considered and other slum growth factors such as roads, rivers and market places are not included. The result
shows that this application does not capture the essence of IS growth mechanisms, especially the direction and spread of IS patterns.

The next calibration (fig. 4d), however, applies some basic constraints to the model that generates a more compact form of IS pattern. This was achieved by adding the 'excluded areas' file (see fig. 3e) and by increasing the probability of new IS cells (from 0.2 to 0.4) to emerge in the neighborhood of existing IS. This application produced 45.7% accuracy. The ISGM is then modified to test the sensitivity of the model to road layers (fig. 4e), with the probability of 0.8 for road and 0.2 for existing IS cells in the neighborhood. That is, other factors are ignored. This application recorded the lowest location accuracy, 42.3%. This was so because the main aim was to test how the model was sensitive to linear features, not necessary the location of informal settlements.

The linearity of the other roads (0.1), gentle slope or lowland (0.2), existing IS cell (0.1), market and places of worship (0.2) and rivers IS growth pattern is then further improved by combining the road and river systems with the existing IS patterns (fig. 4f), with their respective probability of 0.4, 0.3 and 0.3. The locational accuracy of 46.5% was obtained, but there are still some ‘pockets of vacant cells’ on the simulation outputs (figs. 4e and 4f). Slope factor is, therefore, added and major roads7 are differentiated from other roads along with their respective probabilities: major road (0.3), (0.1) are factored in. This time, the accuracy was improved to 60.9%. This calibration generates the IS patterns shown in figure 4g. It is worth mentioning that this version of the model also more effectively accounts for socio-cultural factors like the location of market and worship places.

Finally, figure 4h shows the contribution of cultural and ethnic composition (along with other factors previously tested such as road, river, topography, markets and worship places) in the expansion and spatial distribution of IS patterns in Yaoundé. Table 1 presents the probabilities of each factor at three different temporal stages as illustrated in figure 4h. It is worth mentioning that some factors (e.g., cultural groups) were self-exclusive and the threshold function of the model will redistribute the probabilities when the quota (100%) is reached. This version produced a location accuracy of 72.7%.

Table 1: Input variables, probabilities and stages of ISGM for figure 4h

<table>
<thead>
<tr>
<th>Variables/Stages</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slope (Slope d&quot; 100)</td>
<td>0.1</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>Market places</td>
<td>0.01</td>
<td>0.03</td>
<td>0.04</td>
</tr>
<tr>
<td>Worship places</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>River (&gt; 0.66 neigh) and road</td>
<td>0.3</td>
<td>0.3</td>
<td>0.7 (road); 0.2 (not road)</td>
</tr>
<tr>
<td>River (&gt; 0.33 neigh) and road</td>
<td>0.1</td>
<td>0.2</td>
<td>0.3 (road); -0.8 (not road)</td>
</tr>
<tr>
<td>River (&lt; 0.33 neigh) and road</td>
<td>-0.5</td>
<td>-0.2</td>
<td>0.3 (road); -0.3 (not road)</td>
</tr>
</tbody>
</table>

7 It is worth mentioning that after several calibrations and accuracy tests of ISGM within Yaoundé, it became evident that the importance of the road influenced the location of slums. The road layer was then divided into two categories: 'major' and 'minor' roads. Using various trials-and-errors operations, each category was finally assigned its respective probabilities.
<table>
<thead>
<tr>
<th>Variables/Stages</th>
<th>Stage 1</th>
<th>Stage 2</th>
<th>Stage 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>All roads</td>
<td>0.01</td>
<td>0.02</td>
<td>0.03</td>
</tr>
<tr>
<td>Major roads</td>
<td>0.5</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td>Proposed ring road</td>
<td>0.2</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>Railway lines</td>
<td>0.2</td>
<td>0.3</td>
<td>0.2</td>
</tr>
<tr>
<td>Airport Runway</td>
<td>0.3</td>
<td>-0.3</td>
<td>-0.4</td>
</tr>
<tr>
<td>Cultural group 1</td>
<td>-0.1</td>
<td>-0.2</td>
<td>-0.3</td>
</tr>
<tr>
<td>Cultural group 2</td>
<td>0.2</td>
<td>0.4</td>
<td>0.3</td>
</tr>
<tr>
<td>Cultural group 3</td>
<td>0</td>
<td>0.1</td>
<td>-0.1</td>
</tr>
<tr>
<td>Cultural group 4</td>
<td>0.1</td>
<td>0.3</td>
<td>0.3</td>
</tr>
<tr>
<td>Cultural group 5</td>
<td>0</td>
<td>0.03</td>
<td>0.01</td>
</tr>
<tr>
<td>Cultural group 6</td>
<td>0</td>
<td>-0.2</td>
<td>-0.1</td>
</tr>
</tbody>
</table>

Compared to previous calibrations, this version defines two factors of proximity: one for all the criteria considered in the model (equation 2) and the other, which makes exception of river cell (equation 3) as follows:

\[
m_+ = \frac{(\text{neigh}(n)+1) - a}{\text{neigh}(n)} \quad m_- = \frac{(\text{outside}(n)+1) - b}{\text{outside}(n)}
\]

where:
- \(m_+\) = positive growth towards the proximity to any variable considered except ‘river’
- \(m_-\) = negative growth towards any river cell in the neighborhood
- \(\text{neigh}(n)\) = total number of neighbors of \(m\) within the radius range of \(n\) pixels.
- \(a\) = closest vacant pixel in the neighborhood
- \(\text{outside}(n)\) = total number of neighbors – \(\text{neigh}(n)\)
- \(b\) = total number of vacant land in a radius \(n - a\)

It was necessary to redefine a function for cell at the proximity of rivers because it helps capture the essence of IS growth towards the river course, whereas in other cases, the growth occurs outwards, and possibly at different stages.

**Dynamic Visualization of ISGM**

One of the critical components of urban dynamic modeling in geography is to simplify the understanding of processes by facilitating their visual interpretation. An important part of such a dynamic visualization and representation is to ensure that the processes are not represented in a static manner. The ISGM implements the dynamic visualization through the time-series animation of the simulation output. The practical aim of developing the dynamic visualization of the ISGM output is to allow a quick and easy appraisal of the expansion of IS patterns over time. Time-series functionalities such as animation are not readily available in
most GIS environments. By allowing the option of generating a simulation output according to a user-defined format, the ISGM provides the flexibility to export its multiple map outputs to the available animation medium to create either a movie or a simple map animation.

For this model, the IS macro generated the output in two different formats: Idrisi® format and Bitmap (.BMP). However, the user can define any other output format. It is important to recognize that the time-series algorithm in Idrisi® Release Two failed to support the creation of the visual animation of the output layers from Idrisi® format files (.RST). It is also worth noting that before the automatic format conversion was developed and incorporated into the model, each Idrisi® output format was manually converted into a desktop publishing format such as .BMP. The automation of the data conversion avoided the tedious task of manual conversion, hence facilitating the creation of a dynamic visualization.

To produce dynamic visualization of the output files, a desktop format, namely BMP, was used, mostly because of the high quality of the visual contrast. Two different approaches were used: visual animation in MS PowerPoint®, and the creation of movie files using a trial version of a video editing freeware, VideoMatch®. When creating the animation in PowerPoint, files are individually imported into the program, and then the time and order of each simulation are set in the custom animation window. There are options to add text and comments to the images as they appear on the screen. This method is an effective way to display in detail, the growth of IS over time, and monitor trends in their expansion. Animation in MS PowerPoint® also has the advantage of displaying the features clearly and at the same level of detail as the simulated maps. One of the disadvantages of this method is the user requires a PowerPoint application to run the dynamic visualization. When creating a video or movie using VideoMatch® (one of the various video software freely available on the internet), individual files are imported into the program. The sequence of appearance and the duration of each appearance are then set by the user. The number of input files and the duration of each appearance determine the size of the video. One of the drawbacks of this method is that the file can be large and take time to be converted into a movie format. Unlike PowerPoint®, the spatial resolution, and therefore the quality of the visual contrasts are reduced during the conversion from .BMP to a movie format. Nevertheless, the user has a range of options to visualize and transfer the data.

The actual animation of the model output was important to actively see the emergence and growth of IS patterns across different parts of the map. Without the animation of simulated maps of Yaoundé for instance, the model would have not identified the need to suggest the three-phases of development of IS to capture the change in IS growth at different periods. From the dynamic visualization of IS emergence and growth in Yaoundé, it was possible to identify sections of the city (e.g., southern and western) experiencing rapid expansion of slums. It was also useful to correlate and recognize the central role cultural and ethnic groups, road networks and topography play in the identification of IS growth mechanisms. This suggests that urban planners and policy-makers could incorporate the dynamic visualization of IS expansion in their quest to understand the informalization process.

**Evaluation of the ISGM**

A vital part of any model development is having a robust system of evaluation to provide some capacity to check its validity and usefulness. A key part of the work undertaken to develop the ISGM was therefore developing a framework to test its effectiveness and value at simulating IS growth and expansion in a ‘real’ context such as that of Yaoundé. This section outlines the evaluation criteria used to test the model. Four
main criteria were used based on the work of Giudici (2002) to evaluate the ISGM performance. These criteria are sensitivity, validity, reliability, and efficiency and utility and are discussed below.

**Sensitivity**

Sensitivity assesses the behavior of the model whenever changes are made to its properties, structure and inputs. In the case of Yaoundé, the ISGM has clearly demonstrated that the modification of the configuration of the model reflects on its output. For instance, the output of a road-based ISGM (fig. 4c) was different from exponential growth (fig. 4c) and river-based simulation results. It was demonstrated that ISGM had the capacity to test various hypotheses of IS, especially when the key factors were progressively added to the model. In that respect, factors such as main roads, vacant land, cultural and ethnic groups, topography and market places were shown to play an important role in the emergence and expansion of IS. Similarly, excluded areas (which consisted of enclosed and protected areas, such as military camps and airport) emerged as a serious deterrent to the exponential growth of IS.

**Validity**

Validity assesses how the output agrees with the conceptual framework of the model. The calibration results show that it is possible to combine the GIS and CA approaches to simulate and predict IS dynamics. One of the advantages of the loose coupling of a flexible CA (VISUAL BASIC macro language) and spatial GIS environment is that it facilitates building and maintaining models. With ISGM, it was shown that one could easily modify probabilities and explore what happens if the model mutates its structure due to new information, or due to spatial and temporal changes. The proposed model has also demonstrated what the main driving forces behind the expansion of IS are, as well as indicated the respective weights that each factor considered had at different stages or scenarios of urban development. Furthermore, the model’s capacity to combine physical changes with socio-cultural aspects is significantly important in terms of capturing the depth and breadth of dimensions that represent IS expansion and therefore, increase our understanding of IS behavior and improve urban planning responses. This knowledge of the role of both physical and socio-cultural dimensions is particularly vital for urban planners and governments who can use the model to better anticipate the emergence of future IS.

Quantitative validation of the model involved using the Validate module in Idrisi® to measure the level of precision of each simulation. It was shown in section 6 that the precision of the outputs increased with the sophistication of the model. For instance, the implementation of the ISGM on Yaoundé clearly demonstrated how accuracy of prediction improved from 43% (fig. 4c) to 72.7% (fig. 4h). Nevertheless, future development of the ISGM could well benefit from the incorporation and strengthening of the statistical analysis and evaluation built within the program itself. However, the results of the ISGM could not be compared with other models’ results, only because such similar IS models do not exist.

**Reliability**

Reliability examines the quality and truth of the results provided by the model. In that regard, the proposed ISGM has performed properly and generated expected outputs based on the data input, the rules and the probabilities. The application of the proposed ISGM to Yaoundé has shown that the choice of key IS growth factors, the definition of rules and the application of sound probability estimates, significantly improve the calibration of the predicted output. The model does not, however, take into
consideration other important factors of IS emergence and growth, such as urban policies, governance issues, corruption, impact of structural adjustment programmes, transparency of decision making process, which could have improved its performance if suitable data about them had been available. Despite this, the simulation of IS could allow planners and policy-makers to do a preliminary “What-if?” analysis with the purpose of assessing the system’s behavior under different conditions and evaluating which alternative policies should be adopted.

Efficiency, utility and generality

Efficiency refers to the model’s precision given time, equipment and expertise limitations, whereas utility assesses the efficiency, usefulness of the model. Generality is the extent to which a method or model can be successfully applied, with minor modifications, to a wide range of situations (in this case cities). Compared to other urban dynamics models, the ISGM is a low cost model (Wyatt et al., 2002) and can be obtained free of charge from the author. Moreover, the proposed ISGM is fast to run and quite flexible in data input. In terms of equipment, the ISGM is versatile and it can be implemented on a standard computing platform with a VISUAL BASIC application, and a nominated raster GIS environment. Furthermore, the testing of the ISGM within Yaoundé clearly showed that, with limited modifications, the model has the potential to be successfully used to explore the expansion of IS in other cities of DC. The model also provides multiple outputs, which can serve to create a movie of IS dynamics, thus gaining better insights into the dynamic of IS patterns. As the case study of Yaoundé indicated, ISGM allows the rapid development of different types of growth, which could greatly improve interaction amongst government and urban stakeholders. This is of paramount importance for proactive strategic planning that can anticipate the future location of IS and then act before they become widespread. Nevertheless, the viability of the proposed model would be even greater if the program were converted into menu-driven software.

Concluding remarks

This paper has shown that GIS technology can be loosely coupled with the CA approach to simulate the behavior of IS dynamics in cities in DC. The VISUAL BASIC language used for designing the ISGM allows flexibility and provides full control (customization) over the modeling and simulation processes. In that regard, the proposed model can be considered as a 'white box' in opposition to other urban dynamics models that portray a 'black-box' approach.

The proposed model is at its early stages and so, has room for further improvement, especially in the areas of fine-tuning the model, user-friendly, more rigorous calibration algorithm, development of a menu-driven interface, and adding other key variables such as level of governance, corruption and public participation in the planning process. Nevertheless, it was demonstrated that the ISGM embodies the logic of IS growth, and thus sheds light on human settlement behavior in DC and in doing so, helps urban researchers to better understand processes of unplanned expansion in order to inform planning. Importantly, this study has shown that within certain boundaries, important human dimensions and characteristics can be incorporated into a modeling framework. The model adds to our capacity to plan because it is able to incorporate a larger range of variables and in particular, socio-cultural characteristics that are central to understanding human settlement behavior. In doing so, it could be argued that the ISGM begins to challenge the assumption that spatial models cannot be used effectively to better understand human behavior because they cannot handle
spontaneous phenomena and human interactions such as slums. I therefore believe that this proposed ISGM represents an important contribution to the state-of-art of informal settlement modeling within DC.

Finally, this paper has demonstrated that the proposed model has also been developed within a robust evaluation framework based upon its sensitivity, reliability, validity and usability. This framework has indicated that the ISGM can potentially improve the urban planning and decision-making processes that would ultimately lead to the long-term improvement of the quality of life in developing cities. This outcome suggests that a key further step is the models' capacity to be useful in a 'real-world' planning context by governments and urban planners.

References


Masland, T. 2002. Houses of Hope; Mass urbanization is threatening Africa. Now Instead of bulldozing shantytowns, governments are trying to clean them up by giving squatters legal rights to land. Newsweek. May 27.

MINUH-Ministry of Planning and Housing- 1990. Evaluation of real housing needs in Cameroon. Indicators for national housing policy, strategies towards a national housing policy. Yaoundé: MINUH.


RESIDENTIAL SEGREGATION AND SOCIAL EXCLUSION
IN BRAZILIAN HOUSING MARKETS*

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Sinopse
Este artigo pretende analisar o conjunto de características que podem explicar o surgimento de favelas nas cidades brasileiras, a partir dos microdados da Pesquisa Nacional por Amostras de Domicílio (Pnad) do Instituto Brasileiro de Geografia e Estatística (IBGE) para o ano de 1999. O artigo está dividido em 2 partes principais. Na primeira parte, faz-se uma breve descrição das tendências da urbanização, do processo de formação de favelas e do perfil da pobreza no Brasil e apresenta-se uma resenha da literatura empírica sobre exclusão social e segregação espacial. Na segunda parte, estima-se uma função logit para testar hipóteses se atributos locais, regionais e pessoais como migração, nível de renda, tamanho da família, escolaridade, regime de propriedade, gênero, raça, idade, posição no mercado de trabalho, setor de atividade, tamanho de cidade e outros fatores locacionais são importantes para explicar o surgimento de favelas e a existência de segregação espacial e exclusão social no mercado habitacional das principais cidades brasileiras. Outra preocupação do artigo é esclarecer a natureza das relações existentes entre os mercados de trabalho e de habitação e o modo pelo qual a discriminação e a segmentação em ambos os mercados se reforçam mutuamente. Ao tentar elucidar as causas e a natureza da discriminação social e da segregação espacial enfrentadas pelos moradores das favelas brasileiras (“favelados”), este estudo pode ser útil no desenho de políticas de Desenvolvimento Regional e Urbano mais eficazes no combate à pobreza urbana, tanto no Brasil quanto em outros países em desenvolvimento.

Abstract
This paper seeks to analyze the set of characteristics that can explain the existence of slums (favelas) in Brazilian cities, based upon microdata from the 1999 edition of the National Household Survey (Pnad), published by the Brazilian Institute of Geography and Statistics (IBGE). The paper is divided in 2 main parts. In the first part, we briefly describe urbanization trends, the process of slum formation and the poverty profile in Brazil and present a survey of the empirical literature on social exclusion and spatial segregation. The second part of the article describes a logit regression designed to test the hypothesis if

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local, regional and personal attributes such as immigration, income level, household size, schooling, tenure conditions, gender, race, age, labor market insertion, sector of activity, city size and other locational variables are important to explain the existence of slums and residential segregation in the housing markets of the major Brazilian cities. Other concern of the paper is the nature of the relationship established between labor and housing markets, and the way in which discrimination and segmentation in both markets reinforce each other. By shedding some light on the causes and the nature of social discrimination and spatial segregation faced by slum-dwellers in Brazil (favelados), this study can aid policy makers to design more efficient urban and regional development policies in order to fight urban poverty in Brazil and in other developing countries.

Introduction

Urban problems in Developing Country Metropolises have been attracting more and more attention all around the world. The magnitude and the trends of the urbanization process in Brazil since the 1940s pose several challenges to researchers and policy-makers for understanding their scope, causes and consequences, and, in particular, the nature of the urban problems now faced by the major Brazilian cities.

Together with growing rates of urbanization, industrialization and concentration of economic activities, one can observe an increase in urban poverty, both in relative and absolute terms, as well as the proliferation of slums (favelas) and illegal settlements, either in central cities or in the periphery of metropolitan areas (MAs). Increased urban poverty, crime, social discrimination and spatial segregation within the cities, affect adversely the environmental quality and living conditions of the urban population, especially the poor, increase the need for adequate shelter and urban infrastructure services and call for more efficient and better-targeted urban development and social policies.

Despite increased acknowledgement of the importance of housing and urban services provision as poverty alleviation strategies, not much research is being done on this field in Brazil. The great majority of studies on poverty and social exclusion in the country deal mainly with the effects of different levels of education on employment opportunities and income inequality. Recently, gender and race inequality have emerged as issues. Most of the studies dealing with informal housing and socioeconomic segmentation in cities, however, place great emphasis on legal aspects of the question, and show little concern for the quantification and understanding of the socioeconomic determinants of spatial segregation. In this context, this paper sheds light on the personal and locational characteristics that affect the probability of becoming a slum-dweller (favelado). Another concern of the paper is the nature of the relationship established between labor and housing markets, and the way in which discrimination and segmentation in both markets reinforce each other.

The paper is divided into 5 sections, besides this introduction. In the second section we present a brief description of urbanization trends, the process of slum formation and the nature of poverty in Brazil, using census and household survey data for several years. In section 3 we present a survey of the empirical literature on social exclusion and spatial segregation and on studies that have applied logistic regressions to investigate unemployment, poverty and housing choice. Section 4 describes the data set as well as the housing, personal and living conditions in substandard residential areas, used here as a proxy for slums.1 Section 5 presents the

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1 See the methodological notes on section 4.
variables used in the logit model to explain slum formation in Brazil, taking into account the personal characteristics of the household's head, income level and locational attributes. Section 6 shows the results and the policy implications derived from the model. Finally, section 7 presents the main conclusions, as well as some new ideas for the research agenda on housing in Brazil.

Urbanization trends, slum formation and poverty profile in Brazil

This section briefly portrays the urbanization process in Brazil, emphasizing some aspects that seem particularly important for the understanding of its current trends and the problems affecting the quality of life, spatial segregation and social exclusion in Brazilian cities, such as migration, poverty, unemployment and racial and gender discrimination.

Traditionally, Brazilian growth model has been characterized by the social exclusion of growing portions of the society, caused mainly by an unequal income distribution, where a small portion of the population has access to the bulk of income and wealth, including proper housing, urban infrastructure and other basic services like education and health, whereas the great majority of the population is deprived from the access to those minimum basic needs. In the past decades, the process of social exclusion in Brazil has been accompanied by growing urbanization rates and the spatial segregation of minorities and low-income population in slums and illegal settlements, located either in central cities or in the fringe of the major MAs.

The Urbanization Process in Brazil

Toward the end of the colonial period, the urban population accounted for less than 6,0% of the country's total population. In the 20th century Brazil experienced a huge increase in urban population, from 10.7% in 1920 to 31.2% in 1940. From the 1950s on, the population and economic activities have increasingly concentrated in the cities of the Southeastern region, mainly in São Paulo and Rio de Janeiro.

Every IBGE Census since 1940 reveals shows a strong increase in the urban population. Such vigorous growth paralleled the country's industrialization, and had a profound effect on urban-rural and regional population patterns. Brazil has been primarily an urban country since the 1970s, when more than 52 million people (55.9%) were living in urban areas. The country experienced the most rapid population growth rate between 1960/70.

In the last six decades, the inter-regional migratory movements were complemented by strong intra-regional migrations, of a rural-to-urban nature, in all Brazilian regions, due to the attraction provoked by the industrial growth and improved access to urban services, as well as to the structural changes in the agriculture sector, resulting in faster urban growth, not only in the economically dynamic areas of the Southeast, but also in less developed regions, such as the North, where, despite the small demographic density per square Km, roughly 69,7% of the total population live in cities.

From 1980 on, the rural population decreased both in absolute and relative terms. From 1991 to 2000, the rural population fell at an average annual rate of 1.3%. In 2000, 81.2% of the Brazilian population lived in urban areas, and concentrated mainly in the Southeastern (42.6%) and Northeastern regions (28.1%). Urbanization rates are higher in the Southeast (90.5%) and the South (80.9%) of the country.

In the 1970s and the 1980s there was an enormous population increase in MAs. Since 1996, the urban population has continued to grow at high rates, but has concentrated mainly in medium-sized cities. There
are dramatic differences in the intra-metropolitan distribution of such growth, with the periphery of larger
metropolitan areas growing faster than the central cities.

The process of Slum formation

Favelas is the generic name given to agglomerations of substandard housing that emerged initially in Rio de Janeiro. The term was then generalized, with some local variations, to define substandard housing in other Brazilian cities. Usually, slums or favelas are highly populated areas, encompassing agglomerations of degraded properties and other facilities, constructed without streets, public spaces, and planning, and lacking essential public infrastructure services, such as water, sewerage and garbage collection and disposal. Slums are usually located on vacant land, hillsides, tidal land or floodplains, in ill-divided plots destined to low-income population. Slum-dwellers endure both social exclusion and spatial segregation, because they have less access to health care, education, job opportunities and proper housing and urban services.

Historically, the phenomenon of slum formation (favelização) in Brazil seems to trace back to the beginning of the 20th Century, in Rio de Janeiro. The excluding nature of the urban reform and the excessive burden of municipal legislation implemented under Pereira Passos administration (1903), with the eradication of collective and rental housing inhabited by the poor in the inner city (cortiços, casas de cômodos and cabeças de porco), and the construction of cheap houses in the suburbs for the working class (vilas operárias), caused an increase in land values, either in central cities or in peripheral areas, with the eviction of the poor towards the suburbs and the empty hills near the city center, causing the emergence of slums. New slums appeared following the new sources of employment: industrial in the northern and services in the southern zones of the city. Slums were only officially recognized by the local Government in the 1940s. According to Vaz (1998), the emergence of slums in Rio can be seen as a response of the population to the transformations caused by the modernization of the city and, in particular, the need to commute between home and work.

During the 1940s and the 1950s the number of slums increased, largely due to migration from rural to urban areas. The phenomenon of spatial concentration of the Brazilian low-income population in urban slums was a by-product of the urbanization process and might be explained by the existing attraction and repulsion forces between rural and urban areas. The attraction factors include the creation of an industrial pole in the Southeastern region, which generated labor demand in industry, trade and services sectors, and increased wage differentials in favor of urban areas. Other important factors of attraction were the safety networks provided by the labor market legislation and social security systems, coupled with improved access to employment and urban, health and education services, which were concentrated in urban areas. After 1964, the large investments in public works and social housing also stimulated an influx of people toward the cities, without the necessary planning and the provision of adequate housing and public services at reasonable prices, payment and credit conditions accessible to the urban poor (Grazia and Queiroz, 2001).


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2 The word favela is more used to denominate substandard housing in Rio and São Paulo, while in the rest of Brazil there's a wide variety of local names such as palafitas in the North, mocambos and alagados in the Northeast, invasões in Bahia and Federal District. However, the denomination favela is now widely used in the entire country.
during the 1980s, with the deterioration of living conditions caused by an increase in unemployment rates and the progressive impoverishment of the population, where the process of slum formation is accompanied by a displacement towards the city’s central areas. The poor sanitation, environmental and access conditions among slum-dwellers in Rio de Janeiro and São Paulo are emphasized by Casé (1996) and Sampaio (1998).

**Poverty Profile, Employment and Social Exclusion in Brazil**

Brazil presents one of the worst distributions of income internationally, with income inequality concentrated in the richest 10.0% stratum of the population. Income inequality increased in the 1960s, decreased in the 1970s and rose again during the 1980s, in the context of a stagnant *per capita* income for the poor population, in increasingly complex labor markets.\(^3\) Despite the steady improvement in poverty indicators in the 1990s, methodological differences have lead to disagreements over the actual number of poor. One can also observe the persistence of strong inequalities among Brazilian regions (Lopes, 1989, Morais and Lima, 2001).

Income poverty indicators\(^4\) show a decrease in the proportion of poor households in Brazilian cities from 19.0% in 1993 to 11.0% in 1998. In urban areas, the proportion of poor female-headed households in 1998 (14.0%), despite being smaller than it used to be in 1993 (19.0%), is, however, larger than that of male-headed households in 1998 (11.0%), which might demonstrate the higher fragility of the living conditions of single women with children.

In spite of the decrease in poverty levels for the country as a whole, the poverty profile in Brazil has shown pronounced differences in its regional evolution, showing improvement in the Center West, a sustained reduction of extreme poverty in rural areas and an increase in metropolitan poverty rates throughout the last decade, due to the urban employment restructuring process, which imposed adverse impacts on the job market and employment levels, such as growing unemployment rates, and lower quality of employment, which is becoming increasingly informal. The percentage increase of self-employed and informal employed, reduces income returns for labor, causing a decrease in the average *per capita* earnings of labor income, and an increase in poverty ratios (Rocha, 2000).

The absolute number of poor in 1998 was 51.3 million people (33.4% of the Brazilian population). For the main MAs the poverty ratio (33.7%) was greater than for the country as a whole. Despite the high proportion of poor in rural areas (41.6%), the contribution of the rural poor to total poverty (23.9%) in Brazil is much smaller than that of the urban poor (76.1%) in 1998. The Brazilian poor live mainly in the Northeast (43.6%) and Southeast (35.0%). While in the Southeast, poverty is a metropolitan phenomenon (53.4%) in the Northeast poverty it is concentrated in other urban areas (43.6%). The MAs of São Paulo, Rio de Janeiro and Recife account for 19.3% of the Brazilian poor.

Job market indicators for the Brazilian cities have shown an increase in the rate of female participation in the labor force. Despite their higher education levels, women have higher unemployment rates and lower salaries than men, thus showing the existence of gender discrimination in the country. We can also notice a racial

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\(^3\) See Barros and Mendonça (1995), Rocha (1996) and Rocha (2000), for more details on the evolution of the poverty profile in Brazil.

\(^4\) This section is based mainly on Morais and Lima (2001) and uses data on poverty calculated by Ipea/Sônia Rocha, based on IBGE/Pnad microdata. A person or a household is considered to be poor when it has a monthly income below the poverty line. The poverty lines were based upon the observed consumption patterns of the low-income population, according to the IBGE Research on Households Budget (POF), corrected by local price indexes.
discrimination in the labor market, where the non-white population has higher unemployment rates, less formal education, lower salaries and occupies mainly informal activities. The employment rate is positively related with education level and negatively with age. The unemployment rate increased from 1993 to 1998 and is more severe among women (14.4%), and non-whites, while unemployment rate among males is 9.2%. We also find lower tenure security among non-white women-headed households.

The heaviest burden imposed by poor living, housing and working conditions in low-income areas is inflicted on women with children. The most critical situation is found among single non-white women that are household heads. As they are responsible for the healthcare, nutrition and education of children, adolescents and the elderly, women have their problems aggravated by the lack of proper urban services, less formal ownership ratios and lower housing quality.

Ramos (1994) investigates the effects of macroeconomic factors on the evolution of poverty and indigence in Brazil during the 1980s, in order to identify the socioeconomic groups most acutely affected by poverty and penury. Using Pnad microdata for several years and decomposition analysis to assess the importance of different socioeconomic groups to total poverty, he showed that the chronically poverty-stricken groups in Brazil are: female-headed households, illiterates, the young, Northeastern region residents, people with no monetary earnings or informal employees, which are over-represented amongst the poor and are even more pronounced amongst the indigent.

**Survey of the literature**

This section intends to review the literature on Social Exclusion, Spatial Segregation and on studies that have applied logistic regressions to study unemployment, poverty and housing tenure choice.

**Literature on Spatial Segregation and Social Exclusion**

Economic theory suggests that spatial segregation by race and ethnic groups can impact the economic performance of minorities both in negative and positive ways, although the great majority of the authors agree that spatial segregation can be damaging because it curtails informational connections with the larger community or because the spatial concentration of the poor can prevent human capital accumulation and encourage crime. Wilson (1987) thinks that racial segregation can be positive, because it might ensure that minorities have middle-class role models and, thus, promote good outcomes in segregated areas.

In the USA, there is a long tradition of studies on spatial segregation of minorities, especially in what refers to the so-called ghettos, where there's a predominance of certain ethnic groups. In Europe, the migrants' localization in certain neighborhoods also raises the subject of spatial segregation and its interrelationship with poverty. The literature on spatial segregation shows that, in the USA, the low-income population is historically black and that the residential patterns are highly segregated by race, with income and family structure alone explaining only a small portion of the existing spatial segregation. Suburbanization of housing and employment sources reduces the employment, housing and educational prospects for minority groups, who are concentrated in central cities. The incidence of poverty in many central city neighborhoods has increased over time, as higher

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5 Soares (2000), using the 1998 Pnad microdata, showed that white women's monthly income is 73.0% of white male income, while for black men and black women those figures are 45.0% and 40.0%, respectively.
Some studies from the 1960s showed that blacks pay more for housing of the same quality while, for the 1970s, empirical data showed that the housing prices in black neighborhoods were lower than housing of same attributes in white areas. One argument in favor of higher spatial integration is the importance of neighborhood effects on the quality of life and on individual's behavior. A specific benefit generated by greater racial and spatial integration might be higher educational attainment by low achievers. However, the results of empirical studies on the importance of "peer-group" effects on educational achievement are mixed.

Piketty (2000) analyses the social mobility among several generations in the USA and Europe, and verified, that, in fact, this mobility is rather small, with the perpetuation of poverty over time. His empirical results confirm the low alteration in social structures. The persistence of inequality can be explained by spatial segregation, among other factors.

Although the sociological literature has pointed out the importance of the effects of the community's atmosphere on children and families' educational development during several years, it was only recently that the economic literature has been interested in this theme. Benabou (1993) studies the impact of spatial segregation on the economic performance of minorities. The author argues that the existence of a more qualified neighborhood, with a higher share of more formally educated people, would result in positive externalities for that community's residents, basically for three reasons: peer effects, social network and local public goods. The "Peer effect" is due to the fact that interacting with more educated people generates a positive impact on that community residents' behavior. For instance, Crane (1991) shows, using longitudinal data for some American cities, that the probability of pregnancy in adolescence is larger in low-income neighborhoods and among children and adolescents of ghettos. MARRY and Katz (1991) also show that the probabilities of criminal conviction, drugs use, and engaging in criminal activities are also larger for people segregated in ghettos.

A second impact raised by Benabou (1993) is the existence of a "social network of contacts" that would allow the residents of a more qualified area to find employment more easily or higher qualification jobs. Finally, there are the impacts caused by access to local public goods. Poorer communities tend to have smaller capacity to finance local public goods, which generates a negative externality for its members. Such fact is particularly important in the USA, where basic education is financed through taxes collected directly from the beneficiary community. Given these externalities, the model proposed by Benabou (1993) assumes that the agents possess identical initial endowments and the same innate characteristics. These agents should decide which educational level they want (high, low or even stay out of the job market) and choose their place of residence. However, given the existence of externalities, an area where highly educated people predominate would imply a reduction of educational costs for people with high or low educational levels. The externality is modeled as a reduction in the cost of achieving education: so that the "good neighbors" impacts would be the reduction in the private cost of obtaining education. The author shows that spatial segregation can be a result generated by the decentralized market mechanism and is not socially efficient. Households that opt for a higher educational level just consider the benefits to themselves of moving for a more qualified area, disregarding the costs they cause to society, that is, the elevation of the educational cost of the residents' of the less favored areas.

Several works extended this original model, like Benabou (1996), which showed that, in a dynamic model, it could be optimum to minimize the cost of accumulating human capital in the short term. However, in the long run the spatial segregation would be inefficient. Other authors introduced the hypothesis of financing
local public goods directly, and showed that the result of Benabou (1993) is just a specific case of the so-called "impact on the fiscal side". The most important point of this line of research is that spatial segregation is inefficient even if we consider agents with the same initial endowments and without credit restrictions. Introducing distortions such as credit market imperfections and unequal distribution of wealth, it seems clear that spatial segregation will be even more inefficient. It's important to point out that these models just consider the aspect of economic efficiency, and that the agents' decentralized action generates a socially inefficient outcome. So, there is clearly a justification, from a theoretical point of view, for the Government to intervene in market results, in order to reduce spatial segregation, without using any argument in favor of justice and fairness.

Among the vast literature on spatial concentration of metropolitan poverty in the USA, we can highlight Madden (1996). The author points out that metropolitan poverty in the USA grew during the 1980s, concentrating on the central areas of the great metropolises. In other words, there is a clear tendency to the spatial concentration of poverty in the USA. The author raises some hypotheses and explanations for this concentration of poverty in the USA: (a) job market, with a growing differential among qualified and non-qualified workers; (b) low economic growth in the USA during the 1980s; (c) spatial mismatch of employment; (d) spatial segregation of wealth, with the wealthiest families choosing voluntarily to live in affluent suburbs and e) demographic factors such as higher levels of single mothers, and women-headed households, among others. She tests this hypothesis to analyze poverty growth in the USA and its concentration in MAs and concludes that economic growth reduces poverty overall, but it does not reduce its spatial concentration. The metropolises with the largest rates of spatial concentration of the poor are those that possess a high spatial segregation of poverty. The creation of employment close to degraded areas or ghettos did not have a significant impact in the reduction of the spatial concentration of the poor. The higher the rate of blacks and people below 65 years old, the higher the spatial concentration of poverty. Finally, if the MA presents a job market with an unequal salary distribution it will have high poverty rates, but poverty will be less spatially concentrated in relative terms.

Jargowsky and Bane (1991) analyzed the socioeconomic characteristics of the households in US ghettos during the 1970s and the 1980s. Defining a poor area as one where 40.0% or more of the residents are poor, they showed that 85.0% of the households living in ghettos are black or have Hispanic origin and 65.0% are comprised of single parents with children. In 1980, 68.7% of the American poor (18.8 million) lived in metropolitan areas, showing that poverty in the USA is clearly an urban phenomenon.

One of the main challenges in Urban Economics is the study of the locational decisions of households, i.e., to explain the choice of the households regarding the residence and work places. This literature raises the question of time in commuting to work. It was observed that American households with higher purchasing power spent more time commuting to work, which seems to be irrational, as these families' time has a larger opportunity cost. This discussion generated intense research, in the sense of trying to explain such irrationality in household's behavior. One of the possible explanations is that households with higher levels of formal education look for more specific types of employment that would probably be located away from their residence. As residence changes have significant transaction and financial costs, the agents would choose to incur higher commuting costs.

Notice that this hypothesis agrees with Benabou (1993) results. Nevertheless, the reasons raised by Madden (1996) are a desire of the medium classes to live in more luxurious places.
On the other hand, it is suggested that higher income households have a larger financial capacity to wait for higher wage jobs, which are not necessarily located necessarily close to their homes. Furthermore, there are decreasing returns in job search with increased distance from places of residence, so that the families living in substandard areas seek employment in areas close to their home. Crampton (1999) contains an excellent review of the literature relating to job and housing markets.

Ley and Smith (2000) studied the relationships between immigration and urban deprivation in the Canadian cities of Toronto, Montreal and Vancouver using census data from 1971 and 1991. The authors found a positive, but modest, correlation between 5 indicators of deprivation (low educational levels, female-headed households, male unemployment, welfare dependency and low-income families) and immigrant characteristics, emphasizing the complex nature of such interactions and the heterogeneity among immigrants.

Cutler and Glaeser (1995) examined the effect of spatial segregation on African-Americans outcomes in schooling, employment and single parenthood and found that black people living in segregated areas are significantly worse off, particularly if they live in central cities. Cutler, Glaeser and Vigdor (1997) examined segregation in American cities from 1890 to 1990 and found a positive relation between urban population, urban densities and spatial segregation. The authors observed that segregation has varied over time, with segregation in the mid-20th Century caused by the collective action of whites, such as creating legal barriers to enforce spatial segregation, while in the 1990s whites are willing to pay more to live in predominantly white areas. Glaeser, Kahn and Rapport (2000), claim that the concentration of the non-white population in central cities in the USA is caused by better access to public transportation systems and social benefits in these areas.

**Logit and Probit Models Applied to Poverty, Labor and Housing Markets**

The application of decomposition analysis associated with logistic regression techniques to labor market studies were first developed by Blinder (1973, 1976) and, since then, these tools have been applied in several housing market studies to analyze the impacts of gender, race, schooling and other factors in household tenure conditions. Yates (2000) uses 1986 and 1996 censuses, microdata, and logistic regressions to explain the interactions among demographic, socioeconomic and labor market factors to study tenure choice in Australia. She stresses that increased female participation in the workforce, delay of marriage and child-bearing and the economic uncertainty associated with growing flexibility and spatial mobility in the labor markets decreases the willingness and the affordability of households to make long-term economic commitments and, hence, make home ownership less attractive vis-a-vis renting.

Analyzing the poverty profile in Brazil, Rocha (1995) developed a probit model to express the probability of a given person to be poor in Brazil using gender, race, employment status, educational level, dependency ratio, region and urban or rural strata as the explanatory variables. According to her model, the probability of being poor when a person has all the adverse attributes (non-white women head of household with less than 4 years of schooling resident in rural areas of the Northeast) is 95.0%. Neri et al. (2000), used logistic regressions to show that having access to a given resource (human, social or physical capital), such as education, housing, urban services, durable goods and formal employment, implies lower probabilities of being poor. The probabilities of being poor were lower among white men-headed households, employed in the formal

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7 There's also the hypothesis of spatial mismatching of employment, which would imply higher commuting time.
sector and with lower dependency ratios that have access to proper housing and urban services, and were higher in metropolitan and rural areas. The World Bank (2001) also used probit regressions to analyze the poverty risk as a function of personal, demographic, regional and housing attributes of the families. Location (Northeast and non-metropolitan areas), education levels, household size and absence of urban services were the most powerful explanatory variable for poverty. Fernandes and Pichetti (1998) developed two logistic regression models in order to study the probability of a given person living in Brazilian MAs be unemployed or inactive in a certain period of time, taking into account his demographic, personal and employment status as well as some characteristics of his partner, using 24 explanatory variables. The models showed that the unemployment and inactivity probabilities are higher among women and younger and older people.

The literature on spatial segregation and social exclusion emphasizes the positive correlation between the surge of slums and poor areas in major cities with a set of attributes of the head of the household, such as: unemployed or underemployed in informal sectors, migrants, large families with high dependency ratios, low educational levels, single-parents, women-headed households, blacks and other minority groups, welfare dependents and young people, among others.

In the next sections we describe the current status of Brazilian housing conditions, focusing on the housing problems faced by the poor and the minority groups living in “favelas”, and use a logit model to test if the former hypothesis can be applied to the Brazilian case.

**The data and methodology**

The data used in this study is derived from the 1999 edition of the National Household Survey (Pnad), published by the Brazilian Institute of Geography and Statistics (IBGE). Pnad is an annual survey that contains data on personal characteristics, employment, income and living conditions of randomly selected households of rural, non-metropolitan urban and 10 metropolitan areas (MAs). Although Pnad has some major limitations such as omitting rural areas in the Amazon and lack of information on many important aspects of housing quality, such as size of the dwelling unit (m2) and characteristics of the neighborhood. However, it is representative at the national level and allows for a comparison between rural, urban and metropolitan housing markets, so that we can draw important conclusions for the formulation of urban development and poverty alleviation policies for the entire country.

Following other empirical studies and the IBGE definition of substandard sectors, we have used the dwelling units located in substandard housing sectors as a proxy to slum areas. The 1991 IBGE Census definition of substandard areas allows us to do so, as they classify substandard residential areas as: “a group of dwelling units (huts, houses, etc.), occupying or having occupied, until recently, lands belonging to other people (either public or private lands), generally disposed in a scattered and dense way and lacking essential public infrastructure services.” According to IBGE, a substandard area is characterized by disordered occupation and no existing formal land and/or property title at the time of settlement. A substandard area is also designated by IBGE as an informal settlement. Examples of substandard areas are the favelas, mocambos and alagados. In this sense, the informality of substandard areas is related not only to the absence of well-defined property rights over land and housing, but also to the non-conformity with the existing construction patterns, building codes, zoning regulations and urban legislation.

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Preteceille and Valladares (2000) also showed a huge correlation between substandard areas and slums, using data for the municipality of Rio de Janeiro, captured from the 1991 IBGE Demographic Census, disaggregated at the sector level. However, housing informality in Brazil does not relate solely to slum areas. Informal housing may be observed from many points of view. Informal housing in Brazil has several dimensions: compliance with legal rules (formal versus informal property rights) and urban and land use regulation (compliance with building codes and urban legislation), living conditions within the house such as density, quality of the structure (adequacy criteria), etc. In strictly legal terms, informality refers to squatters, i.e., those people that own the house but not the land where the house is located. Slum areas refer to those housing units that do not comply with building codes and urban legislation, i.e., that have inferior physical characteristics of housing, quality, public space, and lot size, and higher densities compared to other areas. Even though lack of formal property rights to land is an indicator used by IBGE to describe substandard areas, there is not a clear correlation between substandard areas and land invasions. The number of dwelling units in substandard areas is smaller than the number of squatter houses, as squatters areas are sometimes inhabited by medium and high-income households. These anomalies result from the longevity of many slums, as well as governmental programs of slum upgrading and land tenure regularization implemented in the past decades. This finding may also be attributed to a bias in the database, as the respondent has no motivation to report himself as an informal owner, for fear of being evicted. Furthermore, PNAD does not ask if the respondent who claimed to be the owner of the house has property or land title with formal recognition, but if he owns both the land and the construction or just the house. Substandard housing comprises 3.9% of the entire private housing stock, while squatters represented 5.7% of the housing units, with 606,724 dwelling units located outside substandard areas.

The relation between poor households and slum-dwellers is complex, although slums have always been regarded as the visible face of an urban poverty. Household income indicators based upon 1998 and 1999 PNAD microdata, show that slum-dwellers have lower average income than people residing elsewhere in the cities, with the household income distribution for slum-dwellers falling below the household distribution for the entire country, which suggests that slum residents are poorer than the rest of Brazilian population. In this sense, the Brazilian favelas may be regarded as a locus of spatial segregation and social exclusion of the poor. However, despite having lower average incomes, not all the people living in slums are poor, and many have moderate incomes, as suggested by Preteceille and Valladares (2000), who observed the existence of an internal socioeconomic differentiation among slum-dwellers in Rio.

The terms ghetto, and "slums" as used here refer to an area within a city characterized by poverty and acute social problems, inhabited by members of a racial, ethnic or socio-economic group under conditions of involuntary segregation. The expressions "slums" and "ghettos" imply that urban social and housing problems tend to be geographically concentrated, with the incidence of poverty much higher and the level of access to basic services smaller in slums than in other parts of the city, resulting in social exclusion and spatial segregation of slum-dwellers. The term "substandard housing" applies to degraded dwelling units that lack proper sanitation services such as water, sewerage and garbage collection, have no private toilet, are overcrowded or present strong construction code and urban regulations violations.

Jargowsky and Bane (1991) affirm that the international literature presents 3 different lines for defining substandard areas: 1. Measuring the probability of a poor person having a poor neighbor; 2. Neighborhoods with more than 30.0% poor people can be considered a substandard area; 3. A substandard area can be defined
as an area that possesses several indicators such as the rate of participation of male in the labor force, percentage of adolescents with High School Diploma and percentage of single parents households below a standard deviation of the national average. However, those 2 authors argue that the results do not differ very much and, for simplicity, they defined a substandard area as a neighborhood where 40.0% or more of the residents are poor.

One of the major housing problems in Brazil is the concentration of substandard housing in slums located in the country's major cities, inhabited by poor people and other minorities that are trapped in inadequate housing because there is no proper housing within their ability to pay. "Adequate housing" is a very subjective definition. there is almost no agreement on how to measure what are proper houses and urban infrastructure services, as these definitions can change over time and place, due to increased standards of living and to cultural differences. For the United Nations Human Settlements Program - UN/Habitat, adequate housing should include, at least, piped water, proper sewerage and garbage collection, durable walls and roof, private bathroom, secure of tenure, as well as living in a neighborhood with suitable environmental quality and accessible location with regard to work and school, health and recreation facilities, available at an affordable cost. 9

According to the 1999 Pnad there were 1,399,185 substandard dwelling units in Brazilian slums, 80.2% located in MAs and 19.8% in other urban areas, which suggests that slums in Brazil are clearly a metropolitan phenomenon, as in the USA. In absolute terms, slums are concentrated in the Southeastern (59.3%) and in the Northeastern regions (24.3%) and in the states of São Paulo, Rio de Janeiro and Recife, accounting for more than 66.5% of the country's total dwellings located in slum areas. The MAs of Recife and Belém present the highest rates of substandard housing in relative terms, while in absolute terms slums are concentrated in the MAs of Rio (23.9%), São Paulo (19.1%) and Recife (15.5%), whose contribution to poverty and slum-dwellers far exceeds their participation in total housing units (see table 2).

Slum-dwellers are characterized as being younger and having higher densities per household, higher proportions of non-white occupancy, more women-headed households and a smaller proportion of formal homeownership than other areas. Slums also have lower access to urban infrastructure services such as piped water, proper sewerage systems and phone connections, as compared to other formal areas. Income levels in substandard areas are 41.0% lower than the national average for urban areas. Low educational level, measured by years of schooling is another factor that characterizes the typical head of a household located in substandard areas, with slums falling behind other neighborhoods with a mean of 4.6 years of schooling for slum-dwellers against 5.5 years for the total Brazilian population (see table 4). The largest frequency occurs among those household's head that are illiterate or have attended school for less than 4 years (functional illiteracy). The data shows that the residential patterns in Brazilian cities are segregated by race as it happens in the USA, as almost 58.0% of the total households in substandard areas are headed by a non-white, while this ratio is only 41.0% for all urban areas. This spatial segregation pattern can be explained by the lower income and education levels of the non-white population.

Typical slum-dwellers are neither unemployed nor without monetary income, although those attributes are positively correlated with the individual's probability of living in a slum. Among the heads of the households living in substandard areas, 73.0% were employed and 99.9% received monetary salaries. Taking these aspects

9 See the Habitat Agenda, paragraph 60, for the UN/Habitat (1996) definition on adequate housing.
into account, one should investigate the quality of the employment available to people living in slums and the nature of the discrimination they suffer in the labor market, because, on average, slum-dwellers have higher unemployment ratios and are more engaged in low-skilled activities than the rest of the urban population. The quality of the employment and the salaries open to slum-dwellers are probably inferior because they have lower formal education and are typically engaged in services, commerce and civil construction activities. Notwithstanding the importance of the favelados disadvantaged insertion in the labor market as an explanation of their spatial segregation in slums, a more profound investigation into the nature and quality of their employment is beyond the scope of the present paper and should be the object of further analysis in the future.

The logit model

In order to study the determinants of spatial segregation in Brazil we have used a logit regression, where the dependent variable of the model is a dichotomous qualitative 0-1 dummy, equal to 1 when the house is located in a substandard area, and 0 in other cases. Some of the explanatory variables are quantitative and some are dummies and refer to the personal attributes of the household’s head, insertion in the labor market and locational variables, among others.

The logit model can be used to predict the likelihood that a person with a given set of attributes will live in a slum area. This model is based on a cumulative logistic function and can be specified as follow:

\[
P_i = F(Z_i) = F(\beta_i X_i) = \frac{1}{1 + e^{-Z_i}} = \frac{1}{1 + e^{-\beta_i X_i}}
\]

After some algebraic manipulations the logit can be rewritten as:

\[
\ln \left( \frac{P_i}{1 - P_i} \right) = \beta_i X_i + u_i
\]

Where

\( e \) is the base of the natural logarithms
\( P_i \) is the probability that a person will live in a slum, given his individual characteristics, i.e., \( P_i = \text{prob}(Y = 1|X_i) \)
\( (1 - P_i) \) is the probability of living elsewhere in the city

\( \left( \frac{P_i}{1 - P_i} \right) \) are the odds ratio in favor of living in a substandard area

\( \beta_i \) are the parameters
\( X_i \) represents the explanatory variables, i.e., the set of the individual attributes
\( Y_i = 1 \), if the person lives in a slum
\( Y_i = 0 \), otherwise
\( u_i \) are the disturbances
The predicted value of the dependent variable can be interpreted as the probability of living in a slum area, given the values of the explanatory variables. The higher the logit, the higher the odds ratio and, therefore, the higher the probabilities of living in a slum area. The probabilities of living in slums can be derived indirectly from the logit model. The estimated coefficient \( b_i \) of the logit does not show directly the change in the probability of living in a slum (\( y=1 \)) due to a unit change in the independent variable, but it does show the change in the odds ratio per unit in the explanatory variables, ceteris paribus.

Our basic unit of analysis in this study consists of individual observations derived from the 1999 Pnad/IBGE micro data. We have used a Maximum Likelihood (ML) estimation procedure to estimate the logit model, which yields consistent parameter estimators. To explain the existence of slums we have considered the following variables: personal attributes of the household's head (age, race, sex, migration), educational level (years of schooling), income level, household size, employment status (unemployed, underemployment in informal activities and type of activity), property rights (formal owner versus other tenure conditions), inner city or peripheral location (measured by commuting time to work) and characteristics of the local housing markets (metropolitan and non-metropolitan urban and MA where the property is located). A gender dummy was included, to test the hypothesis whether or not women suffer from gender discrimination and women-headed households are more vulnerable from a socioeconomic point of view. After having weighted the observations, eliminated all the missing for the explanatory variables, we have obtained a total sample of 32,624,715 observations.

The estimation results, the standard errors, the odds ratio and the probabilities are displayed in table 3, in appendix, while table 4 shows the descriptive statistics of the variables used in the logit model.

**Main results**

According to the model, all the parameter estimates were significant at a 95.0% confidence level and presented the expected signs, except for informal insertion in the labor market. The main characteristic associated with slums is living in metropolitan areas. All the MAs dummies are statistically significant and influence positively the probability of becoming a slum-dweller, with the exception of the Federal District, which has a negative impact on this probability. The associated probabilities of the variables that identify the MAs are higher than 70.0%, except for Salvador, Curitiba and Porto Alegre. The model shows that slums are typically a metropolitan phenomenon, the single explanatory variable that mostly contributes to the existence of slums, given the individual characteristics. Aspects such as income, education, age, household size, race and labor market insertion also affect the individual's probability of becoming a slum-dweller, although not as intensely as living in a large urban center, especially in a metropolitan area. As expected, the coefficients of the variables for income, age and education appear with a negative sign, which means that a positive variation in those variables reduces the individual's probability of living in slums.

The coefficient associated with the household per capita income presented a negative sign, showing that the income-poor have higher probabilities of living in slums. Conversely, large household sizes imply high dependency ratios and affect the probability of becoming a slum-dweller in a positive manner. Non-whites and women-headed households, the unemployed, migrants, employed in activities such as building, commerce and services sectors and people working in self-construction have higher probabilities of living in a substandard area. Those results point to the existence of race and gender discrimination, with the
social exclusion of racial and other minorities (non-white, women, poor) and their segregation in slums and poverty ghettos of Brazilian cities.

Slum formation is highest in the MAs of Recife and Belém, where a person with the sample average characteristics has the greatest probabilities of becoming a slum-dweller. Various factors help explain this ranking. Para state – for which Belém is the capital - presents the second highest average construction cost per square meter. Belém also has the highest ratio of housing deficit to total stock (22.0%), as well as one of the largest population average annual growth rates (2.2%) and the highest population growth rate in the peripheral areas (6.4%). One possible explanation for this phenomenon could be that Belém is almost totally comprised of marine areas protected by special land-use regulations, which might be causing land scarcity in the core municipality and causing the city to grow toward the periphery at vertiginous rates. A possible cause of the existence of slums in the Northeast – such as those or Recife - could be the lower growth rates of the economy of the states in this region (Galvão and Vasconcelos, 1999) and migration from impoverished rural areas to the cities. In the North, these results may also be associated with the failure of the Federal Colonization and development programs implemented in the 1970s. These programs, which attempted to distribute land in the Amazon Frontier to the re-settle poor immigrants from the Northeastern and the Southern regions, had poor results. The population in the Amazon is now predominantly urban (69.7%), due to migration of the rural population into local cities, without the provision of proper housing and urban infrastructure. Obviously, the phenomenon of slums in the Northeast and in the North can be attributed to high poverty rates in these areas.

Another interesting result of this model is that the coefficient of the variable DF is negative, indicating an inverse relationship between living in Brasília and becoming a slum-dweller. A DF resident’s chance of living in a slum, given the other characteristics, is smaller than in any other metropolitan area. This phenomenon may be explained by the fact that Brasilia, capital of DF, is subject to quite restrictive land use, building codes and urban regulations and undergoes more severe supervision than other places in Brazil. A quite important aspect in Brasilia refers to the high land price and real estate speculation and that many urban idle spaces belong to the local government, to the University of Brasilia (UnB) or are environmentally protected areas, which generates extra pressure on land, resulting in the eviction of low-income people from the central city to the peripheral areas in the DF (Cidades Satélite) and Goiás (Entorno), implying a smaller chances of living in substandard areas in the center. The smaller probabilities of slum formation in the DF can also be explained by: 1) the role of local Government in the eradication of spontaneous slums and the settlement of the low-income population in new satellite cities located at the periphery, with a minimum level of urban infrastructure; 2) the higher salaries and the more stable income streams of DF residents, as the main employers in Brasilia are the Federal and Local Government, which are responsible for 34,3% of the total employment (Codeplan, 1997) and 3) most of the employees of the public sector in the DF, especially those of the Federal Government, provide lodging in state-owned housing (apartamento funcional), which was a common practice before the nineties. Thus, people employed in the public sector receive a quite substantial non-pecuniary subsidy, thus reducing their probabilities of living in substandard housing.

The higher unemployment rates and the lower quality of employment of slum-dwellers (usually associated with services, building and trade sectors), their lower schooling, higher household size, lower age and lower
Land and Urban Policies for Poverty Reduction

Salaries compared to the rest of the country’s population explain the positive sign of the coefficients of the variables for household size, building construction, trade and services and the negative sign of household income, education and age. Formal employment is positively correlated to the chances of living in slums. This unexpected result can be explained by the fact that even though slum-dwellers possess higher rate of formal employment, the quality of their jobs and their salaries are very low, due to the nature of their employment in non-qualified job positions.

Another interesting result of this study is that the provision of formal property rights over the housing unit and land implies lower probabilities of living in slums, while working in self-construction is positively correlated to being a slum-dweller. These results demonstrate, to a certain level, that the low-income population had access to housing through self-construction in informal settlements.

The social exclusion of racial, ethnic and income minorities and race and gender discrimination becomes evident, as poor, non-white and women-headed households present larger probabilities of living in substandard areas. Contrary to commerce, services and the building sectors, employment in the Public Sector reduces the chances of becoming a slum-dweller. This can be explained because Brazilian government, besides paying higher wages than the national average to workers of low educational levels, offers more stability and better social security systems than any other employment sector in the country, which guarantees larger permanent income for public servants and reduces their probability of living in substandard areas. The governmental salaries are even higher in the Center-West Region, thanks to salaries in the DF, where the High Federal Governmental bureaucracy lives (see tables 6 and 7, in appendix).

The model also shows that, besides being a typical big city phenomenon, slums are more closely associated with central cities than with peripheral areas, as longer commuting times imply lower probabilities of residing in substandard areas. The concentration of employment in services, trade and building sectors in the core cities of the metropolitan areas (see table 5) contribute to the central location of slums (Vaz 1998) whose residents want to live near their work places.

The results of this study can help policy-makers to design housing, sanitation, employment and education policies and programs that match the needs of the urban poor and reduce social exclusion and spatial segregation of minorities within Brazilian slums. These results are even more important as improved targeting of social spending holds increasing importance in the context of Brazil’s on-going fiscal crisis, macro adjustment policies, and the low level of debt of many local and state governments required for eligibility for federal funds.

Conclusions

This paper has explored the socioeconomic determinants of slum formation in Brazilian cities and main MAs in order to inform public policies. The results show that slums are closely related to city size, especially that of metropolitan areas, income, education, age, race and gender of the household head. The probability of living in slums rises with being non-white, income-poor, a single parent, female with children, a larger household with a high dependency ratio, young, less educated, a migrant, unemployed, employed in self-construction, and resident in central cities.

Another interesting result is that residents in the MAs of Recife and Belém presented the highest probabilities of becoming a slum-dweller, other factors held equal. These results show the importance of local markets
characteristics in determining the emergence of pockets of poverty, informal housing, and spatial segregation and social exclusion in the Brazilian cities, and show the need for further research at the local level.

Despite its preliminary nature, this paper attempts to innovate in relation to the literature in Brazil, by assessing the determinants of slum formation from a socio-economic point of view. The study shows that poor housing quality and spatial segregation in slums mainly affect the poor, non-whites and other minorities and demonstrates the need for urban development and housing policies targeted to these vulnerable groups of society.

By shedding light on the causes and the nature of social discrimination and spatial segregation faced by Brazilian slum-dwellers, this study might aid policy makers in Brazil and other developing countries to design more efficient urban and regional development policies, in order to fight urban poverty and reduce social discrimination in the Developing World.

The focus of urban development policies should be to address the problems of poverty, informality and social exclusion in cities, through public policies that foster better living conditions and improved integration of minority groups into formal housing and job markets. More integrated and better-targeted actions in the fields of employment, education, welfare, credit and housing policies and joint efforts of all levels of government, the private sector and local communities can increase the supply of low-cost housing, improve the quality of life in favelas, stimulate slum-dweller integration into the city as a whole, and – thus - decrease spatial segregation and social exclusion.

References


Table 1: Population Trends and demographic densities in Brazil 1940-2000

<table>
<thead>
<tr>
<th>YEARS/REGIONS</th>
<th>BRAZIL</th>
<th>NORTH</th>
<th>NORTHEAST</th>
<th>SOUTHEAST</th>
<th>SOUTH</th>
<th>CENTER-WEST</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rural</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1940</td>
<td>28,356,133</td>
<td>1,056,628</td>
<td>11,052,907</td>
<td>11,113,926</td>
<td>4,144,830</td>
<td>987,842</td>
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<tr>
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<td>403,752</td>
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<td>1,590,475</td>
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<td>41,236,315</td>
<td>1,462,420</td>
<td>14,434,080</td>
<td>18,345,831</td>
<td>5,735,305</td>
<td>1,258,679</td>
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<tr>
<td>Urbanization Rate(%)</td>
<td>31.4</td>
<td>27.75</td>
<td>23.42</td>
<td>39.42</td>
<td>27.73</td>
<td>21.52</td>
</tr>
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<td>4.88</td>
<td>0.41</td>
<td>9.36</td>
<td>19.37</td>
<td>10.2</td>
<td>0.67</td>
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<td>33,161,506</td>
<td>1,263,788</td>
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<td>18,782,891</td>
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<tr>
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<td>36.2</td>
<td>31.5</td>
<td>26.4</td>
<td>47.5</td>
<td>29.5</td>
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<td>44.3</td>
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<td>50.5</td>
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<td>22.6</td>
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<td>Rural</td>
<td>35,834,485</td>
<td>4,107,982</td>
<td>16,721,261</td>
<td>7,514,418</td>
<td>7,726,145</td>
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<tr>
<td></td>
<td>Urban</td>
<td>110,900,590</td>
<td>5,922,574</td>
<td>25,778,279</td>
<td>55,225,987</td>
<td>16,403,032</td>
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<td>Urbanization Rate(%)</td>
<td>75.6</td>
<td>59.0</td>
<td>50.5</td>
<td>88.0</td>
<td>74.1</td>
<td>61.3</td>
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<td>17.2</td>
<td>2.6</td>
<td>22.7</td>
<td>46.7</td>
<td>38.3</td>
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<td>33,993,332</td>
<td>4,249,174</td>
<td>15,575,102</td>
<td>7,176,724</td>
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<td>123,076,831</td>
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<td>Total Population</td>
<td>157,070,163</td>
<td>11,268,259</td>
<td>44,466,851</td>
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<td>23,513,736</td>
<td>10,503,579</td>
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<tr>
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<td>72.4</td>
<td>62.4</td>
<td>61.2</td>
<td>89.3</td>
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<td>Demographic Density</td>
<td>18.4</td>
<td>2.9</td>
<td>26.7</td>
<td>72.3</td>
<td>40.7</td>
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<td>31,847,004</td>
<td>3,914,152</td>
<td>14,759,714</td>
<td>6,851,646</td>
<td>4,780,624</td>
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<tr>
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<td>131,597,439</td>
<td>9,005,797</td>
<td>32,919,667</td>
<td>65,410,765</td>
<td>20,290,287</td>
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<tr>
<td>Total Population</td>
<td>163,044,443</td>
<td>12,914,954</td>
<td>47,679,381</td>
<td>72,262,411</td>
<td>25,071,111</td>
<td>11,611,491</td>
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<tr>
<td>Urbanization Rate(%)</td>
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<td>69.0</td>
<td>90.5</td>
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<td>30.7</td>
<td>76.2</td>
<td>43.5</td>
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Table 2: Brazil: Dwelling Units by Sector, Region and State - 1999

<table>
<thead>
<tr>
<th>States, Regions and Mas</th>
<th>State of Sector</th>
<th>Total Dwelling Units</th>
<th>Substandard Units</th>
<th>Contribution to Total Substandard Units</th>
<th>Contribution to Total Dwelling Units</th>
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<tbody>
<tr>
<td></td>
<td>Substandard Areas</td>
<td>Other Areas</td>
<td></td>
<td>%</td>
<td>%</td>
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<td>NORTH</td>
<td>110,188</td>
<td>1,745,586</td>
<td>1,855,774</td>
<td>5.94</td>
<td>7.88</td>
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<td>Pará</td>
<td>51,452</td>
<td>654,707</td>
<td>706,159</td>
<td>7.29</td>
<td>3.68</td>
</tr>
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<td>Belem MA</td>
<td>51,452</td>
<td>168,417</td>
<td>210,869</td>
<td>23.40</td>
<td>3.68</td>
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<td>339,238</td>
<td>10,937,076</td>
<td>11,276,314</td>
<td>3.01</td>
<td>24.25</td>
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<td>Ceará</td>
<td>89,019</td>
<td>1,612,913</td>
<td>1,701,932</td>
<td>5.23</td>
<td>6.36</td>
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<td>Fortaleza MA</td>
<td>81,322</td>
<td>596,084</td>
<td>677,416</td>
<td>12.01</td>
<td>5.81</td>
</tr>
<tr>
<td>Pernambuco</td>
<td>217,215</td>
<td>1,680,322</td>
<td>1,897,537</td>
<td>11.45</td>
<td>15.52</td>
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<tr>
<td>Recife MA</td>
<td>217,215</td>
<td>603,796</td>
<td>821,011</td>
<td>26.46</td>
<td>15.52</td>
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<td>23,806</td>
<td>3,218,694</td>
<td>3,242,500</td>
<td>0.73</td>
<td>1.70</td>
</tr>
<tr>
<td>Salvador MA</td>
<td>23,806</td>
<td>717,096</td>
<td>740,902</td>
<td>3.21</td>
<td>1.70</td>
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<tr>
<td>SOUTHEAST</td>
<td>829,341</td>
<td>18,788,723</td>
<td>19,618,064</td>
<td>4.22</td>
<td>59.27</td>
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<tr>
<td>Minas Gerais</td>
<td>108,978</td>
<td>4,505,051</td>
<td>4,614,029</td>
<td>2.36</td>
<td>7.79</td>
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<tr>
<td>Belo Horizonte MA</td>
<td>81,240</td>
<td>996,105</td>
<td>1,077,345</td>
<td>7.54</td>
<td>5.81</td>
</tr>
<tr>
<td>Rio de Janeiro</td>
<td>354,247</td>
<td>3,831,188</td>
<td>4,185,435</td>
<td>8.46</td>
<td>25.32</td>
</tr>
<tr>
<td>Rio de Janeiro MA</td>
<td>334,444</td>
<td>2,873,399</td>
<td>3,207,843</td>
<td>10.43</td>
<td>23.90</td>
</tr>
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<td>São Paulo</td>
<td>359,554</td>
<td>9,654,422</td>
<td>10,013,976</td>
<td>3.59</td>
<td>25.70</td>
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<td>São Paulo MA</td>
<td>266,834</td>
<td>4,519,404</td>
<td>4,786,238</td>
<td>5.58</td>
<td>19.07</td>
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<td>SOUTH</td>
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<td>6,960,484</td>
<td>7,057,159</td>
<td>1.37</td>
<td>6.91</td>
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<td>Paraná</td>
<td>32,827</td>
<td>2,596,316</td>
<td>2,629,143</td>
<td>1.25</td>
<td>2.15</td>
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<tr>
<td>Curitiba MA</td>
<td>22,710</td>
<td>703,483</td>
<td>726,193</td>
<td>3.13</td>
<td>1.62</td>
</tr>
<tr>
<td>Rio Grande do Sul</td>
<td>60,359</td>
<td>2,937,995</td>
<td>2,998,354</td>
<td>2.01</td>
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<td>Porto Alegre MA</td>
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<td>1,005,443</td>
<td>1,041,496</td>
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<td>2.57</td>
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<td>CENTER-WEST</td>
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<td>3,093,789</td>
<td>3,117,532</td>
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<td>1.70</td>
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<td>7,666</td>
<td>522,560</td>
<td>530,226</td>
<td>1.45</td>
<td>0.55</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>1,399,185</strong></td>
<td><strong>41,525,658</strong></td>
<td><strong>42,924,843</strong></td>
<td><strong>3.26</strong></td>
<td><strong>100.00</strong></td>
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</table>

*Source:* The authors based on the 1999 IBGE/Pnad microdata.
Table 3: Logit Regression Model
Number of Response Levels = 2: slum y= 1; other urban neighborhoods y=0,

<table>
<thead>
<tr>
<th>EXPLANATORY VARIABLE</th>
<th>ESTIMATE</th>
<th>STANDARD ERROR</th>
<th>Chi-Square</th>
<th>P-VALUE</th>
<th>ODDS RATIO</th>
<th>P&lt;</th>
</tr>
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<td>Intercept</td>
<td>-3.8205</td>
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<td>0.81</td>
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<td>Metropolitan Areas or big cities</td>
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<td>118,848</td>
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<td>4.39</td>
<td>0.81</td>
</tr>
<tr>
<td>Recife</td>
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<td>0.00365</td>
<td>584,810</td>
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<td>16.30</td>
<td>0.94</td>
</tr>
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<td>Belem</td>
<td>2.6956</td>
<td>0.00594</td>
<td>205,692</td>
<td>&lt;.0001</td>
<td>14.81</td>
<td>0.94</td>
</tr>
<tr>
<td>Rio de Janeiro</td>
<td>1.9169</td>
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<td>377,060</td>
<td>&lt;.0001</td>
<td>6.80</td>
<td>0.87</td>
</tr>
<tr>
<td>Fortaleza</td>
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<td>0.00456</td>
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<td>0.82</td>
</tr>
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<td>Belo Horizonte</td>
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<td>867,851</td>
<td>&lt;.0001</td>
<td>3.77</td>
<td>0.79</td>
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<tr>
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<td>0.62</td>
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<td>0.00722</td>
<td>12,594</td>
<td>&lt;.0001</td>
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<td>0.0119</td>
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<td>0.40</td>
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<td>&lt;.0001</td>
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<td>Migrant</td>
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<td>45,542</td>
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<td>0.54</td>
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<td>Women</td>
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<td>14,782</td>
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<td>0.52</td>
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<td>0.50</td>
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<td>0.47</td>
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<td>Household Income</td>
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<td>0.50</td>
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<tr>
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<td>172,354</td>
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<td>0.39</td>
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<td>0.45</td>
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<tr>
<td>Time to Work 1 (up to 30')</td>
<td>0.1273</td>
<td>0.02265</td>
<td>23,099</td>
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<tr>
<td>Time to Work 2 (more than 30' to 1 hour)</td>
<td>0.4048</td>
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<td>Time to Work 3 (more than 1 to 2 hours)</td>
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<td>2,573</td>
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<td>Time to Work 4 (more than 2 hours)</td>
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<td>0.44</td>
<td>0.21</td>
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</table>

Source: The authors based on the 1999 IBGE/Pnad microdata,
Table 4: Descriptive Statistics — Mean Values for the Explanatory Variables Used in the Logit Regression

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<th>EXPLANATORY VARIABLES</th>
<th>SUBSTANDARD AREAS</th>
<th>ALL URBAN AREAS</th>
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<td>Household Size</td>
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<td>Big cities</td>
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<td>0.628</td>
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<td>0.5765</td>
<td>0.6933</td>
</tr>
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<td>Belém</td>
<td>0.0366</td>
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</tr>
<tr>
<td>Fortaleza</td>
<td>0.0581</td>
<td>0.0190</td>
</tr>
<tr>
<td>Recife</td>
<td>0.1552</td>
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</tr>
<tr>
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</tr>
<tr>
<td>São Paulo</td>
<td>0.1907</td>
<td>0.1356</td>
</tr>
<tr>
<td>Curitiba</td>
<td>0.0162</td>
<td>0.0192</td>
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<tr>
<td>Porto Alegre</td>
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<tr>
<td>Federal District</td>
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<tr>
<td>Women</td>
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<td>House Maid</td>
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</tr>
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<td>Self employed</td>
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<td>Unpaid Workers</td>
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</tr>
<tr>
<td>Self Construction</td>
<td>0.0022</td>
<td>0.0013</td>
</tr>
<tr>
<td>Time to Work 1 (&lt; 30 minutes)</td>
<td>0.3291</td>
<td>0.4089</td>
</tr>
<tr>
<td>Time to Work 2 (&gt; 30 to 1 hour)</td>
<td>0.2329</td>
<td>0.142</td>
</tr>
<tr>
<td>Time to Work 3 (&gt;1 to 2 hours)</td>
<td>0.0719</td>
<td>0.0496</td>
</tr>
<tr>
<td>Time to Work 4 (&gt;2 hours)</td>
<td>0.0073</td>
<td>0.0126</td>
</tr>
<tr>
<td>Number of Housing Units</td>
<td>1,399,185</td>
<td>34,927,665</td>
</tr>
</tbody>
</table>

Source: The authors based on the 1999 IBGE/Pnad microdata,
**Table 5:** Contribution of Central Cities to the Total Population and Formal Employment of The Main Brazilian Metropolitan Areas - 1999

<table>
<thead>
<tr>
<th>CORE MUNICIPALITY</th>
<th>POPULATION</th>
<th>%</th>
<th>FORMAL EMPLOYMENT</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salvador</td>
<td>2,440,886</td>
<td>81.0</td>
<td>545,107</td>
<td>82.0</td>
</tr>
<tr>
<td>Fortaleza</td>
<td>2,138,234</td>
<td>75.0</td>
<td>401,900</td>
<td>86.0</td>
</tr>
<tr>
<td>Belo Horizonte</td>
<td>2,229,697</td>
<td>53.0</td>
<td>909,528</td>
<td>79.0</td>
</tr>
<tr>
<td>Belém</td>
<td>1,279,661</td>
<td>69.0</td>
<td>255,325</td>
<td>89.0</td>
</tr>
<tr>
<td>Recife</td>
<td>1,421,941</td>
<td>43.0</td>
<td>425,305</td>
<td>80.0</td>
</tr>
<tr>
<td>Curitiba</td>
<td>1,586,898</td>
<td>59.0</td>
<td>538,069</td>
<td>80.0</td>
</tr>
<tr>
<td>Rio de Janeiro</td>
<td>5,850,544</td>
<td>54.0</td>
<td>1,664,965</td>
<td>79.0</td>
</tr>
<tr>
<td>Porto Alegre</td>
<td>1,359,932</td>
<td>39.0</td>
<td>518,180</td>
<td>61.0</td>
</tr>
<tr>
<td>São Paulo</td>
<td>10,406,166</td>
<td>58.0</td>
<td>3,080,172</td>
<td>70.0</td>
</tr>
</tbody>
</table>

**Source:** The authors based on the 1999 MTE/Rais microdata.

**Table 6:** Salaries per Income Level in Formal Employment - 1999

<table>
<thead>
<tr>
<th>INCOME IN MINIMUM WAGES</th>
<th>ALL SECTORS (R$)</th>
<th>GOVERNMENT (R$)</th>
<th>ALLSECTORS (%)</th>
<th>GOVERNMENT (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Up to 2</td>
<td>7,170,388,00</td>
<td>1,360,405,00</td>
<td>29.1</td>
<td>22.6</td>
</tr>
<tr>
<td>2 to 7</td>
<td>14,645,981,00</td>
<td>3,687,140,00</td>
<td>59.5</td>
<td>61.1</td>
</tr>
<tr>
<td>More than 7</td>
<td>2,802,869,00</td>
<td>984,217,00</td>
<td>11.4</td>
<td>16.3</td>
</tr>
<tr>
<td>Total</td>
<td>24,619,238,00</td>
<td>6,031,762,00</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

**Source:** The authors based on the 1999 MTE/Rais.

**Table 7:** Brazil: Monthly Income (R$) by Region - 1999*

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>BRAZIL</th>
<th>CENTER-WEST</th>
<th>NORTHEAST</th>
<th>NORTH</th>
<th>SOUTHEAST</th>
<th>SOUTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>477.23</td>
<td>522.25</td>
<td>263.62</td>
<td>408.94</td>
<td>603.44</td>
<td>502.51</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Man</td>
<td>550.90</td>
<td>559.70</td>
<td>298.20</td>
<td>463.80</td>
<td>696.70</td>
<td>603.50</td>
</tr>
<tr>
<td>Women</td>
<td>359.44</td>
<td>393.40</td>
<td>206.20</td>
<td>321.20</td>
<td>456.80</td>
<td>348.70</td>
</tr>
<tr>
<td>Labor Market Insertion</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Formal Employee</td>
<td>551.93</td>
<td>508.40</td>
<td>396.10</td>
<td>453.90</td>
<td>616.60</td>
<td>514.30</td>
</tr>
<tr>
<td>Self Employed</td>
<td>440.52</td>
<td>490.00</td>
<td>225.10</td>
<td>357.80</td>
<td>614.20</td>
<td>531.20</td>
</tr>
<tr>
<td>Entrepreneur</td>
<td>1,717.34</td>
<td>1,758.56</td>
<td>1,313.80</td>
<td>1,416.40</td>
<td>1,898.10</td>
<td>1,715.40</td>
</tr>
<tr>
<td>Government Staff</td>
<td>1,734.87</td>
<td>2,023.00</td>
<td>1,719.20</td>
<td>1,238.30</td>
<td>1,710.70</td>
<td>1,887.80</td>
</tr>
<tr>
<td>Informal Employee</td>
<td>360.25</td>
<td>391.20</td>
<td>234.10</td>
<td>361.90</td>
<td>425.80</td>
<td>462.60</td>
</tr>
<tr>
<td>Sector of Activity Agriculture</td>
<td>184.45</td>
<td>324.60</td>
<td>98.90</td>
<td>236.00</td>
<td>288.20</td>
<td>219.30</td>
</tr>
<tr>
<td>Construction</td>
<td>402.11</td>
<td>408.90</td>
<td>248.10</td>
<td>351.60</td>
<td>475.90</td>
<td>437.70</td>
</tr>
<tr>
<td>Industry</td>
<td>551.11</td>
<td>460.40</td>
<td>294.30</td>
<td>377.10</td>
<td>666.50</td>
<td>509.10</td>
</tr>
<tr>
<td>Services</td>
<td>684.42</td>
<td>592.20</td>
<td>414.10</td>
<td>484.40</td>
<td>820.60</td>
<td>678.80</td>
</tr>
<tr>
<td>Other</td>
<td>564.45</td>
<td>706.30</td>
<td>376.30</td>
<td>448.90</td>
<td>648.20</td>
<td>615.60</td>
</tr>
</tbody>
</table>

**Source:** Ipea/Disoc - Boletim de Políticas Sociais no 2 (2001), based on the 1999 IBGE/Pnad microdata,

* In R$ September 1999; september 1999 average exchange rate R$/US$ = 1,898.1,
APPROACHES TO THE REGULARIZATION OF INFORMAL SETTLEMENTS: THE CASE OF PRIMED IN MEDELLÍN, COLOMBIA

John J. Betancur

Abstract

This paper documents and examines PRIMED, a model program for regularization of low-income settlements in the process of formation in Medellín, Colombia. Considered one of the most advanced models for intervention in these types of barrios in the country, the program includes a basic infrastructure of streets, public facilities and public space; home improvements or relocation; and legalization of tenure within a framework of community building and participation. An attempt to address the problems of poverty, social decomposition, violence, and the absence of the state from such neighborhoods, the program became a model to pursue in other neighborhoods in Medellín and other Colombian cities suffering from the same conditions and challenges. After an initial background section, the paper goes into a summary description and an assessment of results. The paper concludes that the program was built on very sound principles and methodologies, achieved a high proportion of its specific objectives but fell short in addressing critical social problems facing such settlements. Although the program made significant improvements on the harsh physical conditions of these barrios, it did not include the types of social interventions that could start speaking to critical issues of employment, income, education, and health. Questions are raised as to the limits of such interventions and the need to intervene at higher and deeper levels to make a bigger difference for these people. The paper is based on information provided by PRIMED, conversations with staff and barrio participants, various visits to the target areas, observation of meetings with the community, and examination of relevant literature.

Background

Medellín is the second largest city and urban economy in Colombia. Capital of one of the most populated states in the country, the city hosts major activities serving the region and beyond. Profiting from the earnings of gold mining and coffee production, local notables carried out the first major industrialization drive in the country. As a result, the city industrialized in the first decades of the 20th century on the basis of a significant number of large manufacturing quasi-Fordist plants and many middle-size and small industries. The extreme concentration of jobs, education and opportunities turned Medellín into the major migration magnet for the northwest region of Colombia. A growing process of land concentration largely related to the reorganization of farming around production for the market freed up a growing mass of peasants. Lastly, a civil war fought mostly in the countryside between the late 1940s and 1950s precipitated a large mass migration to the city while intensifying the process of land concentration in the countryside. Medellín grew from 138,266 people in 1938 to 358,189 in 1951, 1,151,762 in 1973, 1,698,777 in 1993 and an estimated 2,093,624 people in 20051 or 15 times the 1938 figure. Moreover, the population of the metropolitan area—excluding Medellín—grew from 77,759 in 1938 to 855,301 in 1993 and to 1,324,804 in 2005 (DANE

1 Colombia has not had a census of population since 1993. The 1993 figures, meanwhile, are not reliable as the government itself established. Most people agree that the population of the city is much larger but this cannot be determined until the country carries out a new and more reliable effort.
2005). The immigration process intensified again intensified since the 1980s when guerrilla and paramilitary activity — and the actions of the army — terrorized the countryside sending hundreds of thousands of refugees to urban centers while producing a further wave of land concentration.

Although the local economy did well in absorbing immigrants — compared to other Colombian cities, it was never able to provide formal jobs to a large and ever growing proportion of them. The city started losing its industrial advantage in the 1950s when protectionism helped other cities catch up and take industrial and economic activity away from Medellín. Although still growing in absolute numbers, the city’s aggregate industrial value as a percent of the nation declined from 22.6% in 1966 (Goisier 1998:14) to 18.1% in 1994 (Cámara del Comercio 1999). Similarly, the city’s national share of jobs decreased from 24% in 1966 to 21.2% in 1991. A generalized economic crisis in the last three decades added to this problem. As in most countries with a Fordist industry, manufacturing lost its role as the main engine of economic growth. To survive within a deregulated and increasingly competitive globalizing manufacturing activity, the industry engaged in a process of restructuring based on labor downgrading and subcontracting that added to the poverty and generalized economic crisis. All local industries have cut their wages coming closer and closer on average to the minimum established. The informal sector has continued growing: in 1984, it provided an estimated 50.2% of all jobs; the figure went to 51.8% in 1992 and to 55.7% in the year 2000. The rate of open unemployment has oscillated between 12.5-14.7% in the period 1973-82, to 14.2-16.8% in 1982-88, 11.5-15.2% in 1990-96, 16.3-22.2% in 1997-2000 and 15-20% in 1998-2005.

The economic crisis was accompanied by a generalized loss of faith in the economy and government and the emergence particularly since the 1980s of multiple “alternative” initiatives on the part of organized forces such as the Medellín drug cartel, intensified paramilitary (both government sanctioned and underground) and guerrilla activity especially in low-income neighborhoods, and multiple other criminal activities (e.g. murder and kidnapping for profit, blackmailings, ‘vacunas’, and ‘paseos millonarios’). As a result of these activities and similar others by the police and the army, Medellín was the murder capital of the world (as measured by violent homicides per 100,000 people) in the 1990s and still remains one of the most violent cities in the world. With 7% of the national population, the city reported 25% of public order problems in the country in 2001 (El Tiempo 2001: 1-3).

Under these circumstances, the Presidency established a special program in 1990, Consejerald para el Área Metropolitana de Medellín, to address the problems of violence, gobernability and social decomposition in low-income neighborhoods. Along with this, local and national governments have engaged in various initiatives to address the crisis including a recent emphasis on militarization but also physical and social programs in such neighborhoods. PRIMED and Consejera were the major two efforts in the latter group. A process of constitution writing in the early 1990s that included a wide range of sectors produced the proper enabling legislations and mandates for development of urban plans and programs attempting to address the crisis (See Appendix). PRIMED was a forerunner in these fronts. Proposed by Consejera, the program was part and parcel of the general effort to confront the generalized problems of violence and social decomposition in low-income neighborhoods.

2 “Vacunas” is a payment imposed by armed groups in exchange for ‘protection’ or non-aggression. ‘Paseos millonarios’ is the name for a practice in which an individual with an ATM Card is retained by criminal groups and forced to withdraw the maximum per diem amount of money allowed until the accounts are emptied out. At that point, the individual is dropped anywhere or killed.
Integrated Slum Upgrading Program of Medellin (Programa Integral de Mejoramiento de Barrios Subnormales en Medellín - PRIMED)

The process of urbanization of Medellín included high levels of informality particularly since the 1950s. Whereas, for the most part, neighborhoods of the upper and upper-middle sectors of society had their homes and neighborhoods built according to codes and established norms, the rest of the city developed via self-housing. Land invasions and illegal subdivisions produced unregulated settlements with high densities and lacking the proper street systems and minimum public facilities and spaces. Judged by this, nearly 2/3 of the population currently lives in barrios that do not comply with the minimum standards and that lack the proper facilities. Over time, the administration and public utilities agencies managed to establish services and institutions in many of them; then, the city decided to incorporate much of the growth under the category of ‘normalized’ neighborhoods, categorizing the most extreme and recent settlements as ‘subnormal.’ Given the large presence of refugees, these barrios became strategic: not only did they include people displaced by guerrilla, paramilitary and military action, but they also housed cells and groups carrying the work of the former two groups in the city – along with others. Also, they occupied high-risk terrain that could result in major tragedies caused by mud slides. Lastly, they lacked any presence of the state in the form of institutions or even a minimum of compliance with established regulations.

PRIMED started in 1993 as a pilot program of cooperation between the city of Medellín and the governments of Colombia and Germany (through the Federal Minister of Economic cooperation, BMZ and KfW bank). It was conceived in 1992 as a form of incorporation of these settlements into the city, both physically and socially. The first phase (1993-1997) intended to move a set of informal barrios from levels 2 to 1; a second phase (1998-2003) would move another set from level 3 to 2. Phase one was extended to 2000 due to unexpected delays and the availability of extra funds. PRIMED was terminated on that year. CORVIDE, the umbrella organization housing PRIMED assumed the remaining work for one additional year when a new administration dismantled the agency. The total cost of Phase I was nearly 30,000 million Colombian pesos. The project was financed with a soft loan from the Bank of Development and Reconstruction of Germany (KfW) and a mix of national and local funds. It benefited around 51,000 people (or one-fifth of the total population living in informal settlements) in fifteen barrios. Phase II was planned with funds that became available when KfW waived the 1997 interest payments on their loan. This phase targeted an additional 60,000 people or 24% of the estimated population in these types of barrios. The total projected costs for this phase amounted to 42,569 million Colombian pesos.

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3 Integrated Program for Improvement of Subnormal Barrios in Medellin.

4 Most of this work was done under a scheme of local patronage (clientelism) in which the city provided materials, heavy machinery and technical assistance, and residents provided unskilled labor on an unpaid basis. Working with the customary local juntas required by for this process, politicians often ‘godfathered’ particular neighborhoods intervening to facilitate the process of improvements in exchange for votes.

5 Public figures from the Administrative Department of Municipal Planning put the number at 87 informal or subnormal settlements with 250,000 people or 14% of the population in 1997 (PRIMED no date: 15).

6 The city divides subnormal settlements into three kinds. Level one barrios are those with a sustained level of government intervention that have come close to meeting the basic standards of normalization. Level two includes barrios with some previous—although discontinuous and incomplete—government intervention; Finally level three includes barrios with no previous government intervention and an incipient infrastructure and inventory.
Building on programs of government intervention in the late 1980s and early 1990, PRIMED developed its own approach and methodology of regularization that differed radically from earlier approaches of slum clearance, isolated paternalistic interventions, crisis intervention, repression of informal settlements, and political clientelism or negligence. Table 1 summarizes the objectives and activities of the program. The diagnostic was based on the study of the dynamics of self-settlement, identification of physical and social deficits associated with this process, and determination of local assets. PRIMED designed its own approach on the basis of the major issues, lessons from earlier experiences, existing legislation and involvement of relevant existing public and private players (A WORD IS MISSING HERE) and came up with its own administrative arrangements. The diagnostic, as PRIMED articulated it (No Date: 15), emphasized the low quality and marginalization of these settlements reflected in “insecurity and violence, lack of infrastructure and services, deficits in communal facilities, high risks of mud slides and flooding, overcrowding, low housing quality, and the absence of the proper land tenure.” Planning was carefully completed with input from university researchers, people with previous experiences in such settlements, Consejería, and local and national authorities and institutions. The final product was a detailed design including objectives and target groups, community participation, specific improvements (i.e. general infrastructure, public services, public and communal space, home improvements and relocation, land tenure, and geological risks), target areas, institutional participants, costs, and mechanisms of implementation. Briefly stated (Facultad de Arquitectura, Universidad Nacional de Medellín, 1993: 29).

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7 The first of these interventions was precipitated by the closing of a garbage site, Moravia that had become home to 15,000 people, many of them dedicated to recycling. In consultation with residents, the city carried out a process of environmental improvements, regulation of water streams, legalization of land tenure, provision of public services, and physical improvements. A second intervention responded to a tragic mudslide in Villa Tina, an informal settlement in the Western mountains of the Valley. It included home relocation, control of streams, reforestation, and development of a basic infrastructure of streets and service connections. This same approach was extended to Trece de Noviembre, another settlement in a high-risk location. In all cases, the city provided materials, equipment and qualified labor asking that the community provided unskilled labor on an unpaid basis.
Table 1: Major Objectives and Corresponding Activities of PRIMED

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Activities</th>
<th>Areas Involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>General: improve the quality of life of subnormal barrios through mechanisms that guarantee the continuity of the program of urban improvements</td>
<td>All</td>
<td>Center oriental zone (COR), Center Western Zone (COC) and North Occidental Zone (NOC)</td>
</tr>
<tr>
<td>Superior: contribute to the unification of the city via the incorporation of subnormal barrios and to achieve peaceful convivencia in Medellin</td>
<td>All</td>
<td></td>
</tr>
<tr>
<td>Specific Objectives:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Establish the proper mechanisms of planning and implementation;</td>
<td>1. A decentralized, flexible structure and the proper support mechanisms; institutional agreements; funding sources by component; coordination between government agencies, NGOs and community groups; systems of follow up, evaluation and control; adoption of PRIMED’s approach for barrio regularization.</td>
<td></td>
</tr>
<tr>
<td>2. Promote citizen participation</td>
<td>2. Strengthen NGOs and community organizations; identify leaders to facilitate citizen participation; negotiate with the community; legal status of tenure, home relocations and community participation; involve the community in project development, subcontracting, administration and evaluation; develop small community programs; and establish mechanisms of citizen awareness.</td>
<td></td>
</tr>
<tr>
<td>3. Barrio Improvement</td>
<td>3. Determine and prioritize needs with the community; improve the area’s mapping; negotiate projects related to open public spaces, street layout, and community facilities; coordinate development of public utilities with the entity in charge; and develop projects of environmental control.</td>
<td></td>
</tr>
<tr>
<td>4. Home improvement and relocation</td>
<td>4. Identify housing NGOs; promote home improvements and provide the proper credit; train participating subcontractors; establish agreements with the proper entities; home relocation; and project financing.</td>
<td></td>
</tr>
<tr>
<td>5. Legalization of tenure</td>
<td>5. Identify fast track processes; negotiate with landowners and the community; carry out the proper procedures; apply housing subsidies to the process; work with the proper offices to expedite the process; and issue titles.</td>
<td></td>
</tr>
<tr>
<td>6. Mitigation of geological risks</td>
<td>6. Determine the areas of high risk; develop an infrastructure of stabilization and environmental control; promote the proper technologies and practices to mitigate risk; community education; make sure that all projects abide by environmental priorities and practices</td>
<td></td>
</tr>
</tbody>
</table>

Source: Author’s summary based on PRIMED 1992
[The program] attempts to reconstruct the social fabric and institutional trust initially in the hills of Pan de Azúcar, Picacho and Nuevos Conquistadores through actions that contribute to improvements in the quality of life of residents and the incorporation of these communities into the life of the city via provision of public services, construction and provision of communal facilities, recovery of areas of high risk, legalization of barrios, enactment of home titles, restitution of public space, income generating programs and development of family and social integration. To establish the presence of the state in these areas through an initial, intense intervention, in which the proper institutions of government, under the coordination of PRIMED worked in partnership with the community to address these problems, connect the settlements to the general urban fabric, and get them started on the path to normalization and social incorporation. It privileges interventions with long-term multiplier effects.

**Administrative Structure and Methodology/Approach**

PRIMED’s structure and approach included six major elements: a flexible and relatively independent administrative structure with direct access to the sources of power, inter-institutional cooperation, a clearly defined focus, a comprehensive approach, continuity, and a community participation framework:

**Administrative Structure and Inter- and Intra-Agency Cooperation.** Although operating under the umbrella of CORVIDE, the Housing and Social Development Corporation of Medellín, PRIMED functioned largely as a self-standing entity. Placed directly under the mayor’s office, it also had direct access to the presidency via Consejería. A coordinating committee including the mayor and representatives from Consejería as well as all agencies involved in program funding and delivery (e.g. CORVIDE, INURBE, the National Institute for Social Interest Housing and Urban Reform, SENA, the national skill training institute, the confederation of NGOs, the Metropolitan Area administration, PNUD, the United Nations Development Program, EPM, the local utilities company, city departments and a representative from the community) worked with PRIMED’s director in the coordination of major activities.

An administrative and monitoring group of representatives of such agencies, coordinated PRIMED’s ongoing work with the entities involved. All institutions involved in particular aspects of the program had a role defined in the general plan and a separate budget for their participation. The structure also included technical support from KFW, selected universities and others as needed. Separate offices coordinated the work in each of the target zones and barrios. PRIMED was responsible for planning, coordination and administration. Government entities, NGOs and subcontractors implemented the respective projects. In this way, the work of the different agencies was incorporated when and as needed while PRIMED focused on the whole. This arrangement generated savings and efficiencies while promoting a culture of cooperation and coordination among them. It represented a unique innovation in an environment in which each agency typically carried out its programs independently of all others.

**Focus.** Initially, PRIMED focused on settlements classified as Level II—settlements in which government had carried out some programs but that were still at a low level of consolidation. The agency chose a contiguous group of barrios allowing for comprehensive solutions at the proper scale along with more specific interventions at the barrio level according to the unique circumstances and conditions of each. Also, it included a fund for
smaller projects sponsored by community organizations and NGOs. In this way, the agency could specialize in one approach, maximize results, and go from the general to the particular as needed.

**Approach/Methodology.** PRIMED tried to eliminate the extremes of paternalism, political patronage/clientelism, favoritism, and isolated or crisis interventions. It sought to prevent disasters and the multiple social and legitimacy problems associated with marginalization and exclusion. It assumed an a-political form of intervention based on high levels of professionalism and efficiency. It operated on the basis of a carefully designed plan and criteria for each of its components. In this way, it was able to attract an array of social forces (e.g. the Catholic Church, philanthropic entities, institutes and universities) that had been traditionally alienated by the politically charged and self-interested parties commonly involved in this type of work. Moreover, PRIMED had privileged access to the centers of decision-making (e.g. the presidency and the mayoralty), and to international (the German Federal Ministry of Economic Cooperation), national, and local entities. This approach allowed the Program to interact with insurgent local groups because it did not represent any political party or individual or the police and army for that purpose—at least not directly. Lastly, the work was carried out in close partnership between different levels of government, German Ministry of Economic Cooperation (BMZ), local agencies, NGOs and the community. Perhaps the most important asset here was the acceptance of informal settlements as a given and the willingness to work with them—rather than manipulate, oppose, ignore or harass them.

**Comprehensiveness.** An effort to tackle multiple associated factors together was at the root of the program. It addressed physical improvements, housing conditions and tenure, employment and training, health, education, the environment, social relations, community building, safety and governability all at once as part of the same package. Certainly, most of the interventions were physical. Yet, they all aimed at improvements in economic conditions and quality of life with long-term social impacts. A methodology of partnership with the community, public awareness, de-politicized action, professionalism, transparency, monitoring and evaluation represented a model of action that could lead to full community support of the projects and the ensuing change in behaviors, and public participation towards a comprehensive partnership of sustained development.

**Continuity and Community Participation.** The program intended to generate a culture of partnership in which the community took charge of the future and continued the work on its own and through ensuing partnerships with government and others. For sustained development to happen, momentum had to be built and taken advantage of for further actions and the community had to gain ownership of the process, multiply the effects of interventions, and continue the effort through the institutions generated or strengthened and the education delivered. The limited, ad-hoc interventions of the past had fallen short in all these fronts. Many, in fact, fell into disrepair or were abandoned (e.g. parks and open space projects). PRIMED wanted community involvement all the way from determination of needs and establishment of priorities to implementation and maintenance. The agency was convinced that if the community did not gain ownership, the Program could not achieve its intended and more intangible goals and would not have much of an impact on the local fabric, namely, the effective insertion of the area into the city, trust in government, its institutions, and the rule of law, and continuation of the work.
Table 2: Major Accomplishments by Objective

<table>
<thead>
<tr>
<th>Objective</th>
<th>Accomplishments</th>
<th>Other Outcomes and considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Establish the proper mechanisms of administration, planning and implementation</td>
<td>PRIMED was able to establish a structure with the characteristics described under administrative structure and inter-agency cooperation (above).</td>
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<tr>
<td>2. Promote citizen participation</td>
<td>Citizen participation assumed a rather passive/client form; it took the forms of information; involvement of residents in implementation on a paid (subcontracts and employment projects) and unpaid basis (labor provision for specific projects); education on issues related to project maintenance and use; funding of small projects proposed by NGOs/CBOs; subcontracts with CBOs; and negotiations over relocation and conflicts. At the end, on the suggestion of the community, residents appointed a committee to represent them in the process of decision-making and planning.</td>
<td>Reactivation of local CBOs and increase in female leadership; emergence of new organizations and leaders; involvement of local Junta in the formulation of various projects; establishment of a watchdog committee including citizens; inclusion of community representative in PRIMED’s committees at multiple levels</td>
</tr>
<tr>
<td>3. Barrio Improvements</td>
<td>Increased the pedestrian infrastructure from a coverage of 40% to 60% (compared to the average of 90% for the rest of the city); brought the infrastructure of streets to 80% of the area (close to the 90% level of coverage for the rest of the city); established the infrastructure in NOC and advanced plans for COR; provided 2,800 meters in parks and open spaces; built secondary education establishments in each of the zones and a school in COC; added 5,500 sq. m. of recreational space with an additional 20,800 projected for development; added 6,000 m. in water pipes sufficient to serve 95% of households; built 1,000 sq. m. for a communal facility and 7 communal restaurants; built 5,000 m. in sewers as part of a projected coverage of 90%.</td>
<td>This was the most visible and perhaps successful outcome; although coordinated by PRIMED, most of this work was actually carried out by the corresponding municipal agencies (e.g. the local utility co. EEPP, the municipality’s secretariats of Community Development and Public Works, and Social Welfare and others)</td>
</tr>
<tr>
<td>4. Home improvement and relocation</td>
<td>Improvements in over 3,500 dwellings; relocated an undisclosed number of dwellings; worked with INURBE, CODEVI and other low-income housing organizations to increase the use of subsidies and loans for improvement of thousands more.</td>
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<tr>
<td>5. Legalization of tenure</td>
<td>Identification of issues and requirements for legalization under the different existing conditions of land tenure; establishment of process of legalization for those areas in which it was most feasible; legalization of more than 2,100 households or less than 5,180 targeted; establishment of a process that is guiding legalization in other areas of the city.</td>
<td>This was perhaps the most challenging aspect of the program; a complex set of issues including existing legislation, land ownership; land condemnation; household ability and willingness to participate, among others.</td>
</tr>
<tr>
<td>6. Mitigation of geological risks</td>
<td>Recovery of 5 Ha. and stabilization of 8.5 Ha. or nearly 70% of areas classified as high risk; channeled 640 m. recovering the basins of streams in a high level of deterioration.</td>
<td></td>
</tr>
</tbody>
</table>

Source: Table developed from information included in PRIMED 1992 and PRIMED no date.

* These are 1997 figures provided by the agency. No figures were available for 2000 when the program was completed on the basis of an extension. Informants suggest that most pending projects had been completed.
Major Achievements

This section examines results. Analysis starts with the major outcomes by specific objective to then conclude with a review of the overall objectives, the approach/methodology and the potential of this approach for future interventions.

Table 2 lists the accomplishments of the program as identified by PRIMED. Measured by these results, the program was a success. As per PRIMED, in most cases, the program achieved a high proportion of the projected outcomes. The source of this success comes from the six major components identified earlier, the strong commitment and enthusiasm of the local and national government, the staff, and the agencies involved, a careful process of planning and monitoring, program coordination at all levels, the power entrusted in PRIMED / CORVIDE, the ability of the site teams to stay away from political sectarianism and patronage politics, and the inclusion of the proper parties (from decentralized municipal institutions through citywide NGOs to community organizations). No independent evaluation, however, is available to determine the accuracy of PRIMED's self evaluation and report of findings.

Shortcomings and Issues

Although on the whole, PRIMED accomplished a high percentage of its specific targets, it fell short in its overall effort to move the target areas from level 2 to level 3 in the local scale and to develop a sense of local ownership of the projects as envisioned. Perhaps the major shortcoming was in the issuance of land titles. The process proved too complex and the target too high. The judicial process involved was particularly lengthy and included multiple changes. Local government decided against requiring land expropriations. Home improvements were affected by this as were political factors standing in the way in the issuance of housing subsidies – dependent on national government agencies. The elements that ran most smoothly were those most directly in the hands of local authorities and PRIMED—namely improvements in infrastructure, expansion of public services and construction of facilities. The absence of a data baseline made evaluation of household impacts (e.g. on family assets and employability) practically impossible. Instead, the program conducted a survey measuring the perceptions of participants (discussed later in this paper).

Local resistance/readiness, unexpected factors, lack of experience, organizational difficulties, political priorities, and overly optimistic expectations explain many of the shortcomings. Local resistance came from armed groups demanding payments (e.g. vacunas) or participation in the material benefits (e.g. jobs) and from changes in the armed groups controlling the settlement (i.e. each time a new group took over from the other relationships had to be renegotiated). It also came from community disagreements on approaches to the solution of environmental and other physical problems. Unexpected factors included incomplete information, technological difficulties related to the nature and extent of the work, and the difficulty of involving local organizations. Lack of experience applied especially to inter-institutional cooperation, subcontracting with local groups, and the complexity of an approach with so many partners and elements. Organizational difficulties had to do with the nature of previous arrangements based on patronage or paternalism and almost exclusively focused on brick and mortar solutions; they were also related to community organizations’ lacking the technical skills required by the program (e.g. institutional accountability, ability to handle subcontracts with highly formal procedures, and limited mobilization power); finally, it included unstable organizations, lack of professional paid staff, and low capacity of local organizations at coordinating the work among them. Political priorities refer to the absence of a long-term commitment to the program of the various levels of government and the slow pace or interest of some of the participating agencies (especially from the national government).
Finally, overly optimistic expectations refer to assumptions such as the expected level and form of community participation, the readiness/ability of all agencies involved to deliver at the time and within the terms expected, and the expectation that the interventions scheduled would have the types of social impacts assumed. The next pages specify some of these challenges by the major elements identified earlier:

**Administrative structure and Inter- and Intra-Agency Cooperation.** Although highly successful, the coordination of so many entities involved in project delivery proved highly cumbersome. Location of PRIMED within one of the city’s departments affected its standing vis-à-vis other public agencies involved that did not take full responsibility for success of the program. The coordinating committee had too many representatives and operated mostly as an information clearinghouse; distribution of responsibilities among the member institutions was not very clear from the beginning. PRIMED may not have been the ideal organization for coordination with the community as the city had its own department exclusively dedicated to this work. The program was not properly inserted into the general agenda of the municipality and took the form of a free standing, separate project. As such, it did not enter the organic municipal structure guaranteeing its full inclusion in the general plan for the city and the ongoing political process. Separation between planning and project implementation also presented a challenge as each agency had its own institutional approach, technical choices and modus operandi and had difficulty adjusting to or accepting the plans developed by PRIMED at face value. This experience proved that agencies could cooperate within the proper administrative structure but that they did not enjoy intrusion in their particular fields of expertise (tell me what I have to do and let me do it on my terms). In spite of this, participants saw the benefits of working jointly in ventures of this type.

**Focus.** As mentioned earlier, the projects under the responsibility of government institutions and citywide NGOs were quite successful. In contrast, smaller projects sponsored by community organizations and financed at 75% of the total by PRIMED were few (60 proposed and 18 funded and completed) compared to the funding available and the projected total of 240. PRIMED argued that this failure had to do with the lack of experience of local organizations in complying with all the technical requirements involved and in managing the projects within the established stipulations along with the inability of PRIMED to lend them technical assistance. At the same time, community organizations found the process too bureaucratic and formalistic, and resisted extracting unpaid labor from the community to contribute their in kind 25% share.

**Approach/Methodology.** Although the approach proved effective at overcoming patronage, paternalism, sectarianism, natural disasters, and isolated interventions with highly alienating effects on residents and the political process, this same success may have been counterproductive. Political support ended with the first phase and PRIMED was discontinued. Interviewees explained that politicians did not have much to gain from a process out of their reach—given the deeply rooted culture and practice based on the exchange of votes for projects of local improvement This decision actually may have confirmed how deeply entrenched those factors were in the local practice of politics. Although the crisis had not receded at the time of its termination, the political forces coming to power did not have the same commitment and went back to the old practices. According to a former PRIMED staff person, however, the second phase was discontinued due to disagreements between the national and local government over the municipality’s responsibility for the debt incurred for construction of the local Metro and the related inability of the city to incur additional foreign debt as well as the unwillingness of new administrations (both locally and nationally) to continue the program. Perhaps the latter is the most important as foreign financing amounted to less than 20% of the
total. The experience, however, is still there and is guiding lesser interventions by the municipality. Other cities such as Bogotá have taken inspiration from PRIMED to design their interventions in informal and low-income settlements.

**Comprehensiveness.** This aspect suffered from the absence of a social intervention as extensive and aggressive as the physical portion of the project. In the words of a PRIMED employee, “too much cement and a bare bones social process.” Similarly, the project was limited in its scope: it was unrealistic to expect that a limited local action like this could make a dent in the larger issues of income and employment. As PRIMED itself (no date: 68) explained in the plan for the second phase,

> PRIMED would be strengthened in the achievement of its objectives with the definition and implementation of complementary municipal policies aimed at the reduction of those problems that the Program cannot confront directly, including: violence and armed conflict, unemployment, low educational and health levels as well as deficiencies in cultural and youth strategies and attention to children and the elderly.

**Continuity and Community Participation**

As the methodology claims, success depended largely on a sustained effort and on the assumption of ownership of the projects on the part of the community responsible for taking care of them, developing a culture of conservation and environmental sustainability and taking charge of the process after PRIMED. This did not occur. As a PRIMED interviewee indicated, “When the project was over, the committee folded.” The community was absent from the initial planning and decision-making process. It was included mostly in those aspects of the implementation in which local consent was required, residents had to play a role, or community collaboration was a sine qua non. In some cases, this type of participation was achieved through the cooperation/cooptation of local organizations, educational presentations to convince residence of the convenience of the intervention, or negotiations with the parties most directly involved. Other than this, participation included educational workshops, cultural and sports events, legal consultations, and program information and publicity. For home improvement and relocation, participation included negotiations with the families involved, counseling, sweat equity (in the form of unpaid labor mostly), and related. People resented involvement in the form of unpaid labor.

The stated intent of the project—to instill among residents a sense of citizenship, to entice their participation in the city’s development, to get them to participate in PRIMED’s activities, and to legalize the settlement—may be heavily biased towards the priorities and agendas of government. Some residents expressed that government had come to them with a predetermined plan that did not take into account their conditions and meet their needs. For instance, the legalization plan and goals did not consider the ability (or lack thereof) of residents to comply with the expenses and terms of a legalized property (e.g. disposable income for taxes, utilities and costs of legalization). One resident went as far as saying that what people needed was a decent job allowing them to pay their way and access educational opportunities for their children. Others, however, did not go that far, were highly supportive of the program and were of the opinion that cooperation was a way of getting what they could not buy with their meager incomes.

In its analysis of experiences from Phase I and the proposals for the second, PRIMED (no date: 67) defined participation as “the process of sharing with the community the planning, financing, implementation and
evaluation of the different interventions." The term sharing can have top-down connotations. To its credit, PRIMED valued participation very highly and tried to make it as meaningfully as possible. For the second phase, PRIMED established a process of workshops to develop the capacity of representatives of community organizations and leaders involved in Phase I to participate in the formulation of the more specific plans by neighborhood. At the end of the process, PRIMED presented its general diagnostic for each zone and facilitated a process of feedback incorporating the results in the final document. After this, participants were organized into 4 groups (participation, infrastructure and facilities, housing, relocation and mitigation of geological risks). Following presentations of the corresponding diagnostics by PRIMED staff, the group identified priorities and programs. PRIMED staff addressed issues related to the feasibility of the proposals, came up with potential scenarios and engaged the community in the determination of the final scenarios.

At the same time, in its diagnosis of the community, PRIMED (no date: 26) alludes to deficiencies in their level of organization (e.g. low levels of leadership, authoritarian leadership, paternalistic relationships with NGOs, limited management and cooperation capabilities among the leadership, limited ability to bring the community along and lack of coordination among local organizations). The underlying expectation here may be one of fully developed NGOs with all the technical capabilities and willingness to cooperate unconditionally or within the terms of government institutions. It is important to take into consideration that community organizations often represent an independent voice calling for self-determination or fighting for frameworks and policies that allow them to reach their potential respect or to access the same opportunities as the middle class. They have been often alienated by government practices, public institutions and politicians. Moreover, their organizations are largely based on volunteers and participation competes with household and survival obligations often absorbing an inordinate amount of their time and effort. This raises questions about financial support allowing them the time to engage in these collaborations, to hire staff, or else.

It is rather unrealistic to expect that these communities will either work under highly formal frameworks and requirements or that they will follow passively the lead of institutions even as well intentioned and down-to-earth as PRIMED. Rather, projects and programs need to meet them at their level, take into account the real possibilities of their organizations and then, lend them the support necessary to grow. PRIMED’s model for the second phase attempted to do this. In fact, in the design of Phase II the entity was able to garner the support of the leadership through incorporating them as partners in the planning process.

Were the Larger Objectives Achieved?

From the way in which objectives were formulated, achievement of overall objectives is a function of the achievement of the more specific ones. PRIMED conducted a survey measuring the social and economic impacts of public sector projects completed in this phase. Survey results were highly positive. Ninety-six percent of respondents indicated that their quality of life had improved. The highest levels of satisfaction came from home improvements (66%), public spaces (49%), and legalization of tenure (36%). The lowest

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* Entitled Measurement of the Social and Economic Impacts of Public Sector Projects in phase I, PRIMED conducted a survey of a random sample of 300 households (from a universe of 10,465). Conducted in 1999, the survey measured impacts on life quality, physical improvements, governability, community participation, barrio and neighbor relations, housing, legalization of tenure, mitigation of ecological risk and environmental improvements. Participants were selected on the basis of their time in the target areas, participation in community organizations and groups, participation in local development projects and the projects, and participation in the benefits of any of PRIMED's projects. The survey was a partnership of PRIMED staff and consultants from a local university, Universidad de Antioquia.
levels of satisfaction came from health services (15%), legalization of tenure (10%) and improvements in the environment (10%). A high percentage (70%) agreed that their travel time had decreased, that access to transport had improved (92%), and that they were better linked to the city (91%). The increased presence of the state was recognized by 76%; 93% knew about PRIMED; 64% give the organization credit for home improvements, 21% for barrio improvements, 11% for skill training, 10% for legalization of tenure and 10% for development of Parks. In fact, PRIMED had the highest credibility among government entities at 48%, followed by the utility company (14%) and by the city's department of community development (13%). A total of 84% have some level of participation in local government projects; 68% indicated that citizen participation had increased; 69% believed that the community had the ability to participate in project identification and design, and 75% believed that it had the capacity to establish organizations for its own development. Similar percentages indicated that residents had the ability to watch over and respect the established norms (77%), to see that public spaces were not invaded (63%) and to take care of the infrastructure and public facilities (69%). They indicated that relations among neighbors improved (81%), that safety had improved (86%) and that risks of natural disasters had diminished (99%). These results, however, have to be taken with a grain of salt as two-thirds of respondents had received benefits from the program—in the form of home improvements. In this way, they represent the most direct beneficiaries of the program and their responses are likely skewed by their level of benefit and exposure to PRIMED.

From their perspective and from visual evidence, it is clear that the target areas were incorporated better into the city via streets and paths. The local infrastructure improved significantly. Open spaces were created and public facilities and institutions developed or improved. Many households were able to improve their houses and legalize land tenure—even if this meant incurring debt and new monetary obligations.

Meanwhile, interviewees indicated that the jobs generated by the program were temporary and the skills developed through them and through workshops were useful but did not lead to "real" jobs. This is in part a result of the absence of programs such as job development and placement and skill training in well paid occupations and the absence of higher level (municipal, statewide and national) interventions expanding the job market or making dramatic improvements in access to professional education and health services. Most importantly, efforts to curb violence belong to a different level. PRIMED stayed away from this issue: had it confronted armed groups, most likely it would have not been able to enter the community and engage in the process it did.

PRIMED's overall strategy certainly corresponds to the belief that violence can be curbed through a mix of state presence and legitimacy, reintroduction of hope, proper youth programs or policing. Consejería intervened in some of these barrios with youth programs, funding of small cultural, educational, and entertainment programs, communal forums, and other initiatives of participation and self-help. Yet, their limited scale and the mass level of need made these interventions largely symbolic. Recently, the state opted for high levels of policing as its preferred alternative to defeat violence. Violent deaths have decreased in the city although they still are among the highest in the world. Altogether these types of strategies, arguments and expectations have not been and perhaps cannot be evaluated. Informal economic activities, drugs, and multiple criminal activities have emerged as economic alternatives in a country and city with growing levels of poverty, unemployment, and underemployment. Tackling such problems calls for other interventions beyond the barrio PRIMED, succeeded in physical improvements and utility connections as well as in the provision of public facilities and
services. This may actually be the easiest and cheapest problem to resolve, considering the high levels of poverty and unemployment and the meager educational and skill levels of a majority of the population living in the city.

As mentioned earlier (see pages 12-15) the program was discontinued for a number of reasons including the election of a new administration committed to a different agenda and priorities, the limited electoral capital that could be derived from a rather de-politicized/technocratic process as this had become, funding, an isolationist culture between city departments, and the ad-hoc nature of this intervention.

Based on program figures and assuming 5 people per household, the program appears to have spent US $2,940 per household (at an exchange rate of 1,000 Colombian pesos per us dollar – the approximate average exchange rate for the first phase of 1993 to 1997). This cost is very similar to that for slum upgrading programs in much of Latin America. For example, integrated slum upgrading programs in Brazil and most other middle-income Latin American countries, which have many of the same components as this program in Medellin (including community participation and complete physical upgrading of basic infrastructure) cost US $3,000 to $5,000 per household (See Abiko et. al. in this book). By no means is this figure financially sustainable if we take into consideration the average household income in the region (or in Colombia for that matter), the size of the problem (and hence the total amount necessary to upgrade just the neighborhoods in the most extreme levels of need), and its ever growing dimensions.

Summing up, PRIMED was a very good beginning. Unfortunately, this was yet another case of one-time, ad hoc interventions at the whim of political forces in power. Documents and conversations with the staff along with plans and processes in place for Phase II suggested significant improvements especially in community participation and process. One crucial element of the intervention was an ongoing process of evaluation inspired by a deep commitment to learn from experience and to adjust the methodology accordingly. But all of this aborted when the program was discontinued and the team dissolved. PRIMED is a proven testament that physical slum upgrading that works. This evaluation shows some of the limitations and the conditions required for success. Its discontinuance, however, points also to the major challenges of political will, institutional coordination, corruption and political clientelism, true community participation, and comprehensiveness, among others. The bottomline, however, is cost. Virtually no Latin American country at this point has the resources or commitment that are necessary to make a dent in the slum problem (with the exception of Chile and Costa Rica, both of which are atypical countries within the Region). Perhaps only sustained economic growth can feed create the virtuous circle necessary to increase substantially the proportion of the population with meaningful employment and that can generate the resources to expand upgrading to ever more areas of cities in the Third World.

Reference


Final Note: This author followed PRIMED from its inception through available published and unpublished documents, materials shared by staff persons, visits to the projects, observation of meetings, and conversations with residents after these meetings or in tours of the communities. This presentation and analysis are based on these materials and experiences along with the author's own insights and study of documents.

Appendix: Relevant Colombian Policies for Informal Settlement

Most low-income immigrants to Colombian cities availed themselves of housing through land invasion or acquisition of illegal land partitions and self-settlement in the urban periphery. Thus, illegal forms of tenure, precarious dwellings, and violations of established regulations and codes characterized most of their settlements. Local governments could not intervene because they would be violating private land property rights or their own rules. Hence, improvements depended largely on settlers. Eventually, government developed a mechanism of intervention based on the distribution of construction materials and the loan of heavy equipment to settlers who then carried out the work. Meanwhile, government policies addressing the housing needs of the poor evolved from direct development of public housing to the provision of subsidies. This section provides a quick survey of these policies.

1940-1970. This period included creation of institutions and regulations, and a mix of tolerance and selected interventions to discourage and punish invasions. Institutions included EEPP, a decentralized institution in charge of public utilities in Medellín (1955); Casitas de la Providencia, a local low-income housing NGO in charge of collecting funds to build housing especially for relocation of squatters from the downtown area (1956); ICT, a national public agency in charge of housing development and rehabilitation (1942); Comité de Barrios EEPP, in charge of home improvements and utility connections in informal settlements in the city (1958),19 the Planning Department (1960), Acción Comunal (Communal Action), a local office working

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19 In 1964, this committee was replaced by a Fondo Rotatorio de Habilitación de Barrios (Rotating Fund for Barrio Improvements) and a División de Habilitación de Vivienda de EEPP (EEPP's Division for Home rehabilitation).
with local juntas in the physical improvement of barrios (1965); and Fondo de Habilitación de Barrios (Fund for Barrio Improvements), a committee of the assessor's office to prevent the emergence of new non-compliant settlements (1964). The most relevant interventions charged city council with the responsibility of determining and reinforcing urban perimeters (1962); gave Superintendencia Bancaria (the banking regulatory authority) the power to stop further development of informal settlements; ordered the eviction of invasions in strategic locations of the city; and directed government institutions to develop public housing. In short, this period sought improvements in long established informal settlements in the periphery, prevention of further settlement, eviction of squatters in central locations, and development of public housing. In spite of these measures, settlements accelerated as a result of mass migration and public housing only served a small sector of the better off among the poor along with the middle class.

1970-1983. During this period, government worked with the private sector to consolidate the construction and mortgage industries. Public policy included strengthening of previous regulations, establishment of adjustable rate mortgage institutions, a series of institutions and regulations concerning the environment, and interventions in geological areas of high risk in cities. CORVIDE substituted Casitas de la Providencia (1975). Defensa Civil (Civil Defense—1971, 1974 & 1979) and Centro Habitacional para Calamidades Públicas (housing Center for Public Calamities—1975) were created to address tragedies caused my mudslides. Law 61 of 1978 enabled municipalities to enact development plans making room for areas of self-construction within the confines of established land property laws and regulations. National law 1306 of 1980 required that municipalities developed integrated development plans. In 1981, Medellín established a green ring (cordón verde) to control urban expansion; this decree reinforced local opposition to further informal settlement. In 1982, the national government created Comité Nacional de Emergencias (National Committee for Emergencies) to coordinate a national effort to identify areas of risk and develop plans to deal with them. In December 1982, the city of Medellín issued a housing amnesty to legitimize self-help informal housing construction. This measure freed owners of any penalties associated with self-construction while giving utility companies and the city the ability to engage in the necessary corrections and to inventory these properties. In short, this period continued the emphasis on regulations but opened the doors for private experimentation and legalization of informal dwellings without offering a public solution. As a result, entities and individuals proposed legitimization of the informal settlement process and development of public support structures to improve upon it.

1983-1990. This period opens with dramatic urban tragedies caused by quakes, mudslides, flooding, volcano eruptions and others. National and local governments respond with legislation to engage in efforts of prevention and relief. In Medellín, the office of planning estimated in 1986 that 87,000 people living in 15,000 dwellings in 48 neighborhoods were at a big risk from such natural disasters and insisted on the need to engage in preemptive and relocation activities. Ensuing city council ordinances of 1986 and 1987 ordered local government to work with communities around these and other problems of informal settlements, to limit city growth and to integrate settlements to the city fabric. They instructed the city to work in the provision of

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11 First created by the national government in 1959, Juntas were legally incorporated NGOs to channel public resources to barrios; each barrio had one; although by definition they should stay away from partisan politics, eventually these groups became the main mechanisms of patronage as they worked with individual politicians to attract resources to their neighborhoods; in turn, politicians demanded support in elections from the barrio.

12 Over the years, Medellín registered major tragedies caused by mudslides in 1938, 1961, 1962, 1973, 1979 and 1992. However, the city only started paying organized attention to this matter since the 1980s.
informal settlements with utility connections and basic infrastructures and to relocate high-risk settlements. Finally, they charged COVIDE with coordination of these efforts. Initiatives included development of low-income formal barrios for relocation of settlers in high-risk areas. Interventions in areas of disaster emerged as the flagship, best-integrated programs in informal settlements and provided the foundations for PRIMED. The 1989 development plan for the city included provisions for relocation and rehabilitation of informal settlements. Other decrees created institutions for disaster relief and prevention. The national government (1987-1990) engaged in a policy of elimination of absolute poverty that included systematic intervention in informal urban settlements. Multiple other efforts and ordinances sought regularization of areas of self-construction and the recovery of high-risk areas. To sum up, this period committed the city to partnerships with informal communities around minimum processes of regularization and to address areas of risk. At the same time, however, it continued insisting on efforts to prevent further growth of informal settlements.13 This was also a period of isolated actions without a clear goal. In Medellin, this period marked the official recognition of a formal/integrated and an informal/segregated city.

1990-today. The national Urban Land Reform of 1989 made local governments responsible for addressing these issues through development of mandatory local development plans. It mandated “integration of subnormal settlements to the formal city,” development of the proper inventories, and establishment of norms for the informal city, around improvements in the quality of life, environmental control and community participation. Particularly emphasis was placed in this period on the alleviation of social decomposition and on urban safety. The main vehicle was the Presidential Advisory Committee for Medellin and its Metropolitan Area (Consejería). This body was explicitly created “to coordinate the actions of national institutions serving the city and its metropolitan area and to facilitate mechanisms of agreement between national, state, metropolitan and urban authorities to unify objectives and carry our programs contributing to peace; promote fundraising from international entities; coordinate the search for solutions and give advise to the national government on social policy for the region” (Facultad de Arquitectura 1995: 27). In 1997, the national government created INURBE to replace ICT and preside over programs of social interest housing. Particularly important here is the replacement of public housing for subsidies to households. Equivalent to a maximum of 15 minimum monthly salaries, these subsidies could be applied to home construction or improvements (including relocation and legalization of tenure for the case of relocation and programs of barrio regularization). Since 1992, local ordinances expand the urban perimeter of the city to include settlements complying with a minimum of infrastructures, facilities and conditions proper of the formal city.

This enabling legislation provided the foundations for the design and implementation of PRIMED. As part of its efforts to improve the legitimacy of the state and address some of the causes of social decomposition, Consejería formulated this program in October 1982. PRIMED integrated the schemes developed for interventions in areas of tragedy and ecological risk with those oriented to the regularization of informal settlements in general. It added housing improvements to come up with the most comprehensive intervention to date in informal barrios in the city. Lastly, it did this work within a framework of community development that PRIMED refined significantly.

13 This is most explicit in elements of the proposed 1989 Plan including the freezing of lands for potential urban expansion, reenactment and enforcement of the green zone surrounding the city, sanctions against violators and formalization of low-income neighborhoods.
STRATEGIZING SLUM IMPROVEMENT IN INDIA: A METHOD TO MONITOR AND REFOCUS SLUM DEVELOPMENT PROGRAMS

Robert Buckley*
Mahavir Singh**
Jerry Kalarickal***

Abstract

This paper is the first joint Government of India (GOI)-World Bank attempt to examine the existing housing and sanitation programs with a view to developing a framework for evaluating them. Data was collected for four Housing Subsidy programs and two Sanitation programs from a series of conversations with government officials in concerned ministries at both the federal and the state government levels and from Government of India documents.

The paper evaluates these programs on five public administration categories: Targeting, Efficiency, Transparency, Administrative Simplicity and Sustainability. In the absence of requisite data, the paper undertakes a discursive analysis of the various components of each of these subsidy programs and assigns a level of performance on each of the five criteria based as much as possible on quantitative measures.

The paper finds that, on the positive side, most of the programs appear to favor cash grants and loans to in-kind subsidies. This is a big improvement from the days when most developing countries (and some developed countries) had large and expensive public housing programs. However, the overall picture that emerges is not a completely optimistic one. Most of these programs have vast room for improvement in almost all of the five categories considered. There is a need to move away from reliance on supply driven designs to incorporating mechanisms which make programs more responsive to beneficiary needs. Furthermore, there is a need to consider improved mechanisms to increase beneficiary contributions. Finally, the federal and the state governments should make an active effort to in evaluate current public holdings of land to bring them in line with their best use, albeit within existing political constraints.

Introduction

India's 10th Five Year Plan noted that the urban slum population is growing despite sharp reductions in poverty and rising incomes. The central and several state governments recognized the need for intervention by initiating, or enlarging existing urban housing and other slum subsidy programs. With this in mind, the Government of India (GOI) has requested a loan from the World Bank to implement a more effective strategy and delivery mechanism for the financing of urban slum improvement and sanitation provision in underserved areas.

In order to support the GOI to achieve the goals delineated in 10th Five-year Development Plan concerning slum improvement and poverty alleviation in urban areas, the Bank has agreed to consider a program that

* World Bank
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*** BearingPoint, Inc.
will focus on (a) refining the national policy framework for the upgrading of urban slums and sanitation in underserved areas in India; (b) working with the states and various beneficiaries to establish a methodology which measures program performance of both the GOI and the states, and identifies concrete monitorable steps that can be taken to improve this performance; (c) developing appropriate monitoring mechanisms to enable the evaluation and modification or redesign of the programs which would improve the transparency, efficiency, administrative simplicity, and targeting of the assistance; and (d) developing funding schemes for slum improvement and sanitation that could provide incentives so that resources are used more effectively and the program reach expanded. In doing so, the program will: (i) contribute to poverty alleviation in the poorest urban areas in India; (ii) strengthen human capital in poor neighborhoods by increasing community participation in planning, delivery and maintenance of public works and services; (iii) improve the efficacy of the use of more than $400 million of annual government expenditures on these programs.

This paper is the first joint GOI-Bank attempt to examine the existing housing and sanitation programs with a view to developing a framework for evaluating them. Data was collected for four Housing Subsidy programs and two Sanitation programs from a series of conversations with government officials in concerned ministries at both the federal and the state government levels and from Government of India documents.

The structure of the paper is as follows. First, the caveats to the analysis are spelled out. The next section presents the necessary background. Then section III briefly describes the five programs evaluated. Section IV examines how each of these programs measures up against the evaluative criteria. Section V presents the conclusions while section VI outlines the way forward.

Caveats to the Analysis

Among the existing housing programs, three federal programs and two state level programs were examined. Two of the national programs - the Valmiki Ambedkar Awaaz Yojana (VAMBAY) and the National Slum Dwellers Program (NSDP) - are run in conjunction with the states and are primarily urban programs. The third national program, the Indira Awaas Yojana, is a rural housing program. The state level programs are Karnataka's Urban Ashraya Housing Program and Kerala's Mythri Housing Scheme. Finally, a new program that the Kerala government is considering - the Bhavanashree program - is also appraised. This last program was included because its' program design addresses some of the concerns that the paper shares about existing programs. However, since this program is still in its design phase, the analysis of this program in this paper should only be considered as an appraisal and should not be read as an evaluation.

Apart from the housing programs, a couple of slum sanitation initiatives - the Pune Sanitation Project and the national level Nirmal Bharat Abhiyan - are also examined. These sanitation programs were included because they are integral to any slum upgradation program. Furthermore, there are design elements in this program that are worthy of emulation in all slum upgradation programs.

Since this is an informal study of a few selected programs, a necessary caveat that there might be inaccuracies in the specific details of the programs also has to be added. The paper has tried to minimize these errors but a major part of it has focused on ensuring that the general characteristics of these programs are as accurate as can be. The inaccuracies that might have crept in also point to the need for better data about

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1 There is some degree of flexibility in how these programs are implemented at the State level. When discussing specifics of these programs, the paper will be referring to how these programs are implemented in Karnataka.
the urban poor in India as well as the housing subsidy programs, a case that the paper makes during the course of this paper.

**Background**

GOI's policies on slums have undergone a paradigm shift in recent years. In the seventies and early eighties, the government emphasized the notion of 'slum free cities'. What this often meant was forced or voluntary resettlement of slums in central cities. However, over time, the weaknesses of such a program became evident. Firstly, the slum dwellers who were being resettled were fully integrated in the economies of the cities. They were economic agents adding to crucial economic output. Resettling them would have adverse economic consequences. Secondly, removing slums from central cities and transportation nodes often meant that the new settlements on the outskirts of the city were far from jobs, thus further worsening the welfare of slum dwellers. With this realization, the government started focusing on slum upgradation and slum rehabilitation programs. In the initial years of slum upgrading, the focus was on providing infrastructure to the slums through the NSDP. Now there is increased stress on provision of shelter to urban slum dwellers through VAMBAY.

India's new focus on economic liberalization and on decentralization has posed significant additional challenges to urban development in the country over the last decade. In particular, the country's thrust on decentralization under the 74th Constitutional Amendment Act has led to a new emphasis on improved urban governance and management with a view to increasing cities' efficiency and reducing urban poverty. This is a major challenge for a country with some 433 million people living on less than US$1 a day, 36% of the total number of poor in the world. India also has some 20% of the world's out-of-school children. Out of the 290 million (28% of the population) that live in urban areas, 62 million live in slums. This represents over 21% of the urban population in India. These urban poor suffer disproportionately from adverse health impacts linked to lack of proper shelter and basic services, in particular sanitation. Conditions are particularly adverse in India's largest cities, as the top mega cities in India (Mumbai, Delhi, Kolkata, Chennai, Bangalore, and Hyderabad) house 18% of the total slum population in the country.

This emphasis on improved urban governance takes a new dimension, as the urban sector increasingly becomes an important driver of economic growth. Urban centers contribute more than 60% of the country's Gross Domestic Product (GDP), which highlights their role in achieving national economic growth targets. In this context, urban infrastructure has a prominent role in the GOI's Tenth Five-Year Development Plan (2002-07). It aims to improve urban infrastructure as critical to growth and poverty alleviation through decentralized urban local governments with strengthened capacity to deliver services. The GOI has estimated that the country needs to reach an economic growth rate of at least 8% in order to significantly reduce the incidence of poverty. For the first time, the Ministry of Urban Development and Poverty Alleviation (MUDPA) has designed a comprehensive Urban Development Strategy focusing on fiscal, financial, and institutional changes. As a cornerstone of the urban strategy, the MUDPA has introduced the Urban Reform Incentive Fund (URIF) in 2002. Through financial incentives from this centrally funded scheme, GOI encourages systemic reforms at the State level. Simultaneously, GOI has set up the City Challenge Fund (CCF) to promote reforms in citywide governance and service delivery.

Despite this progress, the sheer volume of resources required to address the needs of the urban poor threatens the sustainability of current efforts. Unless a sustainable framework for financing urban slum improvement is
implemented, successful scaling up of these initiatives would be difficult to undertake; and without successful large-scale poverty reduction in India, it would be impossible to achieve the Millennium Development Goals. This program is well suited to support the GOI in the pursuit of large-scale poverty reduction in a sustainable manner.

Current Subsidy Programs

There is a general perception that the government should help to improve the housing conditions of the poor, but the programs actually sponsored appear poorly positioned to deliver on that result. Table 1 shows that the selected urban programs allocate approximately $130 million of GOI assistance per year. Ideally, the Government of India would target the 40 million poor urban slum dwellers (of an estimated total slum population of 60 million) with these funds. However, even if those resources went only to the intended beneficiaries, every slum dweller would receive no more than $3 of assistance per year. Given the unit costs of even very modest housing, this amount is obviously not enough to have a substantial effect. On the other hand, providing more assistance to a fewer beneficiaries leaves out others who are equally deserving. The relative paucity of resources allocated to housing the urban poor underlines the importance of using those resources more effectively and leveraging them better.

In this context, for example, a program that provides say $75 per year of assistance (and which could correspondingly serve less than 4 percent of poor urban slum dwellers) would have no discernible impact on the overall number of slum dwellers. For this result to occur all that would be necessary is that, the slum population increases by 4 percent or more, as it often has in the past 20 years. With this increase in the number of households in need, there would be no reduction in the slum population. Although such a program helps a non-trivial number of slum-dwellers, there would be no effective difference in number of slum dwellers. Thus, given the large and growing numbers of slum dwellers, and the limited availability of public resources to assist them, designing programs that most effectively use the resources and that make them go the farthest is of particular importance.

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2 Given the difficulties in using allocated funds and the widely variable spending patterns involved across states this figure must be viewed as a conservative approximation.

3 Using the urban poverty line of about $120 a year for 1999/2000 (converted at Rs. 45 per dollar; World Bank, Poverty in India: The Challenge of Uttar Pradesh, May 08, 2002. Annex Tables A1.1) this level of assistance amounts to about 2.5 percent of the income of those at the poverty line. This level of assistance cannot improve much on what the poor are spending already.
### Table 1: Selected Government of India Programs for the Urban and Rural Poor Plan allocations for 2001-02 in Rupees millions

<table>
<thead>
<tr>
<th>Program Description</th>
<th>Urban Programs</th>
<th>Rural Programs</th>
<th>Allocations</th>
<th>Allocations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing and Slum Improvement Programs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Valmiki Ambedkar Awas Yojana (VAMBAY), introduced in 2001, focuses on shelter for the urban poor, with 20 percent of total allocation for community sanitation facilities under the Nirmal Bharat Abhiyan (NBA) program</td>
<td>736.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National Slum Development Program (NSDP), launched in 1996, provides funds for physical and community infrastructure as well as shelter upgrading to. It uses the community structures developed first under UBSP, and later under SJSRY.</td>
<td>3850.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Water Supply and Sanitation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accelerated Urban Water Supply Project (AUWSP) is not strictly for the poor, but provides funding for water related infrastructure in small towns with less than 20,000 in population. GOI started this program in 1993-94.</td>
<td>950.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban Low Cost Sanitation (LCS). GOI initiated this program in 1980 and it aims at liberation of scavengers through subsidies for conversions of dry latrines into low cost pour flush latrines.</td>
<td>398.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Urban</strong></td>
<td>5934.0</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Program Description</th>
<th>Rural Programs</th>
<th>Allocations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indira Awas Yojana (IAY), launched in 1985 as sub-scheme of JRY, was made into an independent scheme in 1996. It provides full grants to the rural poor for construction of their houses.</td>
<td>15270.0</td>
<td></td>
</tr>
<tr>
<td>Accelerated Rural Water Supply Program (ARWSP) provides finance for RWS schemes on a need basis. Within ARWSP, 20 percent of the funds are reserved under the Sector Reform Program (SRP) for those States that are willing to adopt key sector reforms related to cost recovery and community management.</td>
<td>20100.0</td>
<td></td>
</tr>
<tr>
<td>Total Sanitation Campaign (TSC), introduced in 1999, restructures the previous supply-driven Community Rural sanitation program (CRSP). It puts greater emphasis on demand generation and awareness with a significant reduction in the subsidy.</td>
<td>1500.0</td>
<td></td>
</tr>
<tr>
<td><strong>Total Rural</strong></td>
<td>36870.0</td>
<td></td>
</tr>
</tbody>
</table>

Table 1 shows that rural housing-related subsidy programs receive more than six times the public resources devoted to similar urban programs even though the rural poor outnumber their urban counterparts by less than three to one, 197 versus 67 million respectively. Consequently, on a per capita basis, the rural poor receive almost twice as much housing assistance as the urban poor. This difference in allocation does raise questions about how public expenditures are determined.

Table 2 lays out the essential characteristics of the five housing programs considered here. For a detailed description of each program, please refer to Annex 1.

**Table 2: Comparison of Housing and Slum Dweller Programs**

<table>
<thead>
<tr>
<th>Program</th>
<th>To State</th>
<th>To Beneficiaries</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSDP</td>
<td>• 70% Loan</td>
<td>• Selection and development of one slum in each city as a “model slum” in the case of Karnataka</td>
</tr>
<tr>
<td></td>
<td>• 30% Grant</td>
<td>• 10% of NSDP funds can be used for housing construction and/or upgrade (the rest should be used for physical and social infrastructure).</td>
</tr>
<tr>
<td></td>
<td>For special category states, the amount is given as 90% grant and 10% loan</td>
<td>• Housing provided on loan (Rs. 50,000); amenities free of cost</td>
</tr>
<tr>
<td>VAMBAY</td>
<td>• 50% Central subsidy</td>
<td>• 80% of total amount received from GOI spent on housing of which:</td>
</tr>
<tr>
<td></td>
<td>• 50% matching funds from State</td>
<td>• 50% given as subsidy</td>
</tr>
<tr>
<td></td>
<td>• From GOI routed through HUDCO</td>
<td>• 50% as loan.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 20% to be invested in the provision of water supply and sanitation (toilets) within the assisted slums</td>
</tr>
<tr>
<td>IAY</td>
<td>• 80% federal grant</td>
<td>• Rs. 20000 in housing grants (Rs. 22000 in hilly and difficult areas) for housing construction.</td>
</tr>
<tr>
<td></td>
<td>• 20% state grant</td>
<td>• The amount to be used for construction of sanitation facilities and ‘clean’ cooking facilities.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Infrastructure to be provided by the implementing agency.</td>
</tr>
<tr>
<td>Urban Ashraya</td>
<td>GCK takes loans from HUDCO</td>
<td>• Housing loans ranging from Rs. 25,000 to 40,000 provided per the size of city, excluding Rs. 5,000 upfront deposit</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 100% loan.</td>
</tr>
<tr>
<td>Mythri Program</td>
<td>Gov. of Kerala takes loans from HUDCO</td>
<td>• Total subsidy Rs. 28000 of which 19000 in loans at 5.5% interest rates (HUDCO interest rates of 13.5%) and cash grant of Rs. 9000.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Beneficiary contribution of Rs. 2000</td>
</tr>
<tr>
<td>Bhavanashree Programs</td>
<td>From various financial institutions</td>
<td>• Loans between Rs. 3000/- to Rs. 4000/-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• No subsidy in loan interest rates (between 7% to 8% interest rates).</td>
</tr>
</tbody>
</table>

**Sources:** KSCB and RGRHCL, Bangalore, March 2009 and KSHB and Kudumbashree, Trivandrum, January 2004. Ministry of Rural Development website.

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4 *Tenth Five-Year Plan*, p. 625. The Ninth Plan was the first time that attention was given to urban poverty as a distinct policy issue. Previously, from a policy perspective poverty was synonymous with rural. The Tenth Plan continued and deepened the discussion of urban poverty and what needs to be done to improve these programs, giving particular emphasis to increased participation. Of course, there are other mitigating factors in determining the size of the subsidy needed, including how deep in poverty a household is, the cost of housing, and whether or not the subsidies are targeted on the poor. The observation in the text attempts to suggest that given the observed locational distribution of the poor there is an empirical question of whether housing subsidies are targeted on the poor or some other characteristic.
Evaluation of Subsidy Programs

Five criteria were used in the analysis of these programs: Targeting, Efficiency, Transparency, Administrative Simplicity and Sustainability. In the absence of highly specific data, the paper undertakes a discursive analysis of the components of these programs. Rather than viewing this discursive analysis as a weakness, it is in many respects a strength. It is fully in the spirit of the way the World Bank undertakes ex-post evaluations of its projects – assigning a level of performance based as much as possible on quantitative measures. It is also consistent with the approach taken by, for instance, the European Bank for Reconstruction and Development in its evaluation of the many dimensions of reform in the former socialist economies. Moreover, this approach not only sheds light on the strengths and weaknesses of these programs, but it also requires policy-makers to consider explicitly how and why they believe a program performs against a specific standard.

Each of the programs are rated on the five criteria named above on a scale of 1 to 4 in increasing order of excellence. A program that rates poorly gets a score of 1 while a program that satisfies all the concerns under a specific criteria gets a score of four. While some of these programs can be vastly improved by some small changes in the program structure, other programs need wholesale reform in the way they are designed. A detailed discussion on each of these measures is presented in Annex 2.

Table 3 shows that the four housing programs have an average rating between poor and fair (an aggregate score of less than 10). In contrast, both the sanitation programs examined are rated higher with scores of 12.5 and 13.5. For a full analysis of each rating given, please refer to Annex 3.

Table 3: Rating of Housing and Sanitation Programs

<table>
<thead>
<tr>
<th></th>
<th>Targeting</th>
<th>Transparency</th>
<th>Efficiency</th>
<th>Administrative Simplicity</th>
<th>Sustainability</th>
<th>Total Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAMBAY</td>
<td>1.67</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>6.67</td>
</tr>
<tr>
<td>NSDP</td>
<td>1.33</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>6.33</td>
</tr>
<tr>
<td>IAY</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Urban Ashraya</td>
<td>1.5</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>8.5</td>
</tr>
<tr>
<td>Mythri</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>Shavanashree</td>
<td>3.5</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>13.5</td>
</tr>
<tr>
<td>Pune program</td>
<td>3</td>
<td>3,5</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>13.5</td>
</tr>
<tr>
<td>NBA</td>
<td>3</td>
<td>2</td>
<td>2.5</td>
<td>2</td>
<td>2</td>
<td>11.5</td>
</tr>
</tbody>
</table>

*The targeting rating is the average of the ratings each program got for each of the three targeting components. See Table 2.
(Key: 4 - Excellent, 3 - Good, 2 - Fair, 1 - Poor)
The twin sanitation programs rate better than the low-income housing programs. The most notable improvement of these sanitation programs are better targeting through greater community participation and better efficiency through the institution of user fees. However, there is much room for improvement in the sanitation programs. The capital costs in both programs are either fully or very heavily subsidized. Given the demand for sanitation facilities in India, it might be more sustainable and more efficient to include a beneficiary contribution element to the funding of capital costs. This will necessitate that the local government work with CBOs in designing and building these programs. Such collaboration will not only ensure that these programs are more sustainable but also improve consumption efficiency.

Conclusion

On the positive side, most of the programs studied appear to favour cash grants and loans to in-kind subsidies. This is a big improvement from the days when most developing countries (and even some developed countries) had large and expensive public housing programs. Cash grants increase consumption efficiency because they are more likely than in-kind grants to be valued at the cost of the subsidy.

However, the overall picture that emerges when these programs are examined is not an optimistic one. Figure 1 provides a visual perspective on how these programs rate and how far they will have to travel if they are to become ‘excellent’ programs. The five housing programs that are underway have an average rating between poor and fair. Each of the five Indian housing programs that were evaluated got an aggregate score of 10 or less than 10. In contrast, both the sanitation programs examined here are rated higher with scores of 12.5 and 13.5 because they had better targeting mechanisms and greater community participation.

Figure 1: Rating of Various Subsidy Programs

(Key: 4 – Excellent, 3 – Good, 2 – Fair, 1 – Poor)
Each of the programs show room for better design and implementation in each of the criteria that is used. In order to continue developing a housing policy framework it is important that existing programs are reassessed to understand the scope for better targeting and more efficient, transparent, and “user friendly” programs that the government can then scale up. Several points have emerged for consideration and further validation:

**Insufficient Resources:** Current government allocations for urban slum programs cannot achieve a significant reduction in the numbers living in sub-standard housing unless further contributions from beneficiaries, local governments or the private sector can be mobilized. According to the Government of India, current programs result in less than 100,000 new units a year. Since there are approximately 12 million households dwelling in slums, this funding covers less than 1 percent of the need for better shelter. Leverage is essential if conditions in slums are to be measurably improved. Given the relatively high cost of housing even for the poor, there is ample evidence that contributions from beneficiaries can be a part of this leverage. For example, in the Sanitation Program in Pune and in the Nirmal Bharat Abhiyan, by moving the responsibility of maintenance to the beneficiaries and by levying user charges, the fiscal burden on the state is reduced drastically. In the long run, the capital costs are only a small percentage of the total cost building and maintaining better sanitation facilities. Beneficiary participation makes such programs feasible and allows increasing the coverage of the programs. Such a move will also have beneficiary effects on targeting by reducing the probability of manipulation by interested parties as well as increase efficiency by reducing the per-unit subsidies.

**High per-unit subsidy rates:** Subsidy rates ranging between 80 to 90 percent of total cost of housing (see Annex 4) are very high. It is very probable that the government can achieve the same housing objectives with far less direct outlay. By eliminating the unbudgeted subsidies embodied in free land and loan defaults, the scope of slum programs might be increased three to four-fold.

**Increase Administrative Simplicity:** Reducing the subsidy element in central schemes offers scope for administrative simplification, thus improving effective targeting to poorer states with weak capacity to make use of these programs.

**Reducing reliance on supply-driven design:** Such a move increases beneficiary satisfaction and increases efficiency. This means that using the kind of self-help groups used by the Kudumbashree program in Kerala might be useful not only in furthering the shelter solutions but also in other aspects of poverty eradication.

**Mobilize alternative mechanisms for beneficiary contributions:** Many of the current programs try to increase beneficiary contributions by having a loan component as part of a housing subsidy program. Even when these loans are not heavily subsidized through lower than market interest rates, the very poor repayment performance functions as a hidden subsidy. This has undesirable side effects on the viability of state finances and central funding agencies. Therefore, alternatives for mobilizing beneficiary contributions are urgently needed.

**Prioritised and Demand-driven Programs:** In all slum related schemes, specific projects will have to be identified by municipalities in consultation with slum dwellers and given priority. This will ensure that only viable projects are taken up and that community participation is forthcoming. As argued earlier, community participation often optimizes resource use. Furthermore, it might be important to prioritize various projects on set criteria due to the constraint on resources.

**Land Monitoring and Control:** Very often, slums develop on public land. The governmental regulatory/enforcement mechanism that governs these lands has to be strengthened. For instance, as a policy, the concerned
department (on whose land the slum has come up) should have to take stock of the land afresh and take care of rehabilitation of the slum dwellers on their own because it was the poor enforcement mechanisms of the department that resulted in the slum. This would trigger a debate on the issues such as land management, landholdings as per requirements, inventory costs and more importantly, exploring the possibilities for allocating some land for rehabilitation of slum dwellers. Moreover, it might force the department to retrieve parts of the unused land which could then be commercially exploited to finance the slum rehabilitation programs.

The paper recommends further exploration of these issues, re-examination of state and central programs in light of these tentative findings, and consideration of alternative approaches being used in India and in other developing countries. Governments can increase the number of urban poor substantially helped by these programs at the current level of expenditure—if reforms of these programs are undertaken.

The Way Forward

This paper provides a basis for discussions between the World Bank and the Government of India regarding future World Bank assistance and policy work in this sector, and demonstrates the losses likely to be sustained by the sector in the absence of reforms. The Bank stands ready to support the GOI's efforts to improve the lives of the poor and proposes to immediately start the studies above in preparation of the World Bank funded Urban Upgrading and National Sanitation Program.

In particular, in order to design a more effective strategy and delivery mechanism for the financing of urban slum improvement and sanitation provision in underserved areas, the proposed steps below should be followed:

1. Undertake a series of studies and preparatory activities for slum improvement strategies. To do this, a methodology similar to the one described in this paper should be agreed upon in consultation with the MoUDPA and the state government to evaluate the various slum upgrading programs. Furthermore, concrete monitorable steps should also be agreed upon to improve the performance of these projects.

2. Develop appropriate monitoring mechanisms that allow concerned parties to evaluate, modify and/or redesign these programs to improve efficiency, transparency, targeting and administrative simplicity.

3. Develop funding schemes for slum improvement and sanitation that provide incentives to use resources more effectively as well as to expand the reach and coverage of these programs.

4. Strengthen the national resource Cell at the MoUDPA so that it can assume its role as repository of information for policy making. This cell should be supported by a research cells at the national and state levels.

5. Implement GIS based urban planning systems for slum identification and management as well as develop a database of slum dwellers, squatting areas, land policy regulating the area, and ownership status in order to prioritize projects. A mechanism for developing and updating this database will have to be worked out with state and local government bodies.

6. Explore mechanisms for involving public or private sector financial institutions to enlarge the resource base for taking up various slum development programs.
Land and Urban Policies for Poverty Reduction

References


Appendix V. 1

The National Slum Development Program (NSDP) was launched in 1996. Annually, the program provides about Rs. 400 crores (Rs $ 4 billion) in assistance. The objective of the program is slum upgrading through the provision of physical amenities, community infrastructure, health care and social amenities. Up to 10% of the funds can be used for housing construction/upgradation. The Planning Commission allocates funds annually, in proportion to the share of the national slum population in each State or Union Territories (UT). Then the Ministry of Finance releases the funds to the States or the UT. MOUD&PA is the Nodal Ministry responsible for monitoring and for the implementation guidelines. Neighborhood Committees and Community Development Societies should implement the NSDP at the local level. Slum Development Committees, including elected representatives from ULBs, NGOs and community-based organizations, should oversee them. The program has both loan and subsidy components. For the larger States, loans constitute 70% and subsidies 30% of total allocated funds. For the smaller States, the loan component is only 10% and the subsidy 90%. All construction is undertaken by contractors.

Valmiki Ambedkar Awas Yojana (VAMBAY), initiated in 2001, was designed to address housing deficits for the urban poor. It provides about Rs. 300 crores (Rs 3 billion) of annual assistance to designated state agencies who then determine beneficiaries and monitor the implementation. The state government must provide the beneficiaries with a title and/or land as a pre-condition for the loan or subsidy. Its goal is to achieve ‘Cities without Slums’ by providing or upgrading shelter for people living below the poverty line in urban slums including members of Economically Weaker Sections (EWS) who do not possess adequate shelter. The scheme also addresses the lack of rudimentary toilet facilities with a National City Sanitation Project, “Nirmal Bharat Abhiyan”. GOI mandates State governments to use twenty percent of the total allocation under VAMBAY for the National Sanitation Project. The rest of the scheme funding provides matching subsidies and HUDCO loans to title holding beneficiaries to build or upgrade a house. Funds from VAMBAY can only be used in

8 Such community groups existed under the Urban Basic Services for Poor (UBSP) scheme, and continued to operate under the Golden Jubilee Self-Employment Scheme (called SJSRY) that replaced UBSP.
notified slums. In addition, GOI does not release the funds to the state government until they receive the States’ 50% matching fund. Very often, the state government provides land on which to build the house. All construction is undertaken by contractors.

**Indira Awaas Yojana (IAY)** was initiated in 1986 as a part of the Rural Landless Employment Guarantee Program after which it became part of the Jawahar Rozgar Yojana in 1989. In 1996, it took effect as an independent scheme to provide grants for housing construction to rural residents who are below the poverty line. A minimum of sixty percent of funds are reserved for Scheduled Caste/Tribe (SC/ST) households. The beneficiaries are selected by the Village Panchayats based on the list of those households in the target area who are below the poverty line. Rs. 20000 is provided to selected beneficiaries to build a new home or Rs. 10000 is provided for upgrading existing houses. Selection of construction technology, design of houses, and purchase of construction material is left to the beneficiaries. The dwelling units are required to be in the name of the female member of beneficiary household. The beneficiaries are strongly encouraged to build sanitation facilities as part of the dwelling unit. Cooking facilities (chimneys) that are fuel-efficient and smoke-free are also required in the dwelling facilities. For the purpose of guidance and monitoring of construction, voluntary agencies with a good track record are encouraged to be active in the implementation of the IAY. The Center allocates funds to the states on the basis of the proportion of rural poor in the state to the total rural poor in the country. Within the states, the same formula is used to distribute funds between districts. Eighty percent of the total funds come from the central government and twenty percent from the states.

**Urban Ashraya Housing Program** is part of a Government of Karnataka scheme that provides housing to those who are homeless. The scheme aims to provide 300,000 urban units and 800,000 rural units to households living below the poverty line. The state grants 15-year loans of Rs. 40,000 to beneficiaries in larger cities and Rs. 25,000 for those in smaller cities. In addition, beneficiaries must make a minimum contribution of Rs. 5,000. Since the inception of this scheme, 80,879 houses have been built in urban areas under the supervision of the Rajiv Gandhi Rural Housing Corporation Limited (RGRHCL). The program does not specify the design or construction of the house and beneficiaries are given the option of building the houses themselves. The Government of Karnataka selects beneficiaries based on a 1995 survey of “siteless/houseless persons” and “those who has their own site but were houseless” which is periodically updated by the municipality. Here again, the state government provides land on which to build the house.

**Mythri Housing Scheme** was the primary Government of Kerala housing scheme from 1996 to 2002. In this period, the Kerala State Housing Board implemented the scheme and financed over 270,000 homes under this scheme. Beneficiaries who qualified for the program could get Rs 9000/- in capital subsidies (cash grants) and Rs 19000/- in loans at 5.5% interest rates. The beneficiaries had to own 1.6 cents (approximately 64 square meters) and had to make a minimum contribution of Rs 2500/- to use the program. The program does not specify the design or construction of the house. The Government of Kerala selected the beneficiaries based on whether they fit four of the nine criteria that identifies Below Poverty Line households.

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9 In Karnataka, for instance, a particular notified slum is selected based on a survey which tries to find out whether the beneficiary will build a house if selected and whether they will repay the loan. The survey is conducted by the assistant executive engineer in the Slum Clearance Board. The program does not specify the design of the house.

10 All these programs/schemes are in operation in Karnataka. Two of them are assisted by GOI (i.e. VAMBAY and NSDP) and implemented by the Karnataka Slum Clearance Board (KSCB). Urban Shelter is a GOK scheme implemented by the Rajiv Gandhi Rural Housing Corporation Limited (RGRHCL).
Kudumbashree\textsuperscript{11}, a poverty eradication program implemented by the Kerala government, undertook the targeting for this program.

**Bhavanashree Housing Program**, a new program that is designed to be subsidy free, comes under the highly successful Kudumbashree program undertaken by the Kerala state government. Under this program, ten to fifteen years loans ranging between Rs 30,000/- and Rs 40,000/- are allocated to needy households. For this purpose, the Community Development Societies have negotiated bulk loans from financial institutions. The program gives the beneficiaries a choice in the duration and the amount of the loan. The interest rates range between 7% and 7.5%. The Kerala Government calls the program a subsidy free program because of the absence of explicit subsidies and subsidy-free interest rates (the negotiated interest rates with Housing Financial Institutions are 7% or less). The beneficiaries are those identified to be below the poverty line and who are members of the CDS. Like the Mythri program, the beneficiaries have to own 1.6 cents (approximately 64 square meters) of land to qualify for the program.

**Pune Municipality Sanitation Project**: Over the last fifty years, the Government of India has funded various sanitation initiatives around the country. Most of these were haphazard efforts at constructing public use toilets that over time became dysfunctional due to poor mechanisms that oversaw maintenance and design. Nevertheless, more recently, there have been some signs of success. In Pune, a major sanitation initiative resulted in the construction of 475 sanitation units, with each unit ranging between 10 to 60 seats. In total 10,000 toilet seats were provided. For a city with a slum population of 600,000, this is a major initiative. What makes this initiative worth closer study is the fact that while the capital costs of Rs 40 crores (Rs 400 million) were covered by the Pune Municipal Corporation, community based organizations (CBOs) have agreed to be responsible for the maintenance. This addresses one of the main causes of the failures of earlier programs. Furthermore, under this program, a slum family is required to contribute a nominal monthly amount for the use of the facilities. This contributes to making this program more efficient and sustainable.

**Nirmal Bharat Abhiyan**: A new National City Sanitation Project under the title of “Nirmal Bharat Abhiyan” is an integral sub component of VAMBAY. Twenty percent of the total allocation under VAMBAY is dedicated to the construction of community sanitation facilities. Of this 20%, fifty percent will be in the form of a subsidy and fifty percent as an HUDCO loan. The State Governments/Local Bodies will be free to supplement this amount with their own grant or subsidy as the case may be.\textsuperscript{12} Each toilet block will be maintained by a group from among the slum dwellers who will make a monthly contribution of about Rs 20 or so per family and obtain a monthly pass or family card.\textsuperscript{13}

\textsuperscript{11} The Kudumbashree is a women-based participatory poverty eradication program initiated by the Kerala Government. It comprises of a set of community-based organizations of women from poor households that has a semi-official organizational structure and runs in conjunction with local government bodies. At the lowest level are neighborhood groups (NHGs) that comprise of 15 - 40 families. These are primarily self-help groups that are often linked to thrift organizations and micro enterprises. Ten to fifteen NHGs are federated at the ward level to form the Area Development Societies (ADS). Finally, representatives from the ADS form the Community Development Society (CDS). The CDS is monitored and supervised by the representatives from the Local Government. The Kudumbashree program is multifaceted in that it uses this organizational structure to implement poverty eradication programs that range from human development, community health, micro finance, and now, micro housing.

\textsuperscript{12} It is estimated that the average cost of community toilet seat has been estimated to be Rs 40,000/- per seat. Therefore, a 10-seat or a 20-seat toilet block meant for men, women and children with separate compartments for each group and special design features will cost around Rs four hundred thousand or Rs eight hundred thousand respectively.

\textsuperscript{13} The information on Nirmal Bharat Abhiyan was assembled from [http://www.kudumbashree.org/Guideliness/VAMBAY.htm](http://www.kudumbashree.org/Guideliness/VAMBAY.htm) and a Government of India note on the VAMBAY program.
Appendix V. 2: Criteria for Evaluating Subsidy Programs

**Targeting:** Targeting is traditionally measured in three ways:

1. How much of a transfer actually goes to beneficiaries, in this case poor urban slum dwellers, as opposed to those for whom the subsidies were not intended? In other words, how much of the expenditure can be viewed as "leakage" from its intended target. The higher the leakage of resources to, for instance, higher income families, the lower is the effectiveness of targeting on this scale;

2. How much of the intended audience, in this case all poor urban slum dwellers, receives a transfer? That is, how much "coverage" of the intended audience is allowable with the resources available; and

3. How much of the resources given to the intended beneficiaries actually goes to housing improvements? When a subsidy is for a specific and expensive good, such as housing, the subsidy per beneficiary must be sufficient to achieve a reasonable improvement in their housing conditions or at least enough to leverage other resources, which together bring about a significant change in housing consumption.

Moreover, there are many levels at which targeting can be examined. At the national level, how are the funds disbursed to the various states? At the state level, what criteria are used for disbursing funds to the local governments? And finally, at the local government level, how are the beneficiaries identified and how much of their needs are addressed by the programs? Hence, the paper measures how each program fares on the three levels: national, state and local. Then it gets an average score for targeting based on the scores for each level of targeting. Though there is a degree of subjectivity in the scores given to the programs, the paper argues that such an ordinal rating of programs is possible based on program design and implementation and that such a rating sheds light on program strengths and deficiencies.

**Efficiency:** All subsidy programs should be evaluated on how well they improve the welfare of the beneficiaries. For instance, there are four possible outcomes from a housing subsidy program: they could increase or decrease the quantity of housing consumed by the beneficiary; and they could increase or decrease the cost of housing services as experienced by the beneficiary. 14

When economists talk about efficiency of subsidies, they have in mind two kinds of efficiencies. Consumption efficiency measures whether the valuation the beneficiary places on the subsidy is equal to the cost of providing the subsidy. Production efficiency measures how the market value of the subsidy compares to the cost of providing the efficiency. Taking both these efficiencies in aggregate gives us the program efficiency. Needless to say, to even get a summary measure of these inefficiencies one needs data on the real cost of the subsidy as well as the market price of the subsidy and the valuation that the beneficiary places on the subsidy. It is therefore, very hard to pin down the program efficiency in developing country subsidy programs. However, it is relatively straightforward to make some preliminary judgments about the efficiency of these programs.

The paper does this by looking at the per unit subsidy: the percentage of the total cost of housing that is provided by the subsidy. This approach is a useful first approximation because what is known as the deadweight

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loss of a subsidy is directly linked to the size of the per unit subsidy. The deadweight loss represents the loss in resources involved with the distribution of a subsidy or imposition of a tax. In general, it is equal to half the subsidy rate times the responsiveness of the market participants. The paper assumes that the price elasticity of demand for housing services is equal to one, as found in the literature. Furthermore, it can be assumed that the greater the participation of the beneficiaries in the design and the implementation of the subsidy program, the higher the probability that the beneficiary values the subsidy closer to its real cost and lower the efficiency loss. Hence, for this measure the paper has an imperfect but directly quantifiable measure by which these programs can be compared.

**Transparency:** Transparency in this case refers to the visibility of all costs of the subsidy in the budget. Transparency is only possible if the actual costs of subsidies are known. Therefore, in order to measure transparency, the real cost of a subsidy must be first determined and how these costs are listed in the government's budget must be examined. The higher the share of the subsidy budgeted, the more transparent it is. Improving the transparency of these programs would have significant benefits, among them better understanding of the full economic cost of providing housing assistance, better targeting in practice and eventually less corruption. Again, there is a direct quantitative measure of this standard: when all subsidy costs are on public budgets, transparency equals 100 percent and when none are, it equals zero. Of course, the paper often has to estimate how large the unbudgeted costs are so that the measure remains imperfect. Nevertheless, the use of such a measure allows us to ordinally rate programs and allows for the possibility of discussing the precise sources of these measures.

**Administrative Simplicity:** All other things being equal, subsidy design should minimize the government's administrative cost. For instance, targeting subsidies carefully can reduce the need for a complicated administrative rationing system. Similarly, incentives that align participants' and private sector partners' behavior with policy objectives can reduce the need for monitoring and enforcement costs. For instance, when subsidies are not as deep, there are fewer payoffs for those wishing to make improper use of the program. When programs reach a larger share of the intended beneficiaries, there is less competition for the subsidies; and since competition often excludes those most in need, this would be a positive outcome. When beneficiaries are involved in the project design and execution, they can often take a role in supervision and management of resources, as well as proper maintenance once the project is completed. Here this measure is based on project design. If the programs minimizes the opportunity for interpretation and hence, manipulation by various interested parties then it gets a lower rating than if it is clear and succinct and provides little incentive for manipulation and encourages beneficiary participation. Once again, the programs are scored based on an interpretation of the strengths and weaknesses of the program but when exact measures are impossible, such ordinal ratings are a good starting point in program comparison and evaluation.

**Sustainability:** Any definition of sustainability runs the risk of being taking out of context. Thus in defining sustainability, it must be clear what the objective of the definition is, and conclude what it means in a particular context. In this particular context, sustainability refers to whether the government can scale up the housing subsidy program (and continued) to effectively address all the intended beneficiaries. In addition, more often than not, sustainability will mean financial sustainability. There might be programs that make a real difference in the housing consumption patterns of the beneficiaries. However, if these programs provide per unit subsidies far in excess of the financial wherewithal of the state, then such programs would rank low on this sustainability index.
Appendix V. 3: Rating of Housing and Sanitation Programs

Targeting

Targeting refers to the extent to which the programs reach the intended beneficiary as well as to scope and scale of such benefits. Here the paper examines the success of each program at three levels: national, state and local targeting.

National Targeting: For national targeting, the paper rated national programs (VAMBAY, NSDP and IAY) on their ability to target the right state according to need. GOI program funding is based on a perceived measure of need in each state. For both the urban programs, GOI allocated funds based on the number of slum dwellers in a particular state. The IAY allocates funds based on the proportion of the rural poor in each state. The design of the programs, therefore, appears to be well targeted in terms of avoiding leakage of benefits. However, until the latest census, the measurement of the number of slum dwellers was often left to the state governments who therefore had an incentive to manipulate their numbers. Moreover, given the total number of slum dwellers/rural poor relative to the level of resources, this targeting spreads funds very thinly, and only a relatively small portion of those in need can be served effectively. In effect, the targeting goal of maximum coverage conflicts with the targeting goal of meaningful assistance to beneficiaries.

Perhaps the best illustration of this conflict is a comparison between the use of VAMBAY resources by Kerala, with 45,000 urban slum dwellers, and Bihar, with more than 500,000 urban slum dwellers. In 2002, Bihar received no assistance under this program whereas Kerala gets $113 (Rs. 5,672) per slum dweller—the highest transfer per capita in the country. If the State, ULBs or slum dwellers in Kerala were required to contribute to demonstrate their commitment and to leverage GOI resources, this distribution might be appropriate. That, however, is not the case. What has occurred is that the administration in Bihar is so weak or uninterested that it does not take advantage of available assistance.

A straightforward means of addressing this conflict is to take into account the willingness of the state and local governments as well as beneficiaries to contribute by channeling resources to those who are prepared to shoulder a larger share of the costs. VAMBAY does this to an extent by only disbursing funds after GOI receives the states’ 50% matching funds and this is why the paper rates VAMBAY higher than NSDP in national targeting. Such an approach allows the targeting system to discriminate more effectively between those who place a high value on assistance and those who do not. It would allow the subsidies to leverage the resources of those who want to address their housing concerns and were willing to share the costs. It would also help counter the pressures to target assistance to “vote banks” rather than to those who are most willing to sacrifice in order to receive assistance, see the Ramanathan Foundation Report (2002). In short, both programs could benefit from involving a wider range of contributors from the beginning.

Realistically speaking, public resources by themselves, and particularly at the national level, cannot hope to address the problem directly. Consequently, their best use is as leverage for other resources. Thus, while GOI targets both national programs in such a way that leakage to the non-poor is minimized, the small amounts of resources involved and the lack of incentives given to other contributors, their score on scale and coverage is relatively weak. The VAMBAY program and the IAY rates marginally better than the NSDP program because of the aforementioned ‘matching funds’ requirement. (See Table 2 for the rating of the programs.)
State Targeting: For state targeting, the paper rates all the programs on their ability to target the most needy local bodies. It needs to be mentioned here that the authors would need more specific case studies on how exactly fund-disbursements work in practice before a more accurate assessment can be made. However, based on the program design some tentative conclusions can be made. The five housing programs each have different criteria for allocating funds at the State level. The Urban Ashraya program attempts to target the most needy households by using a fixed poverty line from a 1995 survey, while VAMBAY targets only "notified slums" in Class I cities. While both approaches again score well in attempting to avoid leakage, they do not appear to be specific enough to allocate funds in an effective manner. The NSDP appears to have a more targeted method. It selects only one slum from each city as a "model slum." The slum is selected because it has the highest proportion of homeless residents. This approach may ignore a majority of slum dwellers, but it provides sufficient resources for those in the selected area. JAY disburses funds to the districts based on the proportion of the rural poor in the district to the rural poor in the state. The various Kerala programs also disburse funds to the districts based on the number of urban poor in each of the districts.

The Kerala programs rate well on this criterion because the implementing agency allocates funds to households assessed as being below the poverty line. Since the assessment takes place through the aforementioned Kudumbashree program, there is little opportunity for political interference. However, the Kudumbashree does not cover all needy households in urban areas. There are unofficial slums in some urban areas that have no organized self-help groups or community development societies. Therefore, these programs might ignore a certain section of intended beneficiaries.

Based on the above discussion, the paper ranks the programs on the ordinal scale described earlier. The twin Kerala programs are designed better than the other programs because it takes advantage of local self-help groups in identifying needing neighborhoods and local government agencies. These self-help groups have a proven record on targeting the most needy in other poverty eradication programs of the Kerala government.

Local Targeting: For local targeting, the paper examined the mechanism by which the beneficiaries are selected (is it free from political interference), the scope of the program (what percentage of the needy are covered), and the scale (what percentage of the housing needs are accounted for by the program). In terms of implementation, it appears that NSDP, VAMBAY and Urban Ashraya programs are rife with political interference, which results in programs that neither reach the most needy residents nor provide what beneficiaries want most. In guidelines for both NSDP and VAMBAY, there are specific procedures for targeting the most needy, but in practice, they do not achieve the desired targeting. For instance, the NSDP's official criterion for 'a model slum' in a Class-I city is the proportion of households without a home, yet in practice the terms are inadequate to clearly determine the beneficiaries. When the Karnataka Slum Clearance Board (KSCB) divisional offices attempt to select 'a model slum', they must use other criteria because 100 percent of the residents have no home in several slums. Thus, in the end, guidelines based on need alone are inadequate to the task of allocating such scarce resources, and ultimately the pressure to revert to political allocation criteria is great.

Similarly, under VAMBAY, notified slums are selected based on a survey conducted by the Assistant Executive Engineer in each of the KSCB divisions within the cities. The objective of the survey is to assess the willingness of a beneficiary to agree to (1) construct the house if selected, and (2) repay the loan. Although, the government
of Karnataka conducts a survey, its credibility is problematic because there appears to be political pressure in
the selection of beneficiaries.15

The selection of beneficiaries for the IAY is undertaken by the village panchayat based on the list of households
below the poverty line. Given that the number of households below the poverty line exceeds the number
of households which can benefit from the program, a clear criterion for selection of households has been laid
out.15 As is clear from the criteria listed, there is still room for political influence and corruption in the
selection of particular beneficiaries. However, to some extent this influence is minimized by the stringent
transparency requirements of the IAY. At the village level, information including the list of households below
the poverty line, the list of beneficiaries for the current and past year, allocations made to the village under
IAY, the guidelines for selection are made public. Similar transparency requirements are made at the block
and the district level, thus minimizing the scope for corruption.

The state-level Urban Ashraya scheme also appears to have a coherent procedure for targeting, but not a great
deal of follow-through in practice. There are, for instance, Urban Shelter Committees for all cities/towns in
Karnataka headed by the locally elected Member of (the State-level) Legislative Assembly (MLA). In addition,
the ULBs prepared lists of eligible households (i.e. those living below the poverty line), which they then
update from time to time. In principle, these Committees select beneficiaries from the ULB’s lists. However,
the membership of elected representatives on these Committees leaves considerable scope for political
considerations in the selection process.

The two programs in Kerala appear much more successful at the local level because they take advantage of an
existing and well-established woman-run micro-enterprise/thrift network to target individual households.
This mechanism effectively rules out political interference from this important level of targeting. The
Bhavanashree program is rated higher because (potentially, since this program is just in project design phase)
it allows the beneficiary to borrow an amount between Rs 30000/— and Rs 40000/— according the needs of the
household. This provides a degree of flexibility and a potentially greater scale in covering the housing
expenditures. However, the land requirement for qualifying for both the Kerala programs also effectively
make these programs discriminate against the landless poor. However, though the Kerala Government does
not tie these programs explicitly to land grants, there are other Kerala government programs do grant land to
NGOs, which them distribute them to the poor. Furthermore, there are also cooperative banks that help the
poor save specifically for acquiring land. As shown in Table 2, the paper ranks the Bhavanashree program very
highly due to its flexibility and its ability to leverage beneficiary participation (through the land requirement).
The Mythri program is not far behind because it used the same targeting mechanism that the Bhavanashree
program intends to use.

Among the sanitation programs, the Pune Sanitation program got three out of a maximum 4 in the targeting
criteria. Unlike the housing programs, this was primarily a local initiative. In many senses, the nature of the
sanitation program ensures that targeting is done accurately. Unlike a housing subsidy program wherein there

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15 Published News accounts indicate recurrent instances of political interference and corruption in the selection of beneficiaries. The KSCB officials also admitted political interference in the selection of up to 10% of total beneficiaries.
16 The prioritization of beneficiaries are as follows: 1) Freed bonded laborers, 2) SC/ST households (within this households who are victims of caste-
based violence and/or households headed by widows or unmarried women get priority) 3) Non SC/ST households below the poverty line 4) Families
and widows of personnel in the armed forces who are killed in action 5) Households displaced by other developmental projects.
are incentives for manipulation to take advantage of cash grants, a community toilet is hardly an attractive good for the urban non-poor. Furthermore, the closer the local government works with CBOs the better the targeting is going to be. The Pune municipality, in working with the CBOs and NGOs ensured that the spatial distribution of the community toilets was done equitably. Dense urban slums tended to have larger units with higher seat capacities. However, 10,000 toilets for five hundred thousand slum dwellers meant that on average 60 slum dwellers had to share a single toilet seat. This is still a high average and there is room for further improvement in sanitation facilities for Pune’s urban poor.

The Nirmal Bharat Abhiyan borrows its design from the Pune program and it is also implemented at the local level though funds are disbursed from the center at the national level through the VAMBAY program. States that take advantage of the federal funds for the sanitation project may work with NGOs and CBOs in the construction and design phase. This means that from the perspective of targeting, it is likely that the most in need will benefit from such programs. It is however not clear what the scale of these programs are and what part of the target population will be served by the program. This might, in fact, vary from state to state. However, tentatively, the paper gives the national program the same rating as the Pune program.

Table 4 provides the ratings for the different programs under the different levels of targeting. The last column provides the average targeting rating.

**Table 4: Targeting Ratings for Housing Subsidy Programs**

<table>
<thead>
<tr>
<th></th>
<th>National Targeting</th>
<th>State Targeting</th>
<th>Local Targeting</th>
<th>Average Targeting</th>
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<tr>
<td>NSDP</td>
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<td>2</td>
<td>1</td>
<td>1.33</td>
</tr>
<tr>
<td>IAY</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Urban Ashraya</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1.5</td>
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<tr>
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<td>3</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Bhavanashree</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>3.5</td>
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<tr>
<td>Pune Sanitation Project</td>
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<tr>
<td>Nirmal Bharat Abhiyan</td>
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</table>
Transparency

For rating the transparency of the programs the paper looked at how much of the costs of the program the Government accounts for in the budget. If most of the subsidies are implicit and absent in the budgeting then the program gets a poor rating. If however, most of the subsidies are explicit, then the program is rated higher on this ordinal rating system. For example, if the government provides land for a low-cost housing development, as it does in three of the programs in Karnataka (VAMBAY, NSDP, Urban Ashraya), the cost of the subsidy should include the current market value of the land. In fact, this is not the case. (Annex 5 for the results of a partial survey in Karnataka that the Bank undertook to get a sense of these unaccounted for cost components.) In the Kerala programs, the beneficiary had to provide proof that they owned at least 1.6 cents (approximately 64 square meters) of land to qualify for the loans, thus ensuring that the land component was not a subsidy.

The IAY program was relatively more transparent than the others because of the aforementioned transparency requirements at the village, the block and the district level. The mandatory publication of fund allocation information ensures appropriate usage of funds while improving targeting. Secondly, since IAY is completely grant oriented, the direct expenses are budgeted for clearly.

Similarly, all these programs have implicit guarantees for HUDCO loans, the opportunity costs and risks of the subsidy should be made explicit e.g., cost of non-payment of government loans and the impact this has on state government finances in both the short and the long term. Furthermore, in the case of the Mythri program, the loans were heavily subsidized. HUDCO had lent the money to the State government at interest rates of 13.5 percent while the State lent it to the beneficiaries at interest rates of 5.5 percent.

Finally, the administrative costs of the programs are rarely budgeted for. Even though, the Bhavanashree program is a program that is designed to be 'subsidy' free, to the extent that there are unaccounted-for administrative costs for the program, it can never really be subsidy free. The rating of the housing programs reflects the paper's valuation that all the programs fare poorly on these criteria. (See Table 3).

The Pune program is relatively transparent because the costs are budgeted for by the municipality. The capital cost of the community toilets in Pune was Rs 40 crores (Rs 400 million) and this was fully accounted for. The maintenance costs are the responsibility of the CBOs and slum communities. The Pune program gets a high score of 3.5. However, in the case of the Nirmal Bharat Abhiyan, transparency is reduced by the fact that 50% of the funding comes via subsidized loans. Furthermore, the funds are disbursed by the central government to the state governments that then disburse it to local governments and CBOs. In each of these transfers, unless stringent accounting standards are kept, the flow of funds can be opaque. Without a specific case study, it is therefore hard to rate the Nirmal Bharat Abhiyan on this criterion. The paper gives this program a score of 2.

Efficiency

Efficiency is a measure of net benefits relative to effective costs. The closer costs are to benefits, the more efficient a program is. There are several steps to analyzing efficiency.

- First, the real cost of the subsidy must be determined by including the stated cost, any indirect costs, and the administrative costs of implementing and monitoring the intervention. The indirect costs can be very substantial, including losses on any loans insured by the State and losses due to distortions introduced in the housing or land markets.
Second, beneficiary valuation of benefits achieved need to be assessed in relation to the determined real cost. For example, publicly provided housing often results in providing more housing than the beneficiary wants to consume. In these cases, the state could have met their housing needs with fewer resources.

Third, the programs should be assessed to determine the extent to which they subsidize investments or expenditures the recipient would have made without assistance.

At this point, the paper cannot provide a conclusive analysis of program efficiency. However, none of the housing programs is purely in-kind transfers. Most of them are made up of cash grants and loans. To this extent, these programs, at least in design, are more efficient than public housing programs that were the primary means of providing low-income housing in many developing countries in previous decades. Nevertheless, this preliminary analysis indicates that all programs are highly inefficient. They confer subsidies far in excess of intended benefits for a number of reasons. These mismatch may be, in turn, a cause of the low rate of loan repayment. It is also possible to calculate the dead weight loss from the programs based on the per unit subsidy rate. Furthermore, the extent of beneficiary involvement is a good measure of how much the beneficiary might value the subsidy. The greater the beneficiary involvement, the closer the beneficiary valuation is to the subsidy.

Subsidy Rates: In Karnataka, for instance, the large overall per unit subsidy rate of the IAY (100%) NSDP (90%) and VAMBAY (80%) – see Annex 4 for calculations - is roughly three times the subsidy rate used in market economies. For developing countries, Mayo and Gross show the housing subsidy rates in seven countries averaged about 50 percent, considerably below the rates in both NSDP and VAMBAY. These rates are clearly excessive given the scarcity of GOI resources for these programs and the lack of attention given to leveraging beneficiary resources. As a result, the “deadweight losses” are multiplicatively higher for these programs than for housing subsidy programs in market economies where subsidy rates are 25 to 35 percent.

For example, when the subsidy rate increases from 25 percent of the cost of a good to the 80 percent or more that characterizes the Government of India programs, the loss in resources due to the size of the subsidy – that is, the complete wastage of resources per rupee of transfer — increases from about 12 paisa per rupee of transfer to about 40 paisa per rupee. Therefore, instead of wasting about one-eighth of the transfer on the

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17 When civil society organizations assisted slum dwellers with housing finance and involved them in pre-project planning, repayment of loans has been almost 100 percent. In Kerala where the government targeted beneficiaries through local self-help groups, the repayment rates for the Mythri program were around 70 percent. Evidence from VAMBAY in Bangalore shows that ultimately, beneficiary participation not only improves repayment of loans, it also enhances beneficiary satisfaction due to participatory design.

18 These subsidy rates include an implicit grant element that arises due to poor loan repayment performance. Annex 2 provides a simple illustration of how low repayment rates can increase the effective subsidy element in these housing programs.


20 A deadweight loss represents the loss in resources involved with the distribution of a subsidy or imposition of a tax. In general, it is equal to half the subsidy rate times the responsiveness of the market participants. The measurement in the text assumes that the price elasticity of demand for housing services is equal to one, as found in the literature. An approximation of the loss is equal to the subsidy rate times half the elasticity. See Mayo (1986) for a comprehensive review of these calculations for the U.S. and Germany.
To the extent that Urban Ashraya and the Mythri Programs have significant loan components to their subsidies, they are potentially more efficient. These two programs, at least at first sight, appear to have lower per unit subsidies than the national programs. However, the loan guarantees to HUDCO and low repayment rates increase the per-unit subsidy for the Urban Ashraya and the Mythri Programs. The land grant element of the Urban Ashraya programs makes the per-unit subsidy rates even higher. The Mythri Program has a 70% loan component but these loans are highly subsidized. This also increases the per unit subsidy. Therefore, the paper rates both these programs poorly, though they appear marginally better than the nationally run programs.

The Bhavanashree program is 100% loan at unsubsidized rates. Therefore, this program is most efficient from this perspective. This program also has a built-in beneficiary contribution in the form of the land pre-requisite that makes the per unit subsidy lower than the other programs. Finally, administrative costs of this program are lower than other programs because the Government of Kerala implements this program through the existing network of Kudumbashree self-help groups. This program therefore appears the most efficient of the five programs.

Both the sanitation programs rate poorly under the efficiency scale. The capital costs of the Pune program are completely subsidized by the Pune Municipality and to this extent, the program is inefficient. However, by putting the responsibility of maintenance on CBOs and by levying a monthly fee, the project builds an ownership stake in the community toilets. This design element ensures some degree of consumption efficiency.

The Nirmal Bharat Abhiyan program, on the other hand, proposes to fund only 50% of the capital costs as subsidy. The rest of the funding comes from HUDCO loans. But very often, these HUDCO loans are heavily subsidized by the central government. Furthermore, though the states borrow from HUDCO on subsidized interest rates, very often the funds are provided to beneficiaries as 100% subsidy with no expectation of repayment. This program, therefore, performs only marginally better than the Pune program.

**Beneficiary Involvement:** The lack of beneficiary involvement is a significant source of inefficiency in most of these programs. For instance, although the NSDP guidelines say that Community-based organizations, NGOs and other civil society organizations should be involved in implementation, there is no evidence of their involvement. In fact, only the Urban Ashraya Program appears to involve the beneficiaries in any way, because it provides an option for beneficiaries to construct the house themselves. This option increases the probable welfare gains because the beneficiaries themselves are more interested in getting the most for their resources.

Under the two national programs, since contractors do all construction under the management of the government-implementing agency, there is little scope for beneficiaries to be involved in design and supervision of works. Although the VAMBAY Program guidelines say that there is no predetermined design, in reality the houses are constructed not to the preferences and needs of individual beneficiaries but are standardized by contracted construction companies. This supply-oriented approach tends to result in houses that are more costly than need be, and the quality of work, often poorly supervised, is low. This adds up to poor value for
money when money is very scarce. The IAY on the other hand explicitly rejects the option of contractors. The construction is undertaken by the beneficiaries themselves who are encouraged to choose the production technology, purchase the materials for construction and design the house. This intensive beneficiary participation does ensure that the house constructed is close to meeting the needs of the beneficiary. Hence, the IAY gets a rating of 3.

The programs in Kerala do involve considerable beneficiary involvement since the targeting and the government disbursement of funds take place through the Kudumbashree program. The beneficiary undertakes the construction according to his or her needs. As a result, the Bhavanashree program gets a rating of 3. The 2 state level programs get scores of 2 and the two national programs get scores of 1.

The Pune sanitation program also involves considerable beneficiary participation. Furthermore, by requiring community maintenance, it increases the probability of sustainability. The paper rates the Pune program 2 on a scale of 4. The Nirmal Bharat Abhiyan shares many of these characteristics with the Pune program. However, because it has a loan element in its capital costs, it scores marginally higher.

In sum, when subsidy rates are so high and beneficiary inputs so low, it is very difficult for a program to be efficient. Despite recent improvements, the efficiency of the national level slum programs appears to be less considerably lower than that of housing subsidy programs in many other countries. The state level programs appear more efficient. In addition, the design of Bhavanashree appears to make it the best among all the three programs.

**Administrative Simplicity**

The programs reviewed here are not administratively simple. This is underlined by the fact that in recent years both the NSDP and VAMBAY programs are only able to disburse about 70 percent of their allocated funds.21 Each year the funds budgeted for the programs are not fully drawn down. Although comparable figures for the IAY were not available, it is not clear that this program is simpler in implementation than the other national programs. In addition, there are significant delays in the release of funds to implementing authorities. The state level programs of Urban Ashraya and Mythri appear marginally simpler, if only because they are at the state level. The Bhavanashree program appears administratively the least complex in comparison because it takes advantage of the existing network of self-help groups to target and select beneficiaries. The success of the Kudumbashree program in other areas like thrift and micro enterprise programs allow potential beneficiaries to use existing channels of information distribution to take advantage of these programs.

The Nirmal Bharat Abhiyan rates poorly on administrative simplicity. As its parent program, VAMBAY, some states often do not take advantage of central government funds available for housing construction or sanitation projects. This under usage of funds earmarked for a crucial developmental objective is a symptom of administrative complexity. The paper gives this program a score of 2.

The Pune Sanitation Project was, in comparison, simpler from an administrative perspective. Since it was a local initiative, it was easier to dispense program information and to invite interested community organizations to take advantage of the program. Furthermore, by decentralizing maintenance responsibility of individual toilet units, the municipality saves on the complex maintenance costs that have condemned similar projects in the past. This program gets a score of 3 under administrative simplicity.

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21 This is the same figure reported by the Ramanathan Foundation Study (2002) for earlier years.
Sustainability

All the six housing programs rate very poorly on this front. For the national level programs, the fact that these programs have very high per unit subsidies (through both cash grants and subsidized loans) make them unsustainable if they are to be scaled up to meet the enormous problem of housing all the urban poor. The 'free' land grant elements to the national programs as well as to the Urban Ashraya program make them more unsustainable. The fact that the Kerala programs had a land pre-requisite made them slightly better designed from this perspective. However, the Mythri program had large loan subsidies as part of the program. By effectively subsidizing the loan component and by further having Rs 9000 cash subsidy, the program most dramatically proved itself unsustainable. The Kerala Government suspended the program in 2002 in the face of serious fiscal troubles for the State budget.

The Bhavanashree program created in response to the failure of the Mythri program, at first examination, looks the most sustainable among the five programs. The Government of Kerala designed it as a 'subsidy free' program. However, the government makes an implicit loan guarantee to the participating financial institutions. However, to the extent that these loans are disbursed through self-help groups, the repayment rates are expected to be higher. Nevertheless, there is a more subtle danger to these programs. Current economic conditions in India allow the government to borrow at 7% interest rates from financial institutions. However, there is no guarantee that such rates will last. If the rates go higher, the Bhavanashree program will have to either suspend the program or have to effectively subsidize the loans.

Both the sanitation programs also rate poorly on sustainability. The Pune project subsidized 100% of the capital costs of the community sanitation units. Most cities will not be able to afford such a large outlay of funds. Therefore, from the perspective of scaling up, the financing of the capital costs in the Pune project is a poor model to emulate. The National program, similarly, has high unit subsidy costs. Such large-scale subsidies might be untenable to provide for India's large slum population especially when there are equally compelling development needs across the country. Both programs get a score of 2, which might have been lower but for the user-fee instituted under both the programs. This user fee is a welcome change from previous programs. This means that once the capital costs are accounted for, these units have a better probability of sustenance due to community participation in maintenance. By building an ownership stake in the unit through the user-fee, the projects ensure that the users will contribute to upkeep and maintenance. The problem of the commons can be, thus, minimized.

Appendix V. 4: Illustration of the Impact of Loan Repayment Performance on the Effective Subsidy Element\textsuperscript{22} in Slum Programs: A Comparison of the NSDP and VAMBAY Programs in Karnataka

The following calculation illustrates some important points:

(1) Given the high rate of default on the loan component of these programs, the loan element may mask a substantial additional subsidy, and even distort the comparison of two different programs. In the case of the NSDP program, the "default" subsidy is about double the grant component of the program, thus making it

\textsuperscript{22} For illustrative purposes, the paper assumes that there is no subsidy in the interest rate and free land (discussed elsewhere in the paper). When these are offered, this adds an additional subsidy element.
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more heavily subsidized than the nominally less concessional NSDP program. A program that is 100 percent loan, but with only an 80% default rate appears to have no direct subsidy, but the actual subsidy is higher than the nominal subsidy rate of both of these programs;

(2) Improving repayment rates frees up considerable additional resources;

(3) Both programs are very deeply subsidized, once the effect of loan defaults are taken into account.

<table>
<thead>
<tr>
<th>% of Total Project Cost</th>
<th>Loan Element (A)</th>
<th>Loan Default Rate (B)</th>
<th>Effective Grant Due to Default (C)=(A) X (B)</th>
<th>Total Effective Grant 1-(A) +(C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAMBAY</td>
<td>50.00%</td>
<td>60.00%</td>
<td>30.00%</td>
<td>80.00%</td>
</tr>
<tr>
<td>NSDP</td>
<td>70.00%</td>
<td>80.86%</td>
<td>60.00%</td>
<td>90.00%</td>
</tr>
</tbody>
</table>

Appendix V. 5: Partial Survey of Implicit Subsidies through Land Grants in Karnataka

To understand the likely significance of this phenomenon, the paper sought to examine the value of land provided in relation to the housing units constructed. There is little data, throughout India, on the cost of land, the extent of vacant lands or the amount of land occupied by slum-dwellers. In Karnataka, a partial survey was undertaken to get a sense of these unaccounted-for cost components. Computations of the real value of the subsidies, based on the results of the survey, are presented in Table 5. They show that, in relation to housing costs, the value of land accounts for a very high proportion of the subsidy, often around 75 percent of total costs. In well-functioning markets land costs rarely exceed 35 percent of the property value.

While this initial survey does not provide conclusive evidence, it nonetheless suggests first, that implicit land subsidies may be worth multiples of the budgeted housing subsidy (in these cases the average is over three and

Table 5: Hidden Subsidy on Land in Bangalore Slum Assisted by VAMBAY, NSDP and Urban Shelter Programs

<table>
<thead>
<tr>
<th>Name of Slum</th>
<th>Total Pops.*</th>
<th>Total No of Hts.*</th>
<th>No of houses (being built)</th>
<th>Total Cost of House (Rs.)</th>
<th>Upliftment Benefit Contribution (Rs.)</th>
<th>Subsidy in Construction (Rs.)</th>
<th>Subsidy as Amenities (Rs.)</th>
<th>Subsidy as low Interest on Loan (Rs.)</th>
<th>Total Subsidy Faced on Land (Rs.)</th>
<th>Area of the Site (sq. ft.)</th>
<th>Land Cost (Rs. per sq. ft.)</th>
<th>HIDDEN SUBSIDY AS LAND (Rs.)</th>
<th>Total Subsidy (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAMBAY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharat Mata Slum</td>
<td>1,075</td>
<td>180</td>
<td>171</td>
<td>10,260,000</td>
<td>855,000</td>
<td>5,130,000</td>
<td>0</td>
<td>2,372,625</td>
<td>7,502,625</td>
<td>27,780</td>
<td>500</td>
<td>10,890,000</td>
<td>8,392,625</td>
</tr>
<tr>
<td>A. D. Hilly Slum</td>
<td>2,470</td>
<td>287</td>
<td>190</td>
<td>11,400,000</td>
<td>950,000</td>
<td>5,700,000</td>
<td>0</td>
<td>2,436,250</td>
<td>8,336,250</td>
<td>108,900</td>
<td>450</td>
<td>49,005,000</td>
<td>57,341,250</td>
</tr>
<tr>
<td>Tank Mullahi</td>
<td>2,500</td>
<td>500</td>
<td>458</td>
<td>27,480,000</td>
<td>2,246,000</td>
<td>13,740,000</td>
<td>0</td>
<td>6,354,750</td>
<td>20,094,750</td>
<td>114,345</td>
<td>500</td>
<td>57,172,500</td>
<td>77,267,250</td>
</tr>
<tr>
<td>Laxminarain Naka</td>
<td>1,495</td>
<td>3,065</td>
<td>300</td>
<td>18,070,000</td>
<td>1,500,000</td>
<td>9,000,000</td>
<td>0</td>
<td>4,162,500</td>
<td>23,162,500</td>
<td>75,000</td>
<td>600</td>
<td>45,000,000</td>
<td>58,162,500</td>
</tr>
<tr>
<td>VAMBAY and Urban Shelter</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MCT Slum</td>
<td>600</td>
<td>207</td>
<td>192</td>
<td>3,000,000</td>
<td>300,000</td>
<td>1,800,000</td>
<td>0</td>
<td>2,664,000</td>
<td>4,464,000</td>
<td>59,985</td>
<td>500</td>
<td>29,992,500</td>
<td>29,992,500</td>
</tr>
<tr>
<td>NSDP</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gulbagsara Huts</td>
<td>1,385</td>
<td>277</td>
<td>277</td>
<td>13,850,000</td>
<td>1,385,000</td>
<td>6,094,000</td>
<td>0</td>
<td>5,484,000</td>
<td>11,578,000</td>
<td>47,120</td>
<td>500</td>
<td>47,560,000</td>
<td>55,138,600</td>
</tr>
<tr>
<td>TOTAL Rs.</td>
<td>22,985</td>
<td>4,516</td>
<td>1,588</td>
<td>92,760,000</td>
<td>7,880,000</td>
<td>35,370,000</td>
<td>6,094,000</td>
<td>25,339,725</td>
<td>66,803,725</td>
<td>487,130</td>
<td>500</td>
<td>235,620,000</td>
<td>302,423,600</td>
</tr>
<tr>
<td>TOTAL $.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Source: KSCB, Bangalore (March 2003) for columns with *; rest are authors' calculations.
Thus, if Table 5 were representative of all programs, and, if even only half of the land provided as an unbudgeted subsidy could instead be converted into cash, the current direct subsidy program could be increased to more than two and one half times its current size.

Second, when the underlying value of the land in the programs is high, beneficiaries “cash out” because they prefer to consume less land and housing, and more of other things. This is not to argue that the slum dwellers should not be entitled to land and secure tenure, but rather that building low cost housing on high-value sites is likely to be an inefficient means of providing a housing subsidy to the poor. Measures such as beneficiary relocation, as was used in the MUTE in Mumbai, are worthy of further consideration as alternatives for providing an equivalent housing subsidy.

23 The relocations under the Mumbai project are described in a number of SPARC documents and the circumstances leading to the relocation are by no means a proposed solution. However, the highly successful method of participatory decision-making leading to the relocations may provide a model for other programs.