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Edited by Cynthia C. Cook

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POPULATION GROWTH, SETTLEMENT PATTERNS, AND MANAGEMENT OF NATURAL RESOURCES ARE FUNDAMENTAL FACTORS DETERMINING THE SUSTAINABILITY OF THE ECONOMIC DEVELOPMENT STRATEGIES ADOPTED BY AFRICAN GOVERNMENTS. TRADITIONAL PRODUCTION SYSTEMS IN AFRICA, BASED ON SHIFTING CULTIVATION AND TRANSHUMANT PASTORALISM, DEPEND ON FREQUENT POPULATION MOVEMENTS TO LIMIT THE EXPLOITATION OF NATURAL RESOURCES TO A SUSTAINABLE LEVEL. WITH RAPIDLY INCREASING POPULATION, THESE TRADITIONAL SYSTEMS NO LONGER FUNCTION EFFECTIVELY. ENVIRONMENTAL DEGRADATION IS FORCING PEOPLE TO LEAVE AREAS THAT ARE NO LONGER SUFFICIENTLY PRODUCTIVE AND TO INTENSIFY AGRICULTURAL PRODUCTION ON MORE LIMITED AREAS OF LAND.

SUSTAINABLE AND EQUITABLE GROWTH STRATEGIES REQUIRE ATTENTION TO THE IMPACTS OF DEVELOPMENT PROJECTS ON THE SOCIAL AND PHYSICAL ENVIRONMENT. PROJECTS DESIGNED TO PROMOTE DEVELOPMENT ON A LARGE SCALE MAY HAVE NEGATIVE EFFECTS ON LOCAL PEOPLE, ESPECIALLY ON THOSE WHO ARE DISPLACED OR FORCED TO MOVE AS A RESULT OF PROJECT ACTIVITIES. FROM OUR EXPERIENCE WITH PROJECTS THAT INVOLVE INNOCUTARY RESETTLEMENT, IT MAY BE POSSIBLE TO DRAW LESSONS THAT CAN HELP US IN THE BROADER TASK OF POLICY FORMULATION AND PLANNING FOR ENVIRONMENTALLY SUSTAINABLE SETTLEMENT IN THE FUTURE.

This was the task set before the Conference on Environment and Settlement Issues in Africa, sponsored by the World Bank and the Makerere Institute of Social Research, and held in Kampala, Uganda, in October 1991. Selected papers from the conference are presented in this volume. We are grateful to the Government of Uganda and to Makerere University for hosting this conference. Special appreciation is due to Professor Dan Mudoola, Director of the Makerere Institute for Social Research, and his staff who contributed to the preparation of the conference and facilitated its work throughout the week. Dr. Della McMillan, Consultant, and Ms. Bereket Teferi of the World Bank provided support for international participants. Ted Howard, Consultant, assisted with the editing of selected papers for publication.

Finally, we would like to express our appreciation to the Norwegian government which provided much of the financing for this conference.

Kevin Cleaver
Director
Technical Department
Africa Region
EDITOR'S NOTE

This volume is dedicated to the memory of Professor Dan Mudoola, Director of the Makerere Institute of Social Research (MISR), Makerere University, Kampala, Uganda. One of Africa's outstanding scholars, Professor Mudoola played a key role in the post-war reconstruction of his country by applying social science knowledge and techniques in the formulation of public policy. As Director of MISR, Professor Mudoola co-sponsored the Kampala conference and made important contributions to its deliberations. Professor Mudoola died tragically in 1993 in an incident of random violence in Kampala.
ABSTRACT

Project-related involuntary resettlement is but one part of the broader issues of environment and settlement that will determine Africa's development prospects in the future. Lessons learned from the experience with involuntary resettlement can, however, help to guide future government policies for dealing with these broader issues. These lessons extend well beyond the limits of projects involving resettlement. They are pertinent to the design of future land settlement projects, to the handling of spontaneous rural movement and of escalating urban growth, and to the management of temporary or permanent refugee populations following outbreaks of warfare or natural disasters.

Because of the in-depth involvement of the World Bank with some thirty-five development projects which have resulted in the involuntary relocation of about 250,000 people in Africa, it has proved possible to draw some lessons that may be more generally applicable to environmental and settlement problems in Africa. Furthermore, the involvement of the Bank in environmentally focused land management projects and in projects involving voluntary and involuntary resettlement in Africa is likely to increase in the future.

In October 1991, the World Bank, together with the Institute of Social Research at Makerere University in Kampala, Uganda, organized a regional conference — the African Conference on Environment and Settlement — which brought together policymakers, planners, and practitioners concerned with the implementation of Bank-financed projects involving resettlement. This volume includes contributions made to the conference by a number of distinguished, mostly African, presenters.

This volume also summarizes proposals which were made for future action in three main areas: first, preparing resettlement policy proposals based on Bank guidelines and on the lessons of experience, and discussing these proposals with African decisionmakers in the context of policy reform; second, conducting additional research on identified issues with support from the international community; and third, establishing a network of African and non-African professionals and institutions concerned with environment and settlement issues in Africa in order for research findings to feed back more rapidly into the policy dialogue.
INTRODUCTION

Cynthia C. Cook and Francois Falloux

Africa’s development crisis arises largely out of growing population pressure on limited natural resources in a context of low-level technology and ineffective institutional support.1 Sustainable agriculture implies the development of integrated farming systems and intensified production on the limited areas of land with high agricultural potential. It implies a sharp decline in the present rates of forest clearing and in the extension of agriculture onto ever more marginal lands. It also implies a significant increase in the productivity of the agricultural labor force. Today, the main constraint on development (defined as real growth in per capita income) is Africa’s high rate of population growth. This growth has produced a demographic profile that now makes it extremely difficult for agricultural production to keep pace with expanding human needs.2

However, solutions to Africa’s population growth problem will take at least twenty years to become effective. In the meantime, pressing human needs must be met at least in part by improving the spatial distribution of the population in relation to productive resources. A reduction in population pressure on resources in overutilized rural areas, which is absolutely essential for sustained agricultural growth, depends partly on significant population shifts, either to underutilized rural areas or to urban areas.3 Furthermore, for historical and cultural reasons, population pressure in Africa is presently unevenly distributed in relation to the productive capacity of the land base. Africa’s population is highly mobile, and continuing mobility is still seen by many as a viable strategy for survival under conditions of increasing resource scarcity.

Several types of mobility can be distinguished in Africa. First, there is the permanently nomadic way of life characteristic of a declining part of the pastoralist population. Secondly, there are rural households whose farming systems and strategies involve periodic, temporary, but regular movements between different locations. Within this group one can distinguish transhumant farming systems that involve seasonal displacement of herds accompanied by all or part of a farm family, and migrant labor strategies that involve travel to obtain off-farm employment, either in the rural sector or in the urban sector. Then there is the more or less permanent pattern of rural-urban migration associated with a partial shift out of agricultural production. All of the above are voluntary movements, which may or may not involve resettlement.

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Cynthia C. Cook is Principal Sociologist in the Division for Environmentally Sustainable Development in Africa at the World Bank. In this context, she works on population, settlement and participation issues related to Bank projects and programs throughout Sub-Saharan Africa.

Francois Falloux is the Senior Environmental Adviser in the World Bank’s Division for Environmentally Sustainable Development in Africa. He is co-author of Crisis and Opportunity, a book about National Environmental Action Plans in Africa.
There is also a significant amount of involuntary population movement in Africa, which may or may not be followed by permanent resettlement. Probably the most significant cause of forced population movement is war or prolonged hostilities between countries or between groups within countries; these have created large refugee populations that impose a severe economic burden on the host countries and the world community. A second important cause of involuntary resettlement has been irreversible environmental degradation, most notably in the Sahelian zone of Africa. Finally, some involuntary movements of people are generated by development projects, when people are displaced in order that such projects may take place.

Involuntary resettlement associated with Bank-financed projects in Africa has affected a relatively small number of people compared to the numbers involved in voluntary movements and population displacement due to wars, ethnic strife, and ecological catastrophe. Nevertheless, because of the in-depth involvement of the Bank with these resettlement projects, it has proved possible to draw from this experience some lessons that may be more generally applicable to environment and settlement problems in Africa. Furthermore, the involvement of the Bank in environmentally focused land management projects and in projects involving voluntary and involuntary resettlement in Africa is likely to increase in the future. Thus, it seems appropriate now to take stock of the knowledge gained from experience and to identify the areas in which further work is needed.

In October 1991, the World Bank, together with the Institute of Social Research at Makerere University in Kampala, Uganda, organized a regional conference of policymakers, planners, and practitioners concerned with the implementation of Bank-financed projects involving resettlement. The African Conference on Environment and Settlement brought together an impressive array of African experience and expertise. The purposes of the conference were to share the lessons learned from past experience, to identify knowledge gaps that need to be filled through further study, and to develop a collaborative policy research program leading to specific policy recommendations to be discussed with high-level decisionmakers at a future meeting. This volume includes contributions made to the conference by a number of distinguished, mostly African, presenters.

Environment and Settlement: The Challenge in Africa

Three major elements characterize the theme of environment and settlement in Africa. First is the demographic explosion, the single most important factor determining the present condition and the future of the African continent. With an annual growth of 3.1 percent, the population of this continent is increasing nearly twice as fast as anywhere else on this planet. This demographic explosion has no counterpart in human history. From about 500 million inhabitants today, the population of Africa appears likely to exceed one billion within twenty to twenty-five years and will reach 1.5 billion around the year 2050.
The impact of this explosion is already most alarming. As Robert McNamara reminded us in his 1990 speech to the Africa Leadership Forum: "A child born today in Sub-Saharan Africa cannot expect to live longer than fifty-one years, which is twenty-five years less than in a high-income country and twelve years less than in China or India. This child enters a world in which one out of five people is not adequately nourished to lead a healthy and normally productive life. There is only one doctor for 24,000 people, while there is on the average one for 470 people in the rich countries." Such data should convince all African decision-makers that the reduction and control of population growth should be at the forefront of the policy agenda.

Effective population control is a necessary condition for future growth and development. However, it is far from sufficient. The process of demographic change already underway means that, even with the most optimistic scenarios for the reduction of population growth, projections for the future give cause for concern. No matter what happens, the demographers tell us, the population of Africa will reach and surpass a billion people. We must become more aware of the exponential character of this phenomenon. Visualizing its effects in time and space is particularly difficult for us, unaccustomed as we are to thinking in exponential terms. Such thinking challenges our most basic assumptions, forces us to react quickly, and frequently makes our past experience irrelevant.

The second element is equally unique. Africa is the only continent on which the distribution of population does not correspond to the distribution of natural resources. In other words, the settlement of Africa, far from being stable, is still in progress. It appears that we are now entering a phase of abrupt change resulting from the combination of rapid population growth and lack of spatial balance between population and resources. Africa has experienced migratory movements in the past and in the present, but these are undoubtedly only a foretaste of movements that may occur on the continent in the future.

The third element is the particularly fragile tropical ecosystems of Africa. When these ecosystems are disturbed by deforestation, water pollution, and inadequate management of soil fertility, they can become almost sterile. In every ecosystem there is a threshold at which the ongoing processes of environmental degradation become irreversible. After that, land has little or no productive potential, and restoration costs far exceed the investment capacity of the local population. We do not yet have a clear idea of the lands in each country which can be exploited in a sustainable manner and those which need to be protected in their present condition for ecological reasons such as watershed protection or the conservation of biological diversity.

The combination of these three elements raises a number of questions.

First: How much do we really know about the present situation, including current migratory movements and the social and environmental impacts they may have in both departure and destination areas? Do we have a reliable information system that
will allow us to determine the dynamics of these population movements and thus to limit their negative impacts?

Second: Should we allow migratory movements to continue freely without intervention, or on the contrary, should we intervene to shape and direct these movements? Past experience shows that a laissez-faire approach often leads to environmental degradation, while, at the other extreme, government-sponsored settlement schemes may minimize effects on the environment but cannot be implemented on a significant scale, nor are they replicable considering their excessively high costs. Between these two extremes, how can we define the best position, in other words the minimal amount of assistance in terms of infrastructure and services which will also minimize the social and environmental costs of settlement?

Third: What is the optimal strategy for spatial development in a country where some areas are overpopulated and others could accommodate additional people? In other words, what is the balance to be struck between investments in the first and the second areas?

Fourth: If we believe that international migration flows are necessary, how can we facilitate agreements among governments to permit and encourage such flows? Should we be thinking about new forms of assistance to countries which are destined to receive significant numbers of migrants?

In order to address these general problems, we must first capitalize on our collective experience in some relatively well-documented projects involving involuntary resettlement. This was the primary objective of our conference. We must draw lessons from these urban and rural development projects and we must examine the settlement and resettlement policies of the countries concerned.

Based on this experience, we will then be able to address the broader issues, especially in the context of future projects whose aim is to conserve the remaining tropical forest and biodiversity reserves of Africa. We have already learned that biodiversity conservation and sustainable development of natural resources raises important issues regarding the rights and obligations of indigenous peoples and local communities in relation to those of the state. Continuing environmental degradation outside forest and wildlife reserves makes these reserves increasingly attractive to settlers. Past policies of neglect or mismanagement have often permitted or even encouraged spontaneous settlement in such areas, creating situations that may need to be corrected if remaining biodiversity resources are to be preserved.

The World Bank is now considering a new generation of environmental management projects focused on biodiversity protection and sustainable management of land and tropical forest resources. Compared to classical infrastructure projects, these new projects are likely to pose different resettlement problems for which we will have to develop different methods and more suitable approaches. This will eventually enable
us to face the even greater problems of voluntary migration and spontaneous settlement resulting from severe environmental degradation linked with demographic growth.

Organization of this Volume

The first section of this volume provides an overview of resettlement issues as seen in a global and regional context. In Chapter 1, Michael M. Cernea describes the relationship between development and resettlement from a global perspective. He points out that development projects requiring the displacement of people inevitably result in their impoverishment, unless specific attention is paid to their needs and they are actively involved in the process of project planning. A review of lessons learned from World Bank projects involving resettlement in Africa is provided in Chapter 2 by Cynthia C. Cook and Aleki Mukendi. Their review shows that, even with good intentions and an appropriate Bank policy framework, few projects have succeeded in promoting the sustainable economic and social development of the resettled people. Constraints to successful implementation include national policies, institutional issues, land tenure problems, lack of local participation, and failure to anticipate the social and environmental consequences of resettlement.

The next section of the book provides insights into the involuntary resettlement process in rural areas as seen from the practitioner's point of view. In Chapter 3, Edward K. Mburugu reports the findings of a survey of people displaced by the Kiambere Dam in Kenya. Comparing the welfare of resettlers to that of the host population, he finds that the resettlers were both more disadvantaged to begin with, and less able to cope with the changes induced by the project. His study shows that cash compensation was inadequate to replace lost resources and that the displaced population never regained its standard of living after resettlement. In Chapter 4, Mavuso Tshabalala sets forth the resettlement and compensation activities undertaken through the Lesotho Highland Water Project, and describes plans to assist the affected population through a targeted rural development program. His study illustrates the importance of extensive pre-project planning and the building of institutional capacity to plan, execute and monitor resettlement programs.

The following section provides examples of resettlement in urban areas under Bank-financed projects. In Chapter 5, Louis Roger Manga gives details of the Nylon urban upgrading project in Cameroon and its associated resettlement program. Although lands were identified well in advance to meet the needs of families displaced by urban upgrading, the bureaucratic processes involved in obtaining the release of that land and in transferring ownership to the resettled population, as well as problems of access to credit, have slowed implementation of the program. Francisco Pereira shares the experience of the Urban Rehabilitation Project in Maputo and Beira, Mozambique, in Chapter 6 of this volume. Decongesting overcrowded and unsanitary buildings required the construction of core housing, "in-filling" open spaces left within the urban periphery, and finding acceptable solutions for the population displaced by the core housing activity.
The next section of the book is devoted to an analysis of the long-term impacts of resettlement in the case of projects financed by the World Bank more than twenty years ago, before it had a resettlement policy. Indeed, as Michael Cernea pointed out at the conference, the Bank's resettlement policy owes a great deal to the work done by African and other researchers on the impacts of these early projects.

In Chapter 7, Christopher Magadza focuses on the environmental impacts of the resettlement program undertaken in connection with the Kariba Dam on the Zambezi River between Zambia and Zimbabwe. River valley cultivators had to move to unfamiliar uplands areas where slopes and soil conditions made farming more difficult and more vulnerable to environmental risks. Fishery and livestock potentials have been developed but these programs have brought little benefit to the local people. The project has had a negative effect on the nutritional status of the people and has increased health risks, without providing the necessary services. Scientific study of the consequences of the project has not moved policymakers to take remedial action.

Martha A. Tamakloe reports in Chapter 8 on the long-term impacts of resettlement in connection with the construction of the Akosombo Dam in Ghana. She stresses the disruptive effects that occur when governments change their policy orientations during project implementation. Unanticipated social consequences of the planned resettlement program led to significant changes in age structure, ethnic composition, economic activities, and mechanisms for conflict resolution in the new villages. The introduction of mechanized agriculture as part of the resettlement program may have accelerated environmental degradation around the lake. Reductions in river flow encouraged the spread of schistosomiasis below the dam, which recent migrants from this area have brought back into the resettlement villages.

The Kainji Lake experience in Nigeria is described by J.S.O. Ayeni and his collaborators in Chapter 9. This resettlement program is believed to have been a success, largely because it was responsive to the social and cultural concerns of the people. A national park was created in conjunction with the lake, providing unexpected additional income for local residents. Irrigated farming in the drawdown zone has proved successful. However, the creation of the lake had a negative impact on Fulani pastoralists who were seasonal users of the grazing land. Although attempts were made to address this problem, increasing pressure on grazing land and growing conflicts between farmers and herders continue to pose problems for local communities. Fisheries have been successfully developed on the lake and have provided short-term benefits to local people. However, the downstream irrigation plans which were originally part of the water resource development project have not materialized.

In Chapter 10, Gunnar Sørbo describes the long-range impacts of settlement and resettlement in Sudan relating to irrigation development in Kassala Province and the resettlement of Nubians from the Aswan High Dam area. His research indicates that, while initial objectives in the area of agricultural production have not been sustainably achieved, the project did provide a basis for sustainable settlement based on the development of non-farm enterprises and a more diversified pattern of agricultural
production than originally envisaged. He argues that settlement projects in the past have been overdesigned and too rigid in implementation, thus missing many opportunities to take advantage of changing circumstances. African governments rarely possess the institutional capacity to manage such complex projects successfully. He recommends, therefore, that planners should focus more on the policy framework, providing suitable incentives for environmentally sound spontaneous settlement, rather than planning investment programs for area development.

The next to last section of the book presents some lessons learned from experience in Africa concerning voluntary movements and the contrast between government-sponsored and spontaneous settlement programs. In Chapter 11, David Pulkol reports on the work of the Ranch Restructuring Board in Uganda which was responsible for solving settlement problems in ranching areas after the close of Uganda's civil war. He identifies some of the key issues which need to be addressed by policymakers in attempting to settle and integrate pastoralists into the modern economy. Mark A. Marquardt of Makerere Institute of Social Research describes three settlement issues related to the management of national parks and reserves in Uganda, in Chapter 12 of this volume. These issues include enclave expansion, spontaneous settlement, and the degazetting of protected areas. He analyzes migration and settlement in terms of "push" and "pull" factors, showing the importance of understanding such factors for sustainable policy and resource management decisionmaking.

Della McMillan, Thomas Painter and Thayer Scudder describe, in Chapter 13, the results of a recent study of settlement in the river valleys of West Africa that have been freed of river blindness through a pest control program. The study found that government-sponsored programs were too costly and cumbersome to be successful on a large scale, while spontaneous settlements tend to plateau at low levels of productivity and to undertake activities in areas where they may not be environmentally sustainable. The authors advocate the adoption of an "assisted spontaneous" approach to settlement, capitalizing on the initiative of settlers, and supporting and structuring their efforts by providing necessary infrastructure and services. They focus on the importance of including host communities and seasonal resource users such as pastoralists in planning for sustainable resource use and management. They argue that secure tenure rights are an important element in sustainable settlement, and that such rights should be assigned based on local agreements, taking customary tenure systems as the starting point.

Jean-Marie Cour takes a more theoretical approach in Chapter 14. He relates population projections for African countries to land area, showing that major international migrations will be necessary to accommodate the expected population growth. Internal migrations are also occurring, both from isolated and poorly served rural areas to rural areas with good soils, markets and infrastructure, and from rural areas to urban areas. He argues that urbanization is the driving force of development in Sub-Saharan Africa, since urban production processes create consumer demand for agricultural goods and produce incentives for farmers to invest in order to raise their incomes. Solving the problems of population redistribution and promotion of sustainable settlements in Africa will be the major development challenge of the coming decades.
In the closing section (Chapter 15), Cynthia Cook summarizes the discussions held at the conference and the proposals which were made for future action. These actions fall into three main areas: first, preparing resettlement policy proposals based on the Bank guidelines and on the lessons of experience, and discussing these proposals with African decisionmakers in the context of policy reform; second, conducting additional research on identified issues with support from the international community; and third, networking among African professionals and institutions involved in the study of resettlement issues in order for research findings to feed back more rapidly into the policy dialogue. Participants at the conference warmly welcomed an offer by Makerere University’s Institute of Social Research to spearhead this networking activity. Participants also asked the World Bank to take the initiative to ensure that the proposed program receives full support from the international donor community.
NOTES


5. This resettlement experience is more fully documented in Colson, Elizabeth. 1971. The Social Consequences of Resettlement: The Impact of the Kariba Resettlement Upon the Gwembe Tonga. Manchester: Manchester University Press.

6. This experience is also documented, with a shorter time horizon, in Chambers, Robert, ed. 1970. The Volta Resettlement Experience. London: Pall Mall Press.


Chapter 1

AFRICAN POPULATION RESETTLEMENT
IN A GLOBAL CONTEXT

Michael M. Cernea

Population settlement and resettlement issues are linked to the core of the current development agenda around the world, particularly so in Africa. The purpose of this paper is to explain and discuss several basic common issues and vulnerabilities of population resettlement processes that occur worldwide, including Africa, and what the World Bank’s experience and policy in addressing such involuntary resettlement processes have been. The paper concludes with a brief overview of the resettlement agenda for the 1990s.

Resettlement and Development

Both worldwide and in Africa, involuntary resettlement processes caused by development projects are only a subset of much larger issues: population movements, major changes in the allocation and use of land or water, industrialization and urbanization, and public sector intervention in development. The challenge posed by resettlement epitomizes the challenge of induced development, embodying core questions about the role of the state and about development’s goals, social actors, costs, and traumas.

Africa is a continent as rich in natural resources as it is in people and history. Unfortunately, the spatial distribution of its people and resources do not always coincide. As Francois Falloux and Cynthia Cook have stated in their introduction to this volume, in Africa much of the impetus for population movements comes from efforts to match the people with the resources they need for sustenance and growth.

The scale of human movement in Africa can be awesome. A recent World Bank study estimated that the African continent contains some 35 million migrants — fully half of the world’s total.1 The same study also found no evidence to suggest that the volume of international migration will be substantially reduced in the future. Spatial mobility is a central feature of many African societies. For example, estimates from Somalia, before the collapse of the state and the civil war’s induced mass

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Michael M. Cernea is the Senior Advisor for Social Policy and Sociology of the World Bank. He has written several books and numerous studies on development, social change, population resettlement, rural organizations and the diffusion of innovations, and is the editor of the volume Putting People First: Sociological Variables in Rural Development (Oxford University Press, 1991).
starvation, indicated that as much as 60 percent of the population was involved in one or another form of transhumance.\(^2\)

Warfare, famine, and natural ecological distress have all played their parts in forcing African populations to abandon their places and move. But so too have certain political or ethnic repression, urbanization, industrialization, and energy development.

Our topic here is a specific type of resettlement: *involuntary* or forced resettlement, which is distinct from voluntary (spontaneous or assisted) settlement, as well as from migration.

Involuntary resettlement shares with other forms of voluntary and spontaneous population movement general concerns about economic development, food security, and environmental management. It also differs from them in several significant ways. First, involuntary resettlement is itself never the primary objective of a project that causes displacement; it is the by-product of urban programs or of the construction of dams, highways, industrial estates, ports and so forth. Second, whereas other types of projects explicitly endeavor to increase agricultural productivity and people’s incomes, forced resettlement starts by taking away land, the main asset for family livelihood. Third, unless properly addressed by the state, involuntary resettlement operations are certain to degenerate into processes of massive impoverishment and social disorganization.\(^3\)

Resettlement processes in Africa, particularly the current processes of involuntary displacement and relocation caused by various types of development projects in Africa, should be seen in the context of similar involuntary resettlements occurring elsewhere in the world, due to the same development-related causes. *Table 1-1* shows some of the largest resettlement operations outside Africa, caused by the construction of major dams. Significantly, three of the largest countries in the world — India, China and Brazil — which are currently engaged in massive industrialization and electrification programs, are precisely the countries with some of the biggest ongoing involuntary resettlement operations.

In China, for instance, more than 10 million people were involuntarily resettled over a period of thirty years as a result of dam construction alone. In India, the aggregate numbers are of comparable magnitude — about 15.5 million people over the last four decades, including displacement from reservoirs, urban sites, thermal plants and mines.\(^4\) Two dams now under construction on the Krishna River in Karnataka state — the Almatti Dam and the Naraynapur Dam — will deprive some 240,000 people of either their homes, or their land, or of both. The highly controversial Narmada Sardar Sarovar Dam, together with its network of downstream irrigation canals and roads, will affect the land and/or houses of approximately 220,000 people. There are also massive dam-induced resettlement programs now being implemented in Argentina and Paraguay (Yacyreta) and other Latin American countries.
Table 1-1
Major Dams Outside Africa: Population Displacement

<table>
<thead>
<tr>
<th>Dam</th>
<th>Country</th>
<th># of People</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Already Built</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sammenxia</td>
<td>China</td>
<td>319,000</td>
</tr>
<tr>
<td>Dongpinghu</td>
<td>China</td>
<td>278,000</td>
</tr>
<tr>
<td>Danjiangkou</td>
<td>China</td>
<td>383,000</td>
</tr>
<tr>
<td>Srisailam</td>
<td>India</td>
<td>100,000</td>
</tr>
<tr>
<td>Mangla</td>
<td>Pakistan</td>
<td>90,000</td>
</tr>
<tr>
<td>Cirata</td>
<td>Indonesia</td>
<td>50,000</td>
</tr>
<tr>
<td>Sobradinho</td>
<td>Brazil</td>
<td>60,000</td>
</tr>
<tr>
<td>Portile de Fier</td>
<td>Romania/Yugoslavia</td>
<td>23,000</td>
</tr>
<tr>
<td>Assad</td>
<td>Syria</td>
<td>60,000</td>
</tr>
<tr>
<td><strong>Currently Under Construction</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Almatti</td>
<td>India</td>
<td>160,000</td>
</tr>
<tr>
<td>Itaparica</td>
<td>Brazil</td>
<td>45,000</td>
</tr>
<tr>
<td>Tehri</td>
<td>India</td>
<td>105,000</td>
</tr>
<tr>
<td>Narmada Sardar Sarovar</td>
<td>India</td>
<td>220,000*</td>
</tr>
<tr>
<td>Shuikou</td>
<td>China</td>
<td>70,000</td>
</tr>
<tr>
<td>Yacyreta</td>
<td>Paraguay</td>
<td>45,000</td>
</tr>
<tr>
<td><strong>Under Design</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Three Gorges</td>
<td>China</td>
<td>0.9 - 1.2 mil.</td>
</tr>
<tr>
<td>Gandhi Sagar</td>
<td>India</td>
<td>100,000</td>
</tr>
<tr>
<td>Kalabagh</td>
<td>Pakistan</td>
<td>80,000</td>
</tr>
<tr>
<td>Karnali (Chisapani)</td>
<td>Nepal</td>
<td>55,000</td>
</tr>
<tr>
<td>San Juan Tetelecingo</td>
<td>Mexico</td>
<td>22,000</td>
</tr>
<tr>
<td>Xiaolangdi</td>
<td>China</td>
<td>181,000</td>
</tr>
</tbody>
</table>

* Including those displaced by the irrigation canals and road networks.

Source: This table is based on data from project documents and public sources. Some of these projects were co-financed by the World Bank, while others were financed from other sources, both domestic and international.
Resettlement also occurs on a large scale through voluntary resettlement programs, such as the transmigration program in Indonesia, or through mixed voluntary and involuntary resettlement programs like the well-known Mahaweli program in Sri Lanka. Another interesting type of process is the massive internal migration in Colombia, a country which, during two decades of accelerated industrialization, has gone from being 35 percent urban to being 35 percent rural. This massive rural-urban migration was the result of a complex set of factors and, in turn, had many beneficial influences; it has been accompanied by more than a doubling of real per capita income in the country, a nearly 10 percent annual increase in gross national product, and a ten-year increase in life expectancy at birth.

Worldwide, all these large-scale spontaneous ebbs and flows of population, together with direct or forced resettlement, are part and parcel of the development process, and pose major challenges to governments trying to promote strategies for economic growth and social change.

Resettlement in Africa

The African continent, in turn, is the scene of massive population resettlement processes of all types. Profoundly dramatic and painful are the involuntary displacements of people. However, Africa's most important forced displacements are not those caused by development programs, but those triggered by social and political causes such as wars and civil wars, or by ethnic, racial and/or religious persecutions, or by natural causes such as droughts and famines. These result in many millions of refugees — either "international refugees" who cross international borders to find protection, shelter and food in another country, or "internal refugees" who still remain within the borders of their countries but have abandoned their houses and lands.5

Displaced populations are not only themselves deprived of normal livelihood and pushed to the limits of poverty and starvation, but represent an enormous burden on the host populations, thus compounding the magnitude of the displacement-triggered problems. They often lower the hosts' standards of living and tend rapidly to deplete the natural resources of the areas of refuge. Even when the causes of displacement disappear or subside, return resettlement and reconstruction at the places of origin demands large resources from both the people and the state. Mozambique, for instance, faces now the daunting task of resettling some 5,000,000 people who became refugees during the recent civil war that ravaged the country. Before long, the collapse of the apartheid system in South Africa will make possible the resettlement of the many millions of black people who were displaced against their will to the so-called homelands; but desirable as such resettlement is, it will be far from easy or painless.

In Africa, planned land settlement has been tried in countries as diverse as Kenya, Tanzania, Sudan, Ghana, Senegal, Burkina Faso and Ethiopia and is now being carried out in some areas of Egypt.6 While several of these schemes did in fact improve the well-being of participants, in general terms these efforts have fallen short of expectations. True, the expectations themselves may have been unrealistically high in many cases, given the resources available. Nonetheless, both tangible achievements and indisputable drawbacks to large planned settlement schemes exist, including their
high cost, reliance on prolonged public sector intervention, and the constraints they have placed on the private initiative of resettlers. Yet such settlements have created new opportunities, have often met the motivations and immediate needs of many settlers, and not rarely have saved lives. Complex political, social and economic forces have been involved in such programs and, as Pankhurst argued in his excellent monograph on Ethiopian resettlement, the "stereotypes of resettlement as either purely induced by famine or enforced by Government are equally misleading simplifications."

More recent efforts to direct population movements have included investments targeted at infrastructure along agricultural frontiers. These aim to steer people toward suitable settlement areas while requiring less government intervention than planned settlement schemes. Typical examples of this approach are the settlement models being considered in the West African areas cleared of river blindness, as discussed by McMillan, Painter and Scudder in Chapter 14 of this volume.

In turn, involuntary resettlement caused by government sponsored development programs has generated, and continues to generate, a distinct set of problems on the African continent. Construction of major dams in Africa, particularly during the 1960s and 1970s, has entailed population displacements of large magnitude (see Table 1-2).

It is seldom realized that displacements such as those caused by the Akosombo, Kossou or Kariba Dams have affected a much higher proportion of the respective country's population than the displacements caused by even the biggest dams in Asia — India or China include — vis-a-vis the total population of those countries. Thus, they have strained the state's resources and affected those African nations in a much more profound way, notwithstanding the benefits eventually yielded by those projects. The construction of such gigantic dams has slowed down in Africa during the 1980s and 1990s. However, the aggregate number of projects causing displacements of a smaller scale has considerably increased.

It is worth underscoring that social anthropology as a discipline owes a considerable part of its resettlement knowledge to Africa's early experiences with displacements caused by high dams. The Volta resettlement from Ghana's Akosombo and Kpong Reservoirs, the resettlement of the Gwembe Tonga in Zambia at Kariba, or the relocation of the Egyptian Nubians from the Aswan Dam are the best known cases and alone have yielded a sizeable body of social science volumes and studies. Social geographers and other social scientists have focused on the Niger River displacements. Important lessons can be derived also from the displacement of the Tema fishermen to make room for the Tema port, from the urban relocation of the Yoruba in Lagos evacuated because of the slum clearance project in Central Lagos, from the displacement of farmers from the Tana River valley and the Manantali Reservoir, or from the adjustment to resettlement of the people in the Kainji Lake Basin, to which several African scholars have dedicated multi-sided research.
Table 1-2
Population Displacement
Associated with Major Dams in Africa

<table>
<thead>
<tr>
<th>Dam</th>
<th>Country</th>
<th>Number of People</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akosombo</td>
<td>Ghana</td>
<td>84,000</td>
</tr>
<tr>
<td>Aswan High Dam</td>
<td>Egypt</td>
<td>100,000</td>
</tr>
<tr>
<td>Kainji</td>
<td>Nigeria</td>
<td>50,000</td>
</tr>
<tr>
<td>Kariba</td>
<td>Zambia/Zimbabwe</td>
<td>56,000</td>
</tr>
<tr>
<td>Kossou</td>
<td>Côte d'Ivoire</td>
<td>85,000</td>
</tr>
<tr>
<td>Dadin Kowa</td>
<td>Nigeria</td>
<td>26,000</td>
</tr>
<tr>
<td>Manantali</td>
<td>Senegal</td>
<td>11,000</td>
</tr>
<tr>
<td>Kiri</td>
<td>Nigeria</td>
<td>19,000</td>
</tr>
</tbody>
</table>

Source: Based on rounded data from project documents and public sources.

It is essential to keep the valuable lessons derived by these studies alive and to use them as prescriptions against repeating tragic mistakes again.

The World Bank and Involuntary Resettlement

The World Bank's concern with involuntary resettlement derives from the Bank's core function as a development institution. The goal is to help developing countries find the resources they need to improve their productive capacity. Whether through "investing in infrastructure" or "redistribution with growth," through "poverty alleviation" or "sustainable development," the Bank has always held that the best way for poor people to get their fair share of the pie is to increase the size of the pie itself. Give people the tools, and their natural and cultural abilities will make development a daily activity rather than a goal for the future.

Hence, the vast majority of the resources that the Bank provides are intended to help countries initiate and successfully carry out projects that will increase income and improve living standards through capital investment. Building hydropower stations, irrigating arid lands, improving urban transportation and supplying clean water to cities are all projects that provide developing countries with the levers for enhancing productive capacities and social services for their nations.

But if these projects are necessary, desirable, and attainable instruments for development, we must recognize that, like everything else, they also involve trade-offs. There are financial trade-offs: the money committed to a large dam is money that
cannot be spent on schools. There are technical trade-offs: roads that are easy to build are often the most difficult to maintain. And there are social trade-offs: the projects needed by a growing country must often displace people, at times large populations, from their homes and sources of livelihood. Forced resettlement should be the last path we choose, and all efforts must be made to avoid it. But we must also accept that there are times when resettlement is unavoidable. There are only so many places to build a dam or site a road; only so many ways to construct a sewage treatment plant without acquiring land that is already inhabited. In these situations, forced resettlement is a necessary consequence of our efforts to advance the common good.

The issue that we must face is when, and under what conditions, involuntary resettlement should proceed. If the public interest requires the expropriation of land necessary for projects that will help meet basic human needs, what can we do to minimize the problems caused by displacement?

To answer this question, we can begin to draw upon both Africa’s and the World Bank’s respective social research on the consequences of resettlement. Many research contributions suggest that resettlement is not going well in Africa or elsewhere. Increasingly we find that projects that benefit the majority confer all too few benefits on those people who, as one of my Indian colleagues has put it, "gave their today so that we could have a better tomorrow."

As far as Bank-financed projects are concerned, the major causes of dislocation are undoubtedly dams and the reservoirs they form. Since 1970, the Bank has provided dam financing to more than 100 countries and supported the construction of 400 large dams around the world. But dams are not the only cause of involuntary resettlement. It occurs in projects as diverse as widening a highway, expanding a port area, or even, as in one case in Mozambique, building a school. Table 1-3 shows involuntary population displacement being present in more than 130 Bank-assisted projects, approved year-by-year, over a twelve year period (1980-1991). With about 2.25 million people to be displaced under Bank-assisted projects during that period alone, compulsory resettlement is clearly no small problem.
### Table 1-3
Population Displacement in Development Projects Financially Assisted by the World Bank Approved During FY80 — FY91*

<table>
<thead>
<tr>
<th>FY</th>
<th>No. of Projects</th>
<th>No. of Affected People</th>
</tr>
</thead>
<tbody>
<tr>
<td>80</td>
<td>6</td>
<td>150,820</td>
</tr>
<tr>
<td>81</td>
<td>11</td>
<td>122,020</td>
</tr>
<tr>
<td>82</td>
<td>7</td>
<td>47,252</td>
</tr>
<tr>
<td>83</td>
<td>11</td>
<td>183,950</td>
</tr>
<tr>
<td>84</td>
<td>13</td>
<td>232,810</td>
</tr>
<tr>
<td>85</td>
<td>10</td>
<td>159,545</td>
</tr>
<tr>
<td>86</td>
<td>9</td>
<td>354,915</td>
</tr>
<tr>
<td>87</td>
<td>14</td>
<td>160,140</td>
</tr>
<tr>
<td>88</td>
<td>15</td>
<td>215,013</td>
</tr>
<tr>
<td>89</td>
<td>16</td>
<td>327,353</td>
</tr>
<tr>
<td>90</td>
<td>16</td>
<td>124,458</td>
</tr>
<tr>
<td>91</td>
<td>9</td>
<td>180,070</td>
</tr>
<tr>
<td>Total</td>
<td>137</td>
<td>2,258,346</td>
</tr>
</tbody>
</table>

* For the period FY80-85, this table refers only to two key sectors — agriculture and hydropower; it does not include some projects in the urban, mining, thermal and other lending subsectors that also entailed compulsory resettlement. The overall numbers of affected people result, in some cases, from best mid-term or final assessments, which are considerably higher than the initial estimates made at project appraisal stage.

Within these overall numbers, the sectoral and geographic distribution of Bank-assisted projects with resettlement is far from even. By geographic region, the large majority of projects during this eight-year period are in Asia (over 60 percent) followed by Africa (about 22 percent). By sector, the largest number of projects entailing resettlement approved by the World Bank over the last eight years (FY86-93), as shown in Table 1-4, are in the urban and infrastructure sectors. Yet it is the agricultural projects (primarily irrigation dams) that have affected the largest number of people. A detailed list of Bank-assisted projects in Africa over the FY81-93 period is contained in Table 1-5.
Urban involuntary resettlement seems likely to grow even faster in the future. World Bank and United Nations data shows that worldwide urban growth rates have exceeded, on average, six percent per year. The number of people living in large cities has grown from 200 million in 1950, to 850 million today. By the year 2025 there will be more than two billion people living in large cities of more than one million inhabitants. In cities such as São Paulo, Lagos, Douala, Rabat, Shanghai, and Mexico City, we can already see that massive investment in infrastructure and sanitation is needed for basic maintenance of living standards. Such urban investment will inevitably entail further land acquisition and involuntary displacement, thus keeping the issues of adequate resettlement present on the development agenda.14

The Basic Goal: Avoiding Impoverishment

To improve the handling of unavoidable resettlement operations, the World Bank formulated an explicit social policy, originally issued in 1980.15 This policy explains the basic criteria which every project that the Bank finances must meet. It defines its fundamental objective as restoring the income and livelihood of affected people and, if feasible, improving them. The policy requires minimizing displacement whenever possible and establishes safeguards and entitlements for people who are displaced. It asks

<table>
<thead>
<tr>
<th>Sector</th>
<th>Number of Projects</th>
<th>Number of People Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture (AGR)</td>
<td>16</td>
<td>728,633</td>
</tr>
<tr>
<td>Industry and Energy (IEN)</td>
<td>29</td>
<td>226,711</td>
</tr>
<tr>
<td>Infrastructure (INU)</td>
<td>67</td>
<td>597,025</td>
</tr>
<tr>
<td>TOTAL</td>
<td>114*</td>
<td>1,552,369</td>
</tr>
</tbody>
</table>

* Total includes one environment project and one education project. The total number of active projects with ongoing implementation of resettlement components during this period (FY86-93) was still higher, as some of these projects were approved prior to FY86.
### Table 1-5

**World Bank-Financed Projects**  
**Approved During FY81 — FY93**  
**Enabling Involuntary Population Resettlement in Africa**

<table>
<thead>
<tr>
<th>Country</th>
<th>Sector</th>
<th>FY</th>
<th>Project Name</th>
<th>People Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mauritania</td>
<td>AGR</td>
<td>81</td>
<td>Gorgol Irrigation</td>
<td>3,000</td>
</tr>
<tr>
<td>Swaziland</td>
<td>IEN</td>
<td>81</td>
<td>Power III</td>
<td>300</td>
</tr>
<tr>
<td>Cameroon</td>
<td>INU</td>
<td>83</td>
<td>First Urban Development</td>
<td>24,000</td>
</tr>
<tr>
<td>Côte d'Ivoire</td>
<td>AGR</td>
<td>83</td>
<td>Fourth Rubber Production</td>
<td>1,300</td>
</tr>
<tr>
<td>Malawi</td>
<td>TWU</td>
<td>83</td>
<td>Lilongwe Water I and II</td>
<td>1,000</td>
</tr>
<tr>
<td>Tunisia</td>
<td>TWU</td>
<td>83</td>
<td>Urban Development III</td>
<td>3,100</td>
</tr>
<tr>
<td>Kenya</td>
<td>IEN</td>
<td>84</td>
<td>Kiambere Hydro Power</td>
<td>7,000</td>
</tr>
<tr>
<td>Togo</td>
<td>IEN</td>
<td>84</td>
<td>Nangbeto Hydro Power</td>
<td>12,000</td>
</tr>
<tr>
<td>Zaire</td>
<td>IEN</td>
<td>84</td>
<td>Ruzizi Hydro Power II</td>
<td>15,000</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>AGR</td>
<td>87</td>
<td>Forestry Plantation Development</td>
<td></td>
</tr>
<tr>
<td>Algeria</td>
<td>TWU</td>
<td>87</td>
<td>Water Supply II</td>
<td>7004</td>
</tr>
<tr>
<td>Tunisia</td>
<td>TWU</td>
<td>87</td>
<td>Urban Development IV</td>
<td>1,300</td>
</tr>
<tr>
<td>Malawi</td>
<td>INU</td>
<td>88</td>
<td>Northern Transport Corridor I</td>
<td>3,000</td>
</tr>
<tr>
<td>Mozambique</td>
<td>PFR</td>
<td>88</td>
<td>Education and Manpower</td>
<td>300</td>
</tr>
<tr>
<td>CAR</td>
<td>IEN</td>
<td>89</td>
<td>Mbali (Energy I)</td>
<td>700</td>
</tr>
<tr>
<td>Cameroon</td>
<td>TWU</td>
<td>89</td>
<td>Second Urban</td>
<td>8,000</td>
</tr>
<tr>
<td>Mozambique</td>
<td>TWU</td>
<td>89</td>
<td>Urban Rehabilitation</td>
<td>3,000</td>
</tr>
</tbody>
</table>
### African Population Resettlement in a Global Context

<table>
<thead>
<tr>
<th>Country</th>
<th>Sector</th>
<th>FY</th>
<th>Project Name</th>
<th>People Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Côte d'Ivoire</td>
<td>AGR</td>
<td>90</td>
<td>Forestry Sector</td>
<td>40,000</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>INU</td>
<td>90</td>
<td>Second Addis Ababa Upgrading</td>
<td>800</td>
</tr>
<tr>
<td>Ghana</td>
<td>INU</td>
<td>90</td>
<td>Urban II (Sec Cities)</td>
<td>2,400</td>
</tr>
<tr>
<td>Guinea</td>
<td>INU</td>
<td>90</td>
<td>Second Urban</td>
<td>4,300</td>
</tr>
<tr>
<td>Kenya</td>
<td>INU</td>
<td>90</td>
<td>Third Nairobi Water Supply</td>
<td>800</td>
</tr>
<tr>
<td>Madagascar</td>
<td>AGR</td>
<td>90</td>
<td>Tana Plain Development</td>
<td>18,000</td>
</tr>
<tr>
<td>Nigeria</td>
<td>TWU</td>
<td>90</td>
<td>Oyo State Urban Development</td>
<td>1,200</td>
</tr>
<tr>
<td>Rwanda</td>
<td>TWU</td>
<td>90</td>
<td>Transport Sector</td>
<td>1,600</td>
</tr>
<tr>
<td>Rwanda</td>
<td>TWU</td>
<td>90</td>
<td>Urban Institutions</td>
<td>1,050</td>
</tr>
<tr>
<td>Uganda</td>
<td>TWU</td>
<td>90</td>
<td>Water Supply II</td>
<td>1,000</td>
</tr>
<tr>
<td>Djibouti</td>
<td>TWU</td>
<td>91</td>
<td>Urban Development II</td>
<td>6,450</td>
</tr>
<tr>
<td>Uganda</td>
<td>IEN</td>
<td>91</td>
<td>Hydro Power III</td>
<td>1,700</td>
</tr>
<tr>
<td>Uganda</td>
<td>TWU</td>
<td>91</td>
<td>Urban I</td>
<td>800</td>
</tr>
<tr>
<td>Egypt</td>
<td>IEN</td>
<td>92</td>
<td>Kureimat Thermal Power</td>
<td>500</td>
</tr>
<tr>
<td>Lesotho</td>
<td>TWU</td>
<td>92</td>
<td>Highlands Water Phase IA</td>
<td>8,500</td>
</tr>
<tr>
<td>Malawi</td>
<td>TWU</td>
<td>92</td>
<td>Local Government</td>
<td>2,000</td>
</tr>
<tr>
<td>Nigeria</td>
<td>TWU</td>
<td>92</td>
<td>Multi-State Water I</td>
<td>4,000</td>
</tr>
<tr>
<td>Morocco</td>
<td>TWU</td>
<td>93</td>
<td>Land Development for Low Income Housing</td>
<td>14,000</td>
</tr>
<tr>
<td>Nigeria</td>
<td>INU</td>
<td>93</td>
<td>Lagos Drainage and Sanitation</td>
<td>400</td>
</tr>
</tbody>
</table>

* Most projects in this table are still under implementation. The numbers of affected people are either estimates at appraisal, or subsequently corrected/updated assessments, and therefore some of them are subject to certain approximation. The final numbers, at project completion, may be a bit higher or lower, from case to case, but generally in the same bracket.

**ABBREVIATIONS:** AGR — agricultural projects; IEN — energy or industrial projects; INU — infrastructure or urban projects; PHR — projects for education or health; TWU — transport and water supply.
Involuntary Resettlement in Africa

Bank staff, and recommends to the planners of borrowing agencies, to consider the economic and cultural characteristics of the people to be moved and how these affect their ability to cope in the new environment. Over the last twelve to fourteen years, every time that this policy has been applied to a new project it has led to improvements in planning, resource allocation and execution. Yet the application of this policy by both borrowers and the Bank has not been consistent and systematic in all projects, as will be discussed further.

The major risk incurred in forced population displacement is impoverishment of people. In the final analysis, what we are talking about is not involuntary resettlement per se, but rather the imperative of preventing and avoiding the impoverishment of people. Many of those subjected to forced displacement for the sake of a development program are affected by poverty even before displacement, or are in a marginal economic situation. They have already been working hard to overcome poverty and to improve their incomes, health and sanitation. Then, suddenly, here comes a development program intended to bring benefits to many people (and indeed likely to generate such benefits), but which is so inadequately designed and unfairly implemented that it fails to protect a number of people it directly affects from a worsening of their situation. In fact, through carelessness, heavy-handedness and faulty resource allocation, such a program may turn displacement into a weapon that aggravates rather than alleviates poverty. The paradox is as blatant as it is unjust and unacceptable.

The model below, highlighting the main processes through which impoverishment may occur, identifies key trends based on empirical data from many field reports and studies. These processes are interlinked in a "poverty risk model."

- Landlessness
- Joblessness
- Homelessness
- Marginalization
- Food Insecurity
- Loss of Access to Commons
- Increased Morbidity and Mortality
- Social Disarticulation

Not every one of these processes necessarily occurs in each single displacement operation. Nor do all affect at once every individual family. But taken together, they characterize the involuntary population resettlement operations that have failed. Therefore, this model is both a synthesis of past adverse experiences and (more importantly) a tool for improving planning in the future. It grimly warns about the likely risks and pitfalls that must be avoided or mitigated by every means available.

An experienced resettlement practitioner or researcher will instantly recognize these processes from his or her own field work. Thus, there is no need to further document them in detail here. However, there is every possible need and reason to
keep these risks in mind at all times when resettlement is decided upon, planned or implemented.

Problems and Solutions

The resettlement question facing the Bank and country governments is broader than merely documenting what happens to displaced people. As an active agent in the processes causing displacement, it is far more important for the Bank to analyze why resettlement programs fail and to develop a strategy to avoid resettlement's bad effects. The responsibility for effecting adequate resettlement is vested in the state that initiates it, and directly rests with the borrowing agencies. Social research has identified the following as frequent departures from policy guidelines and *chronic causes* of the most common problems that recur in resettlement operations:

- Planning objectives center on removing people from the site of the main project, and only marginally address reestablishment.

- Estimates of the population to be displaced tend to undercount (sometimes deliberately, other times by poor ground measurements) the actual number of people whose lands and/or houses are condemned.

- Government agencies tend to prepare resettlement components hurriedly and superficially.

- Assistance to resettlers is typically confined to short-term relief.

- Resettlement components are underfinanced.

- The productive capacities and incomes of those displaced are not restored within a reasonable transition period. The result is lasting impoverishment.

- State resettlement agencies often lack explicit policies, norms, and guidelines for reestablishing people productively, and focus primarily on expropriation. Without clearly stated goals and procedures, planning fails.

- Resettlers and hosts are not informed and consulted in time. Their organizations are not invited to join in planning, negotiating and execution.

- Development (or local) agencies charged with managing resettlement lack the staff skills and adequate organizational capacity.

- "Second generation" environmental effects from resettlement are not anticipated by preparation studies, affecting host populations as well.
But if the Bank’s experience shows that involuntary resettlement confronts hard problems and often fails to restore people to their previous levels of living, it also shows that these problems are not intractable once identified and responsibly addressed. Resettlement may be approached as an opportunity to develop and improve living standards, as well as a chance to trigger regional economic growth. Treating resettlement as a mechanism only to get people out of the way of a project as quickly as possible has proved to be the cause of untold human misery. However, attempting to convert unavoidable resettlement into a development opportunity is the way to mobilize the resources of the state, the donor agencies, the resettlers themselves and the host communities in relocation areas for sustainable development.

These two distinct perspectives lead to differences in conceptualization, design and plans, financing and implementation of resettlement programs. Resettlement failures may stem as much from technical ignorance as from political indifference or lack of political will. The remainder of this chapter will review, with specific examples, five main aspects: resettlement policies; baseline research; productive reestablishment; implementation of resettlement programs; and new issues on the involuntary resettlement agenda.

**Resetlement Policies.** In Africa, compulsory resettlement is carried out by government agencies largely in a policy vacuum. Certainly there do exist clear laws and guidelines to empower the state to take away land "needed for the public good." But sorely missing in most African countries are explicit policies and legal frameworks to compel relevant state agencies to effectively address the vital issues of livelihood restoration and productive reestablishment of those displaced. The expropriation laws generally lay down rules for the type of compensation that must be paid for the expropriated land. However, the notion of "compensation" — payment for land taken for public use — is a narrow concept that differs in substance from the more exacting principle that the state has the obligation to restore people’s economic well-being and capacities as productive agents. This distinction between mere compensation, on the one hand, and resettlement on a productive basis, on the other hand, is a critical one, yet it is conspicuously absent from the policy literature.

The World Bank’s resettlement policy has recently been revised and strengthened based both on our own experience with resettlement and the comments and improvements offered by our borrowers. Well prepared resettlement plans based on timetables for carrying out activities, clear specification of who is expected to implement them, and a comprehensive budget that finances each activity and indicates the source of the money, are required before the Bank will agree to appraise and approve a project loan. Moreover, the Bank strongly recommends that developing countries adopt policies and legal frameworks, adequate to their circumstances, which would regulate the unsatisfactory haphazard resettlement practices occurring not only under Bank-assisted projects but even more frequently under domestic programs.

Policy principles are never sufficient, however, and must obtain their flesh and blood through a resettlement plan. The heart of this plan is the "development package."
This refers to the set of provisions that will reconstruct the productivity and social base of those relocated. The resettlement plan and the development package must be creatively adapted to local circumstances. At the same time, they must also include firm, budgeted activities that will (a) prepare affected groups for transfer and prepare the receiving sites for the resettlers' arrival; (b) transport them to new sites; and (c) assist them further to integrate into their respective new communities. Implementation of the resettlement plan is part of the borrower's obligation under the international contract between itself and the Bank for the whole project. The Bank will now decline to finance projects that cause displacement yet cannot meet its resettlement policy standards.

**Baseline research.** Another major problem is that many resettlement programs are planned without a good working knowledge of the size and nature of the population to be displaced. For example, the appraisal report for the tri-national Ruzizi Hydroelectric project involving Zaire, Rwanda and Burundi badly underestimated this number, assuming initially that fewer than 200 people would be displaced by the project. In the end, as many as 15,000 people may have been affected in one way or another. A recent field study on displacement entailed by the Funtua Dam in Nigeria has demonstrated that while local planners estimated that displacement will affect only about some 100 people the real number of affected people will be close to 4,000! In 1983, project feasibility studies assumed that fewer than 1,000 people would be displaced by the Kiambere Reservoir on the Tana River in Kenya; three years later, after the project started, more accurate studies revealed that displacement would affect more than 6,000 inhabitants. This is even more distressing in light of the fact that prior experience with dam building in the Tana River's upper and lower basins, such as Kamburu, Gitaru, Masinga and others, had certainly alerted the planners to the issue of population displacement.

Inadequate baseline research backfires in many ways, and undermines what is called the project's "quality at the entry point." The inadequacy of pre-project field research on displacement goes beyond miscalculations regarding how many people will be displaced; one penetrating study shows how poor understanding of local land tenure patterns created widespread opposition to Ghana's Akesombo project's resettlement program.

Developing successful resettlement programs is a difficult task that simply cannot be done without drawing on the skills of many professions. Africa is blessed with a long-standing tradition of applied social science, in particular rural sociology and anthropology, that understands well the social issues of involuntary resettlement. Yet all too often, social scientists are only involved in reporting on the outcome of resettlement operations, rather than in designing the resettlement program from the outset. Ascertain local patterns of land tenure, identifying community preferences, learning who wants to be relocated with whom and who would welcome the chance to relocate away from neighbors and family — this is the "bread and butter" of useful applied social science. It is obvious why such knowledge is needed for resettlement. It is far better to spend a little more time and money at an early stage to prepare a solid resettlement
program than to "save" in the beginning, only to find that enormous sums must be allocated later to fix a faulty design that collapsed during implementation.

**A Productive Basis for Resettled Groups.** Because resettlement is too often viewed as a problem of getting people out of the way of a project, there is a recurrent failure to think of ways to tap their productive potential at the new sites. For irrigation projects that aim to produce more intensive cultivation, the most effective resettlement solution is often to introduce the resettlers to the command area through a planned assistance program that helps them take advantage of the new productive potential of irrigated fields. This approach was successfully applied in the Gorgol Irrigation Project in Mauritania.

Another all-too-often neglected resource lies in the dam-based reservoir itself, which our experience shows has enormous inherent fisheries potential. Fish are now a major product of Akosombo, Kariba, and Victoria Dams, among others. Traditionally, however, the development of reservoir fisheries has been left to Mother Nature, an expedient but also slow solution. Where fisheries based on scientific aquaculture have been planned prior to reservoir impoundment, the results have been spectacular. In Indonesia's Saguing reservoir, for example, fish production through basket and capture fisheries, processing plants, and cooperative transport is so high that the current economic value of the fish harvest exceeds by a substantial margin the value of the harvest of the ricefields that were flooded by the dam.24

**Implementation.** To be frank, there is little reason for us to be satisfied with the recent performance of resettlement under many of the Bank-assisted projects in Africa. Both the Ruzizi Hydropower project (Zaire/Rwanda/Burundi) and Kenya's Kiambere project suffered major design shortcomings and execution failures, and were not consistent with the policy guidelines. The Antananarivo Plain project in Madagascar, an urban redevelopment project that may eventually remove between 15,000 and 18,000 people from their lands, or houses, or both, started without an adequate relocation plan. As might have been expected, it is now encountering serious execution difficulties in midstream.

When I visited the reservoir and relocation areas of the Nangbeto Dam in Togo, it appeared that the sites for the villagers to be relocated were not well selected, having neither sufficient land surrounding them, nor being adequately prepared to receive the relocatees. Some corrective measures were taken, but those were too little too late. A few years after completion, an evaluation study25 made clear that: (a) cultivable land per family had decreased to about half the amount before relocation; (b) some of the new villages were sited on uneven platforms, with poor drainage; (c) the core housing units were poorly constructed with mud bricks, and soon started to collapse; and (d) the water supply and sanitation facilities for the villagers were totally inadequate. Moreover, when some of the farmer representatives went to the authorities to protest and demand better conditions, they were arrested and imprisoned. This was in total disregard of their entitlements, as well as of the international legal agreement between the Bank and the country for this project.
Implementation is, of course, the bottom line for resettlement programs. What makes for good implementation? And how do we know that a program is successful? These are not easy questions to address, but they can be answered.

First, as discussed above, implementation of a resettlement program can go no further than the limits set for it by the policy guidelines; therefore, improving domestic policies is a pragmatic, not abstract, imperative. Second, a resettlement organization must be staffed with people who have social as well as technical skills. There are social scientists who are professionally trained to deal with settlement and resettlement. Third, ensuring that resettlement organizations have the capacity and commitment to establish a major field presence is a key element in resettlement success. In this regard, it is crucial that the resettlement units have the resources and the autonomy needed to carry out their mission. We must not find at the last minute that the truck intended for transporting resettlers to their new housing has been commandeered to haul cement!

And last but not least, throughout the resettlement process there must be a way for the resettlers themselves to make their voices heard. Increasingly, this is the case. But developing better communication and more participatory planning processes has proved to be a very weak point in resettlement. The Bank's policy refers repeatedly to the need to use local organizations among both host and resettler populations.

Bank policy also insists that people should be moved in socially appropriate groups, helping resettlers sustain and perpetuate local organizational and cultural networks, and involving locally recognized community leaders in decisionmaking. Project planners must learn about these groups and how they can be identified. In communities where the ability to activate credit from a kinsman enables a newly married couple to start a small business, where having a grandmother take care of the children allows a mother to manage the store, or where the entire village manages the grazing lands together, stable social relationships are the pre-conditions for economic viability. A true picture of community life must be generated through social science research, and resettlement strategies must strive to preserve or reconstruct group structures as a social support for increasing the economic viability of post-relocation arrangements.

**NEW ISSUES ON THE RESSETMENT AGENDA.** In addition to improving the standards of various ongoing involuntary resettlement operations, one must be aware of the new issues and concerns that are coming up in this difficult domain of development work in Africa.

First, it appears that the overall need for carrying out involuntary displacements and relocation is not likely to subside; on the contrary, it is likely to increase in many African countries. If we take as a possible indicator the number of projects proposed by various African governments for future World Bank assistance up to 1997 (projects already in various stages of preparation), the increase, compared to the recent past, is significant. Confirming recent trends, the rise will be more pronounced in the urban than in the agricultural areas — specifically in urban infrastructure projects such as road widening, water supply and sanitation. In the longer run, the activation of Africa’s huge
but yet unused potential for irrigated agriculture will entail a rise of involuntary relocation processes in rural areas as well.

Further, a "new" variety of resettlement appearing on the development agenda is the involuntary resettlement of people out of forests and national parks in Africa. As state-driven efforts for protecting tropical forests, establishing new parks and biosphere reserves, or preventing deforestation are increasing, and result in large-scale government programs (some co-financed by external donors), forest agencies in many countries tend to take an overly simplistic approach and to pursue the forced displacement of communities, some of which have traditionally made a living in the forests. Complex social and legal issues are involved in these situation, such as: customary rights of long-term forest inhabitants; illegal encroachment; population growth around and inside forests; lack of alternative income sources for many forest dwellers; and genuine conservation imperatives combined with inadequate problem-solving approaches of forest agencies. One major example of such complexities is the ongoing Bank-assisted Forestry Sector project in Côte d'Ivoire. The local forestry agency initially proposed a program which might have required the displacement of more than 100,000 people. Such a displacement would have been to a great extent unwarranted and, in fact, likely to be ineffective and backfire. This proposal was very considerably reduced as a result of Bank intervention to enforce its policy guidelines, and the project approach has been substantially modified. Similarly, in other African countries, it will be increasingly important to monitor forthcoming forestry related programs for their displacement implications and to develop alternative strategies.

Another issue, closely related to the impacts of reservoir projects, has been forcefully raised by researchers focusing on the downstream impacts of dams on rivers whose annual floods have been long incorporated in local farming systems. For instance, studies on the Senegal River below the Manantali Dam have pointed out that the termination of the annual flood would destroy much of the downstream production options, reduce food production, impoverish many farmers and degrade the environment. The studies recommended an operating regime for the dam that would incorporate controlled water releases for artificial floods, with trade-offs acceptable for irrigation and power generation. Extending such a regime of multipurpose water management to other rivers where it may be found adequate would greatly increase the flood plain's capacity to sustain a dense human population and thus help partially solve some problems created by upstream displacement.

As in the recent past, however, development-caused displacement in Africa will in the near future be only a part of the much broader process of resettling the large group of refugees involuntarily displaced by civil wars or ethnic and religious persecution. Since often different agencies deal with different kinds of resettlement, and people's coping strategies tend to differ as well, it is important to understand both the similarities and differences between these situations and deliberately attempt to cross-exchange improved policy approaches and practical experiences in addressing the lasting and painful problems of resettlement.
Brief Conclusions

To sum up the main points above, let me say, first, that resettlement is and remains, at times an unavoidable side effect of necessary development programs. While resettlement has accompanied many development projects in the past, its incidence will surely increase in the future, as the need for infrastructure projects that cause displacement continues to rise and the alternatives diminish.

Second, resettlement operations in the past have suffered from deficiencies of policy, organization, implementation and resources. There is a need for urgent action on all of these fronts. The World Bank is prepared to assist countries that seek to remedy these deficiencies.

Third, there are certain fundamental goals and procedures that must be taken into account during the development of any resettlement operation. For the Bank, these standards are codified in its policy on involuntary resettlement. This policy distills the Bank's own lessons learned from resettlement programs around the world, and lays down principles and standards for the projects that the Bank assists. By the same token, the Bank will decline to finance projects that cannot meet its policy requirements.

Fourth, the Bank is prepared to work with its borrowers on developing resettlement policies and operational tools.

Nobody has found the perfect solution to the resettlement dilemma. But let us help meet this challenge by providing more opportunities for skilled professionals who have been working with these problems around the world to share their experiences and learn from one another.
NOTES


17. For a more detailed presentation of these processes, see Cernea, Michael M. 1990, *ibid.*


22. Ondingo, op. cit.


CHAPTER 2
IN VOLUNTARY RESETTLEMENT
IN BANK-FINANCED PROJECTS:
LESSONS FROM EXPERIENCE IN SUB-SAHARAN AFRICA

Cynthia C. Cook and Aleki Mukendi

This chapter focuses on the lessons to be learned from World Bank experience with involuntary resettlement in development projects in Africa. Based on a review of Bank reports and other literature and a desk review of material in World Bank files, it attempts to explore the effects of such resettlement on the displaced population and the environmental consequences of such displacement. While this review covers only a small part of the problems associated with population growth and human settlement in Africa, it is intended to help identify situational factors likely to facilitate the success of new settlements, and policy issues that need to be addressed when planning for involuntary resettlement.

Background

The issues of population movement and settlement in Africa are of continuing concern to development planners and project designers, since development policies and projects are necessarily based on assumptions concerning the size and distribution of the target population over space and time. Early attempts to promote rural development in Africa relied heavily on support for planned rural settlements with sufficient population to support the introduction of intensified agriculture and social services, accompanied by government policies to promote population concentration through a range of positive and negative incentives. Experience with such projects demonstrated that they were often ill-tuned to the realities of African social organization and economic and environmental conditions, and showed that government-led settlement projects can be both costly and counterproductive.

International development organizations have now begun to pay serious attention to the resettlement issue, especially in connection with large dams. Recent reviews of experience with resettlement conclude that there is much scope for policy action and project design to mitigate the negative impacts of resettlement programs and to create developmental opportunities for the participants.

In the past, relatively few World Bank-financed development projects in Africa have identified resettlement as an issue of importance. This does not mean that projects have not involved resettlement, but rather that the resettlement issue often has not been

Aleki Mukendi is an international economist at CoBank in Denver, Colorado. He is co-editor of Desertification Control and Renewable Resource Management in the Sahelian and Sudanian Zones of West Africa.
Involuntary Resettlement in Africa

In the history of Bank involvement with projects causing involuntary resettlement in Africa, three phases can be identified: (1) involuntary resettlement occurring as a consequence of large-scale infrastructure projects during the 1950s and 1960s, with little effort being made by donors and governments to address resettlement issues; (2) a reduction in the number of new large-scale infrastructure projects in response to the economic crisis of the 1970s and 1980s, with a corresponding reduction in the scale of involuntary resettlement, coupled with greater, though still inadequate, attention by governments and donors to resettlement issues; and (3) a rise in projects requiring...
Involuntary Resettlement in Bank-Financed Projects

Resettlement in Bank-financed projects in Africa first became an issue when the Bank became involved in financing major hydropower projects such as the Kariba Dam in Zambia and Zimbabwe, the Akosombo Dam in Ghana, and the Kainji Dam in Nigeria. These projects involved significant displacement of people (an estimated 67,000 at Kariba, 84,000 at Akosombo, and estimates ranging from 44,000 to 100,000 at Kainji). However, at this stage the Bank regarded project-related resettlement as the borrower's problem and did not take any action to assist the affected people. Independent research on the resettlement programs associated with these projects identified a number of problems, including inadequate advance planning, inappropriately designed housing, inadequate provision to meet food needs, conflicts with host populations, lack of access to productive resources, serious health problems, social disruption, loss of confidence in local political systems, and development of a "dependency" syndrome. Many of these problems can be traced to these projects' failure to involve the affected people in planning for resettlement.

Awareness of the problems that could be caused by poorly planned resettlement programs led the Bank to adopt a formal resettlement policy in 1980. This policy defined basic principles to guide Bank staff and borrowers, outlined procedures for preparing, appraising and supervising relocation schemes, and specified conditions that should be met by Bank borrowers and agencies responsible for resettlement. However, this policy was only sporadically implemented during the early 1980s, as shown by a Bank-wide review conducted in 1986. Some lessons from this early experience were incorporated in Bank technical guidelines published in 1988. A revised version of the Bank's policy was issued in June 1990 and is available to the public.

Experience with resettlement in the Africa region was first reviewed in July 1988. This review covered projects approved since 1980, which were therefore subject to the Bank's resettlement policy. It found that only seven of approximately 600 projects under supervision, or about 1 percent, were known to involve resettlement. A review of the projects in preparation, however, indicated that the number of projects involving resettlement was likely to increase, to about twenty-five projects by 1990. Projects involving resettlement were found in all sectors of Bank lending. Power projects and infrastructure projects (water, urban and transport) accounted for the largest numbers, but some agriculture and social sector projects were also found to involve resettlement. The numbers of households involved in ongoing resettlement programs ranged from 35 to 2,500, and the total number of persons to be resettled in all projects was estimated at about 50,000, based on appraisal estimates.

This review was updated in September 1990. The results reflected improved performance by Bank staff and borrowers in identifying when resettlement programs were needed and in implementing Bank guidelines for the design of such programs. This review found that 20 of the approximately 700 projects under supervision in 1990, or...
about 3 percent, had resettlement components, and that some 87,500 people could be involved. Thus, resettlement needs had grown, but not as fast as anticipated. Several large projects that would have involved substantial resettlement had been significantly delayed, if not altogether abandoned, in part because of growing concern for the project-affected population. Other projects had been redesigned to eliminate or minimize the need for resettlement.

The impact of the new Bank requirements for environmental assessment of projects appears to be mixed. On one hand, environmental assessments in some cases have revealed a need for resettlement when this had not been previously recognized by Bank and borrower staff. Thus, it can be expected that increasing attention to environmental assessment will bring increasing recognition of resettlement needs and increasing numbers of projects with resettlement components. On the other hand, environmental assessments have in some cases helped to show how projects could be sited or designed to avoid resettlement. Also, the need to comply with extensive environmental conditions, including resettlement requirements, is encouraging some borrowers to change their approach to sector policy (for example, focusing on improving energy efficiency rather than constructing new hydropower projects).

Methodology

Through a comparative analysis of the experience with involuntary resettlement under recent World Bank-financed projects in Africa, this review seeks to (a) assess the effectiveness of various approaches in ensuring the welfare of the project affected population and in controlling resettlement-related environmental degradation; (b) identify the policy and procedural issues involved; and (c) identify knowledge gaps to be filled through further study. The ultimate goal of this effort is to improve the design and implementation of resettlement operations in Africa. This paper is intended to provide a basis for further discussion among policymakers and project planners in Africa, leading to an agreed agenda for policy change, improved project design and implementation criteria, and further research on issues related to environment and settlement.

The study is based on a review of experience with twelve recently completed projects and projects under supervision, with resettlement components sufficiently advanced in implementation so that judgements can be made on their development effectiveness. It covers six recently completed projects (Ethiopia Amibara Irrigation, Burkina Faso Urban Development, Liberia Monrovia Urban Development, Nigeria Bauchi Urban Development, Mauritania Gorgol Noir Irrigation, and Cameroon First Urban). These projects were reviewed on the basis of data available in Project Completion Reports and Project Performance Audit Reports. It also includes six projects still under supervision (Ethiopia Forestry, Mali Urban II, Kenya Kiambere Hydropower, Malawi Northern Transport Corridor, Togo/Benin Nangbeto Hydropower, and Zaire/Burundi/Rwanda Ruzizi II Regional Hydroelectric Power). These projects were reviewed on the basis of data in the project files and supervision reports.
Involuntary Resettlement in Bank-Financed Projects

The study has three major limitations. First, the data base may be insufficient to generate meaningful propositions about the problem at hand. Secondly, only a few projects provide the time horizons necessary to compare the before and after relocation periods. Finally, since the study did not include field visits or interviews with project beneficiaries, it does not provide a direct measurement of the effects of resettlement policy on the people involved.

The twelve case studies assessed the consequences of resettlement in Bank-financed projects in Africa by looking at resettlement as a process. We were interested in determining when resettlement is recognized as a project-related issue, when and how governments attempt to deal with it, when external pressure appears important, and what happens when remedial action is necessary. We were also interested in determining possible trade-offs and tensions between resettlement and other development goals. Resettlement problems may stem from either a policy or an implementation failure. However, the key to a successful resettlement operation may also lie outside the realm of resettlement policy or planning. For example, a department in charge of creating or implementing resettlement policy may have a great deal of responsibility, but not much authority in political spheres, for a host of unrelated reasons.

Study Findings

The first thing we learned from this review was that it would be impossible to evaluate the impacts of resettlement, either on the affected population or on the physical environment, based on quantitative field data and quantitative analytic techniques. In many of the cases studied, resettlement was not identified as an issue until well into project implementation, and pre-project baseline data cannot be accurately reconstructed. In other cases where adequate baseline studies were conducted during project preparation, either no provision was made for monitoring and evaluation of impacts on the project affected population (much less on the physical environment), or else, in a few cases, funds intended for monitoring and evaluation were diverted to other project purposes during implementation. There seems to be a reluctance on the part of project authorities to support research that might tend to show the project as failing to achieve its objectives, or as having unanticipated negative external effects.

Implementing agencies for projects involving resettlement are well-placed to monitor the immediate effects of the project on the affected population, but are not generally well-equipped to conduct broader impact evaluations such as would be needed to study the longer-term relationships between changing settlement patterns, effects on the host population, and effects on the physical environment. Important contextual information and assistance in conducting the analysis may be required from other agencies, including ministries of planning, environment, health and social welfare, or local research institutions or universities. The most successful projects in terms of establishing a solid data base were those that utilized local consultants or cooperating agencies, rather than the implementing agency itself, to carry out monitoring and evaluation.
The second thing we learned is that project-affected populations are systematically underestimated. Planners tend to estimate the project affected population in terms of the numbers of structures that will be destroyed or damaged, applying an average number of persons per household to these structures. This leads to underestimation for the following reasons, among others:

- **Affected people include both homeowners and home occupants.** Often these are not the same people; especially in urban areas, occupants may be renters, and in rural areas, they may be employees or sharecroppers. While homeowners are entitled to compensation, the people affected by the loss of these homes often are not so entitled. Nevertheless they are entitled under Bank policy to share in project benefits, and must be considered in resettlement planning.

- **Persons with a claim to compensation may not actually live in the project area.** Often many absent relatives will have legitimate claims in an area to be acquired. Such claims become even more complicated in areas where customary land tenure systems overlap with titling procedures under civil law.

- **Families that will not lose their homes may nevertheless lose an important part of their land assets.** In some cases, this may force them to move since they can no longer sustain themselves on their remaining land. This type of impact can be significant in projects such as shallow reservoirs, road widening or construction of transmission line corridors, especially in densely populated rural areas.

- **Affected people include seasonal users of the land resource, who may not maintain homes in the area.** The most obvious case is that of nomadic pastoralists who depend on access to rivers for dry season water and grazing.

It is frequently alleged that people voluntarily migrate to areas targeted for development in the hope of benefitting from resettlement. This claim may be advanced as an excuse for postponing the involvement of the project-affected population in planning as long as possible. The consequences of this policy, however, can be the opposite of what is intended. Information, often inaccurate, may leak out, raising fears and leading to irrational actions by the people, while a favored few speculators position themselves to profit from the expected land transfer. In contrast, early information provided to the project-affected population enables them to participate in resettlement planning and to make rational choices from among the options open to them. In addition, early inventory of the resident population and their assets, combined with public notice that land is to be acquired and a freeze on land improvements and transfers, has the best chance of limiting the number of people eligible for compensation to those genuinely affected by the project, and thus helps to minimize subsequent resettlement costs.
The next thing we learned from this review was that project implementation was most successful where governments entered into dialogue with the affected population at an early stage in project design. Examples of projects that illustrate this point are the Gorgol Noir Irrigation Project in Mauritania and the Nangbeto Hydroelectric Project in Togo and Benin. In contrast, where implementing agencies failed to properly identify the affected population and plan with them to meet their needs, serious problems arose during project implementation. Examples of this type of project include the Kiambere Hydroelectric Project in Kenya and the Ruzizi II Hydroelectric Project in Zaire.

A fourth lesson concerning successful resettlement implementation is that cooperation is needed from many agencies. Such cooperation can only be accomplished with strong leadership from the project-implementing agency, combined with early involvement of other agencies in resettlement planning. A related lesson from the African experience is that line agencies (such as power authorities) may have difficulty in imposing resettlement plans on other line agencies; local or district authorities may more effectively play this coordinating role.

In the African context, one can hardly overstate the importance of political will for the successful implementation of resettlement programs. Project planners working within the context of supportive national policies aimed at protecting the welfare of the poor (as, for example, in Cameroon) have a much greater chance of success than those working in a context where the needs of the poor are not considered important (as, for example, in Burkina Faso under an earlier regime). Without strong political will, well-intentioned project designs are easily distorted to serve other purposes during implementation, as happened in the Bauchi Urban Development Project in Nigeria. Political commitment is also important in dealing with ethnic conflicts and customary land rights, especially as they may affect future relations between resettled and host populations (see, for example, the Ambara Irrigation Project in Ethiopia).

With respect to resettlement impacts on the physical environment, the record so far provides little direct evidence. Indirectly, one may infer that projects which failed to plan for resettlement probably caused more negative environmental impacts resulting from unplanned resettlement than would otherwise have been the case. This is certainly true in rural areas where people’s options are limited to resettlement within a traditional territory that has already been reduced by the project, as in the Kiambere case. Overgrazing of rangeland and shortened fallow cycles on farmland, leading to land degradation, erosion, and reduced productivity, are the inevitable consequences of such rapid increases in population density on restricted areas of land. On the other hand, where densities are low and the movement of people is relatively unconstrained, dispersed resettlement of individual households may have less of an environmental impact than a massive program of resettlement at a single site.

In urban areas, it is particularly difficult to document the results of unplanned resettlement, as the occupants of low-income areas tend to be transient and to come from a variety of ethnic backgrounds. Hence, they are less likely to move as a group to a new location. What we do know is that displaced people are likely to try to stay close to their
place of employment and to maintain their social networks in the city as much as possible. Unless specific provision is made to meet their needs, one may assume that displaced urban residents will place additional pressure on the existing housing stock, resulting in crowded and possibly unsanitary living conditions, or will construct their own precarious structures on whatever land may be available, including steep slopes, road rights-of-way, and drainage channels, to the detriment of the urban environment.

The evidence from planned resettlement programs indicates that proper planning, especially participatory planning, can mitigate the environmental impacts of resettlement and enhance living conditions for the project residents. Planning that does not take into account the needs and desires of the population may result in inappropriate housing design, lack of adequate woodfuel and water resources, and environmental pollution. In rural areas, proper analysis of soils and drainage at the resettlement site is essential, as well as consultation with the host population concerning sustainable land management practices. Particular attention needs to be paid to trees, water, and wildlife resources at the resettlement site, and to the rules under which these resources may be exploited by the relocated population.

An important issue in the sustainability of resettlement programs in rural areas is the choice of appropriate production technologies that will enable the resettled population to exploit its new environment in a sound and sustainable way. These technologies must be "appropriate" both to the skills and knowledge of the people who are expected to use them and to the environmental conditions in which they will be practiced. Thus, it is not realistic to expect that dryland pastoralists will rapidly and successfully convert to a production system based on irrigated agriculture. However, if elements of their traditional system, for example, livestock, can be retained in their new setting, there is a chance that sustainable production patterns will evolve over time out of a combination of the old and the new.

Policy Issues

The conventional view of the resettlement process starts with planning, continues through the move and reinstallation at the resettlement site, adaptation to the new environment, incorporation of the resettled population into the host population, and ends with economic and social development. Although the available information is fragmentary and incomplete, the cases examined highlight major difficulties in achieving the ultimate objective of resettlement: the sustainable economic and social development of the resettled people. In only three of the twelve projects reviewed can the resettlement component be considered a success. While the projects reviewed vary in size, nature, sectors, policy environments, and ecological impacts, many of the facts about resettlement implementation remain remarkably similar.

The cases demonstrate the importance of both adequate planning and adequate monitoring of resettlement components, for remedial actions are extremely costly and not always possible. Where the need for resettlement has been identified early in project
preparation, resettlement plans have been prepared in consultation with local authorities and community groups, and governments have supported the implementation of these plans through a positive policy and institutional context, resettlement components have on occasion been carried out successfully. In contrast, projects which fail to recognize the need for dealing with resettlement until they have reached the implementation stage are likely to encounter problems.

RECOGNITION OF RESETTLEMENT NEEDS. A common failing in the projects examined was an inadequate assessment of resettlement needs by borrowers and Bank staff at the preparation and appraisal stages. In several of the cases reviewed, no resettlement plan at all was prepared by the borrower; rather, the government simply provided assurances that it would take the necessary steps to secure land rights or resettle occupants or both. In the Malawi project, the Bank was not directly involved in the preparation and review of resettlement plans, relying on a co-financier to appraise the resettlement component. The Ethiopian government agreed at negotiations to prepare relocation plans for families affected by the forestry project, but this commitment remains unfulfilled five years after appraisal.

In some cases, the Bank failed to implement its own policy. The Kiambere Hydroelectric Project was processed without any query being raised about the project's compliance with the Bank's resettlement policy, which had been issued some years earlier. No resettlement plan was prepared by the borrower either before or after appraisal. Thus, when resettlement problems became an issue, the Bank had to rely on the implementing agency to take remedial action, although previous Bank missions had established the fact that the agency was not equipped institutionally, legally, financially or technically to develop a resettlement program. In the Zaire case, the Bank did not request that the government submit a resettlement plan because project staff believed, erroneously, that only a small part of the project area population would be affected.

Part of the implementation problem can be explained by the fact that Bank resettlement policy is often at variance with that of governments. In the cases of Togo, Benin, and Cameroon, government resettlement policy coincided with the Bank's own policy, while in Kenya and Zaire, Bank guidelines went further than the government was prepared to go. The resulting friction was bound to make project implementation more difficult.

GOVERNMENT RESPONSIBILITY. Policymakers in the countries concerned were less responsive to needs for resettlement than one might have hoped. The uncertainties and long delays in seeing the benefits from a positive resettlement policy may explain at least partially the reluctance of governments to embark on such programs. Governments may fear that a full resettlement program will overtax the country's administrative capacity and become a burden on already limited resources. In addition, project planners find it difficult to justify benefits for the project-affected population in a situation where the economic prospects are worsening for the country as a whole. The issue is one of equitable distribution of benefits from development investments, an issue to which
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policymakers in Africa are not always as committed as they might be. As with other policy issues, political commitment at the highest level is essential.

**Institutional Issues.** Even though some issues must be addressed in terms of the specific institutional and policy context of each project, administrative structure and capacity play an important part in project success. Although the cases reviewed provide no direct evidence for the hypothesis that a specialized resettlement unit is needed, they suggest that, all else being equal, the lower the number of agencies involved, the smoother will be the implementation of a resettlement program. When resettlement components cut across departmental, and even country, boundaries, they are likely to affect numerous constituencies. This increases the possibility of encountering pressure points and costs become higher. The Malawi Northern Corridor Project, involving resettlement in Tanzania in order to implement a program benefiting another country is an extreme case in point.

Successful implementation of a resettlement program calls for effective coordination between the agency in charge of resettlement and the other agencies involved, such as planning, health, education, public works, agriculture, and rural affairs. The Gorgol Noir project in Mauritania and the Nangbeto project in Togo and Benin illustrate cases where cooperation has worked effectively to ensure services to the resettled population. In contrast, the implementing agency was unable to mobilize needed support from other agencies or local authorities in the Kiambere case. Failure to recognize and support the capacity of community groups to implement project components also contributed to project failure in Liberia, whereas nongovernmental organizations (NGOs) made an important contribution to project success in Cameroon.

**Land Tenure.** Land tenure remains a major problem in the design and implementation of resettlement components in Africa. There is a key distinction between private ownership of property (the right to exclusive use) and possession of property (occupation with right to use). Legal compensation requirements generally apply to owners rather than possessors. Since possessors will be dispossessed by a project involving resettlement, Bank policy calls for mitigating measures to ensure that these individuals are not, on balance, negatively affected by the project. Bank policy does not distinguish between those who occupy land "rightfully," for instance, as owners, and those who occupy it without legal sanction.

In many African states, much or all of the land is legally owned by the government. This makes it relatively easy for governments to allocate public lands for project purposes without fully addressing the needs of current occupants or people with traditional rights to use the land. However, customary law and administrative practice in most countries also recognize traditional rights to allocate and control the use of common ("tribal") lands. The people who possess, occupy, and use such lands may or may not be the owners, and their rights and obligations are determined not only by the official legal system but also by customary rules and practices. Customary law is generally quite clear that compensation must be paid for loss of income flows as well as
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assets. Persons who occupy public land in accordance with customary law may nevertheless be seen as "squatters" from the legal point of view.

The situation is further complicated in urban areas where traditional landholders may have invested in the construction of rental housing. Often such housing contains many more families than the number of residential units would suggest. Tenants in such rental units have little protection in the case of resettlement, while absentee landowners may reap benefits without incurring any real costs. Since most urban areas in Africa do not have up-to-date cadastres or functioning systems for the recording and transfer of land titles, difficulties and delays can be expected in projects for which local authorities are required to provide urban land free of encumbrances, as illustrated in the Mali and Cameroon cases.

**Popular Participation.** The experience with community participation in planning for resettlement is most encouraging. The involvement of local people in resettlement planning was a key element in project success in Mauritania, Nangbeto (Togo/Benin), and, to a lesser extent, in Cameroon. In Ethiopia, the role played by peasant associations and other stakeholders in the policy process, that is, urban dweller associations and farmers affected by the project, was especially significant. Resettlement sites were chosen by the government in consultation with the concerned village associations. The government appointed a community development officer to establish a dialogue with peasant and urban dweller associations regarding plans for their relocation and participation in the project. However, these positive moves did not take place until popular resistance to the project (and pressure from the Bank) forced the government to take remedial action.

Because of the limited nature of the data, it is not possible to establish a firm correlation between local participation and success of the resettlement operations reviewed here. However, there is an emerging consensus in both social science and development policy that information on projects should be shared with affected people and community groups at the earliest stage of project identification, and that the active participation of beneficiaries is necessary throughout the subsequent stages of planning, design, implementation, and evaluation, in order for settlement projects to become truly sustainable. A 1985 Bank study of land settlement suggested that "a major contribution to sustainability came from the development of grassroots organizations, whereby project beneficiaries gradually assumed increasing responsibilities for project activities." The study identified the characteristics of successful grassroots organizations as having "decision-making input into project activities, a high degree of autonomy and self-reliance, a measure of beneficiary control over management ... and the continued alignment of the project activities with the needs of beneficiaries."

**Social and Environmental Impacts.** Perhaps the least understood feature of the resettlement process is its dynamic nature. During and after dam construction, for example, outsiders may seek to take advantage of the newly-created commercial and social opportunities by moving into the area. The flux of new arrivals places heavy burdens on local resources and may overwhelm existing social facilities. For example,
In Ruzizi, the arrival of project staff and construction crews, combined with expropriation of land, radically changed production and employment patterns in the affected community. Also, because of the "boom town" situation, an increase in the price of basic commodities is likely to ensue, with negative consequences for families who do not have household members employed by the project. If compensation for lost assets is long delayed, the costs of land and building materials may climb well beyond the compensation values.

Unless careful thought is given to the environmental consequences of population concentration at resettlement sites, they may only become new centers of environmental degradation. Rapid population increases place considerable stress on fuelwood supplies, which may diminish rapidly. In the absence of adequate water supply and sanitation, water pollution and health problems are likely to ensue. Agricultural production patterns must be harmonized with those of the host population and the carrying capacity of the physical environment. Planning for the provision of economic and social services must take into account the needs of the host population as well as the resettled population, in order to minimize conflicts and create a common interest in the success of the resettlement program.

Conclusion

The resettlement policy context is determined by the constituencies affected by policy and the methods used to reconcile differences between constituencies. The nature and number of vested interests, as well as the methods used to resolve their differences, vary from one project and one country to another. The number of affected parties and the extent to which they are adversely affected may be reflected in the political costs of resettlement, and perhaps, in its chance of success.

This review has identified a number of policy issues related to the successful implementation of a project involving resettlement. Some of these issues are addressed by Bank policies and guidelines, based on the lessons of experience. Where governments are not in agreement with these policies and guidelines, however, it has proved difficult, if not impossible, to implement resettlement components with satisfactory results. There is clearly a need for further policy dialogue, as well as improved planning and implementation, in order to have successful and sustainable projects involving resettlement in the future.

The lessons of resettlement experience, however, extend well beyond the limits of projects involving resettlement. They are pertinent to the design of future land settlement projects, to the handling of spontaneous rural movements and of escalating urban growth, and to the management of temporary or permanent refugee populations following outbreaks of warfare or natural disasters. They are fundamental to the future in a continent where land is increasingly less available and where the rate of growth in food production is unable to keep up with the rate of growth in population. Sustainable development in Africa in the future will depend upon major population movements,
whether voluntary or involuntary, to achieve a better balance between population density and natural resource endowments. It will require people of different cultural backgrounds to reach agreements for the joint management of natural resources and to adopt new technologies for more sustainable production to meet growing human needs in both urban and rural areas.

In order for these fundamental changes to take place, it will be necessary for governments: (1) to recognize the need for change; (2) to assume responsibility for its design and implementation and for ensuring an equitable distribution of the benefits; (3) to streamline institutions and to develop administrative capacity for the management of change processes; (4) to address issues of land tenure and the relationship of civil to customary law in land management; (5) to promote popular participation in decisionmaking as well as in the design and implementation of projects; and (6) to evaluate and mitigate the social and environmental impacts associated with the selected development strategies. The difficulty of accomplishing these objectives, especially in Africa, should not be underestimated. In all of these areas, lessons can be learned from the experience with project-related resettlement. We do not yet have the answers, but at least we should be able to ask the right questions.
NOTES


10. This part of the analysis is based on a review of project file data carried out by Aleki Mukendi, World Bank consultant.


CHAPTER 3

DISLOCATION OF SETTLLED COMMUNITIES
IN THE DEVELOPMENT PROCESS:
THE CASE OF KIAMBERE HYDROELECTRIC PROJECT

Edward K. Mburugu

In Africa, perhaps more than in any other region, a person's identity is closely tied to both land and culture. Cultural homogeneity, which includes strong elements of clan and lineage organization among Africans, tends to be found in geographical areas with varying degrees of agro-ecological potential. The social structures of rural communities in Africa constitute what can be termed "culture areas" in which social organization is conditioned by the resources of the physical environment.

Given this sociogeographical setting, units of social organization such as the family, lineage, clan, tribe, or ethnic group are also territorial units. Such territorial units along with their ecological endowments are viewed as permanent elements in the lives of individual families and communities. These families and communities also identify the land with their generations of ancestors and as the place where future generations will live. Through the folklore relating to their ecological niche, people have learned to preserve and protect certain cultural artifacts such as burial grounds, and certain elements in the habitat such as "sacred" forests, grazing areas, shrublands and "haunted" hills.

Thus, besides the social, cultural, and economic basis of identity with the ancestral land, there are strong aesthetic, sentimental and religious reasons for people to desire to remain in their place of birth. For this reason, rural developments that have the effect of dislocating people from their familiar environment should be avoided, or planned with the utmost care. Indeed, "it would be a mistake to underestimate the disruptive effects of dislocation even in projects where the size of the population affected is relatively small."1

Development-Related Problems in Africa

Development projects in rural areas that have the effect of dislocating people can take a variety of forms, including creation of dams for hydropower or irrigation, annexation of land for urban development, highway construction, and creation of ranchlands, often owned by state corporations. In particular, projects that create man-made lakes often

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1 Edward K. Mburugu is Associate Professor of Sociology at the University of Nairobi. He has carried out basic and applied research on development programs in the context of social and cultural systems. Professor Mburugu is co-author of African Perspectives on Development.
necessitate displacement of many families, and in some cases, whole communities. In Africa, the creation of dams for hydropower has often had an adverse effect on the economic basis through which communities sustain sound family life. The effect has been to remove people from their familiar and predictable environments in which the clan and family relationship carries out important social and economic obligations. These lost benefits have not successfully been replaced in the resettlement areas.

A myriad of problems was experienced by some 336,000 persons who were forcibly moved in creating Lakes Nasser (Egypt), Kariba (Zambia), Volta (Ghana), and Kainji (Nigeria). Among the problems experienced were inadequate land availability in resettlement areas, disruption of valued family relations, decline in farm production, deterioration in housing conditions, and increase in the incidence of water-borne diseases and malaria. Hardly any resettlement scheme has avoided cultural disruption and some form of social alienation.

It is a sad observation that these resettlements have proceeded in total disregard of the wishes of the people to be resettled. This has led to a lack of concern for people's welfare, reflected in a failure to restore agricultural and other employment opportunities, failure to maintain and promote education and health care, and failure to retain social and cultural identity. It has been common to place displaced people in social settings where their culture and lifestyle conflict with the values of host communities and therefore generate longstanding enmity between them. Even in the rare cases where planned resettlement has been relatively effective, the "physiological, psychological, and sociocultural stress associated with displacement implies that some people, especially the aged, will never come to terms with their new homes. For them, the transition period ends only with death."

For nearly all governments in Africa, belief in the benefits of technical progress cannot be compromised by the wishes and needs of a "few" resettlers that might "sacrifice" the achievement of greater national goals. The bias favoring technical progress through projects that displace people is so strong that resettlement issues are seen as minor side-effects, often falling under the rubric of "environmental effects." Rarely does it appear in government circles that "by its very nature, resettlement is a sociocultural/economic process that happens first to people, rather than to their physical environment." There is a general failure to recognize that resettlement "disorganizes entire human communities and breaks up long established networks, destroys productive assets, causes severe environmental effects and the loss of valuable resources," besides being associated with "increased stress (psychological and sociocultural), and heightened morbidity and mortality rates."

It has been observed that the "love of birthplace, no matter how inhospitable it may seem to strangers, is quite possibly a universal characteristic." In addition to the sentimental attachment to the place of birth, resettlement almost always results in the loss of valuable agricultural land and along with it, the loss of community wisdom that revolves around a production system within a familiar and predictable habitat.
Kenyan Experience with Involuntary Resettlement

Involuntary resettlement and related problems are not new phenomena in Kenya, given that ethnic communities (especially the Kikuyus) were displaced en masse by the colonial settlers from what came to be known as the "White Highlands" in the high potential agricultural areas of Central and Rift Valley provinces. This forced move from the land became a rallying cry for the war of independence in the early 1950s. The post-colonial period was marked by two forms of resettlement, one voluntary and the other involuntary. The voluntary form was characterized by resettlement of landless people and squatters into settlement schemes in the former "White Highlands" and in sparsely populated areas of Coast Province. Involuntary resettlement affected families and communities where land was acquired to develop irrigation schemes and dams for hydroelectric power.

In creating dams for hydropower, relatively few people were affected except in the recent case of the Kiambere project, where a larger number of families was displaced. Indeed, only 1,000 families were displaced from the areas now flooded by Masinga and Kamburu Dams, the two largest dams in Kenya. At Kiambere, an estimated 737 households with a population of 6,500 people were displaced. Consistent with the policy in Kenya, the displaced people were given cash compensation to enable them to buy land and resettle in the surrounding area, or in any other place of their choice.

Resettlement Policy in Kenya

The policy on resettlement in Kenya provides that when the government acquires privately owned land, the owners will be compensated in cash for all immovable assets on the land. The government further provides services such as roads, water, schools, health centers, security, and so on, in the areas where displaced people resettle. This is as far as the policy goes.

The policy makes three major assumptions which are not based on facts. First, it assumes that land of equivalent agro-ecological potential is always available in areas which are socially and culturally acceptable to the resettlers. Second, it assumes that cash compensation for land acquired by government represents the existing market value of the land as of the time of payment. However, this has rarely been the case, as the market value of land in Kenya has been considerably higher than the cash compensation paid for land taken by government, especially in rural areas. Third, it assumes that resettlers will act wisely and use their cash compensation to buy new land. Rarely do all the displaced people use cash compensation to invest in new land. In the case of Kiambere, only 14 percent of those compensated used the money to buy new land.

Given the impractical nature of these assumptions, there is a need to develop a more comprehensive resettlement policy in Kenya.
Kiambere Hydroelectric Project and Related Resettlement

Kiambere Hydroelectric Project, located about 110 kilometers northeast of Nairobi, was marked out for construction after a preliminary survey in 1983. The survey covered areas such as geology, soil and drainage patterns, vegetation cover, and economic activities. Conspicuously missing in the survey were the sociocultural issues that would have related to involuntary resettlement when Kiambere residents were still in the project area. These issues were ignored despite the existence of a World Bank policy governing the social issues to be resolved as a precondition for Bank-financed projects.9 No attention was paid to this policy until 1986, by which time the loan documents with the Bank had already been signed. Since the inundation of the dam area was scheduled for October 1987, there was still time to take some remedial action on resettlement issues, although resident relocation was already virtually complete.

It was then agreed that a resettlement survey be taken, although it would have been preferable if the survey could have been made before the dam area was vacated. The survey evaluated the productive base and income of the households in the resettlement areas that had been compensated for displacement from the Kiambere project area. This was done in order to assess the extent to which resettlers were able to match the living standards they had prior to relocation, or even whether they had made improvements in their standard of living.

Resettlement Survey Findings

To do this, a comparative study of resettlers and non-resettlers was made in the areas to which the displaced families had moved. The resettlers were made up of two ethnic groups, namely the Mbere and the Kamba. Each of the groups moved to areas where fellow ethnic members were residing, with Mbere resettlers moving to Embu district and the Kamba to Kitui district.

The findings of the survey point to a sad story of hardship in the process of settling down after families were displaced from the project area. Compared with the non-resettlers in their new areas, the resettlers fared rather badly on all counts. In the first place, cash compensation was too inadequate to enable resettlers to buy equivalent land in the outlying areas and thereby reactivate the farm life they were used to in the project area. In addition, the social and demographic characteristics of the resettlers did not facilitate adjustment in the new areas or enhance their income earning opportunities. For example, while the average age of resettlers was forty-eight years, it was forty-four years among the non-resettlers. Among the resettlers, only 34 percent of household heads had any form of schooling, while 51 percent of the non-resettler heads had some schooling. It was also noted that only 22 percent of the resettlers had access to wage work in agriculture, while 46 percent of the non-resettlers had this opportunity. In addition, the resettlers had a larger child dependency burden than the non-resettlers. The number of sheep and goats, the common livestock in the area, possessed by non-resettlers was more than twice the number owned by resettlers (eighty and thirty-five respectively).
It may be worth underlining some important aspects of the resettlement process in order to show that in all of them, the resettlers' life worsened. The important aspects to consider are sources of income, adequacy of cash compensation, land pressure in resettlement areas, and access to valued resources and facilities.

**Sources of Income.** When the resettlers were living in the project area, they were earning more money than the non-resettlers from the sale of agricultural produce, largely because their plots were more extensive and they could, therefore, practice shifting cultivation with greater flexibility in order to restore soil fertility. Other sources of income included the sale of livestock and livestock products, and involvement in non-farm activities such as trading, charcoal burning, and wage employment. Indeed the average annual income accruing from agricultural produce alone was Kshs. 15,893 among the resettlers before the project, while non-resettlers averaged Kshs. 11,755.

However, the move from the project area became a leap backward into poverty since income from agriculture declined to a mere Kshs. 1,775. This translates as a loss of 89 percent of the income the resettlers were getting from agriculture in the project area. The major factor in the decline of agricultural production was the much smaller farm plots in the new area relative to the large plots the resettlers possessed in the project area. It may also reflect poor soil quality in the new area relative to the project area.

**Adequacy of Cash Compensation.** The money the resettlers were paid for loss of their land in the project area could not buy equivalent land elsewhere. They were compensated at Kshs. 700 per acre when the market value in the general area was Kshs. 2,000. The few who bought land could afford only an average of 6 hectares in the new area compared with the average of 13 hectares they possessed in their former place. Obviously, the sharp reduction in the size of plots is indicative not only of high land values, but also of the inadequacy of the compensation payments to buy land in the face of other competing demands for the use of the money. These demands included payment of school fees, payment of debts, financial assistance to relatives, and purchase of livestock, among other things.

Surprisingly, only a tiny minority of the resettlers (10 percent in Embu and 18 percent in Kitui) spent their money to buy land. As noted above, part of the reason they did not buy land was the recurrent expenditure they had to meet. Also, a significant number of the resettlers spent their money on bridewealth, either marrying for the first time or marrying additional wives. Others spent the money to clear old debts incurred through marriage. Still others spent the money to buy household items or to build improved houses.

It should be noted, however, that the money the resettlers received could not be entirely accounted for by the expenses they incurred. Had they saved money for use in buying land later? It was doubtful they still had the money, despite statements from some of them to the effect that they were "saving for speculative purposes" to buy cheap land whenever and wherever it became available in the general area. More likely they had wasted the money.
LAND PRESSURE IN RESETTLEMENT AREAS. Resettlers did not move far from the project area, covering a distance of 14.4 kilometers on the average. It seems that they sought to relocate in places where they would have ready access to friends and relations who could help them in adverse social and economic situations. It was noted, for example, that the average number of friends increased from 3.8 in the project area to 4.8 in the new area. The fact that the first four of the resettler's friends had been known for at least seven years, in both the old and the new areas, suggested that the resettlers were either seeking to relocate where their friends were already settled, or decided to move together with their friends to the same area, or both.

The resettlers also moved to areas where they enjoyed the presence of a larger number of relatives than was the case in the project area. Given the smaller plot sizes in the new areas, these moves increased population density and exerted pressure on the limited land resources for both humans and animals. The tendency for displaced people to seek close contacts with people they know and trust is understandable, given the social and economic challenge of surviving in these marginally productive areas. Close proximity to, and mutual dependence on, relatives and friends would help to alleviate these problems.

ACCESS TO VALUED RESOURCES. The natural resources most valued by people in this area are pastures for livestock, fuelwood, water, and trees for building and fencing. A number of resettlers expressed concern over their inability to secure these resources as easily as they used to secure them in the project area. In particular, the availability of pasture and firewood posed problems in the new area. A number of resettlers who were relocated near the project buffer zone could no longer utilize trees or pasture in the prohibited area. Around them was a government reserve consisting of forested hills, but the resettlers were not permitted to collect firewood or to graze their livestock in this area either.

Many resettlers felt that they were not living as comfortably as they did in the project area. The most common complaint revolved around the issue of water availability. Resettlers were well aware that they were close to water sources when they lived in the project area, but in the new area they had to spend most of their time fetching water. There were cases of some resettlers covering distances of more than eight kilometers to get to water points, spending almost the entire day on this activity.

Some other facilities that are important to a well-functioning community were not easily accessible to the resettlers. These facilities included schools, shops, roads, and markets. For each of these facilities, the non-resettlers had an advantage over the resettlers in terms of accessibility. For example, the resettlers travelled an average of 10 kilometers to reach the nearest shop and 16.5 kilometers to reach the nearest market, while the non-resettlers travelled 6 kilometers and 11 kilometers respectively.

These observations lead to the conclusion that the resettlers had nothing to show as a positive gain arising from displacement from their land in the project area.
Lessons to be Learned from the Kiambere Experience

The Kiambere Resettlement Survey raises some serious social and political issues that should be considered and resolved in order to improve the planning and implementation of resettlement in future Kenyan development projects. These issues include (a) reviewing existing government laws relating to displacement and land compensation; (b) ensuring the availability of land to resettle displaced persons; (c) involving resettlers in making decisions on resettlement issues; and (d) devising ways of handling the host population.

Review of Existing Laws on Resettlement. The existing laws and regulations governing acquisition and compensation of land in Kenya need to be revised, as they were made in 1968 when conditions affecting population and land use were radically different from what they are today. In the first place, the population of Kenya in 1968 was only 10 million with a density of seventeen persons per square kilometer, whereas the estimated population of 23 million today has a density of thirty-nine persons per square kilometer. Thus, in only twenty-three years Kenya's population has increased by more than 120 percent.

Along with the population increase, the land tenure situation has changed considerably, from a near total area of trustland in 1968 to less than 40 percent of the land remaining as trustland. The remaining trustlands are found in the less habitable arid and semi-arid areas. Furthermore, land that is communally owned (by lineages or clans) is rapidly giving way to individual ownership, implying that displaced persons may not be easily absorbed by their relatives who have privatized the land.

Ensuring That Land is Made Available for Displaced Persons. It has been noted that in the Kiambere case, only a minority of the displaced people used their compensation money to buy land. This suggests that most displaced persons would not be inclined to buy land when compensated through cash payment. Cash compensation in agriculturally-oriented countries like Kenya results in impoverishing many families, especially when irresponsible heads of household fail to buy land to resettle their families. The dissatisfaction expressed by the resettlers may have been partly due to the fact that they were not further assisted (beyond cash compensation) in deciding where to resettle. At least three methods of acquiring land for resettlement could have been used, none of which would have entailed resettlers receiving cash compensation to buy land for themselves.

The first method involves resettlers who would prefer to look for land in the areas where they want to resettle and then have the government make the necessary payment. These resettlers will know the value of the land they want to buy, including the amount of money the government would be willing to pay for compensation. Resettlers should be informed that the government will not approve the purchase of land that is smaller than their former plots, unless it is determined that such land has an equivalent or greater carrying capacity.
The second method would involve the government as the negotiator for land purchased on behalf of resettlers who cannot or will not look for their own land, or fail to get the land they want after making an effort. It may be necessary to advertise for offers, detailing the size and location of plots desired. Potential sellers would indicate the prices at which they would be selling such plots, detailing the nature of assets in those plots, including any improvements they may have made. After carrying out the necessary assessment, the government would then decide whether to buy the land. It may turn out that some of the sellers would under-price or over-price their land. In such cases, fair prices should be ensured by the government, especially to sellers who may under-price their land.

The third method of acquiring land could be in the form of a settlement scheme to which resettlers could be moved en masse. This is likely to be the least favorable method, since it will largely involve resettlers who will be unable to secure land in the areas they want. Establishment of viable settlement schemes will require infrastructure development in the form of roads, water supply, health and school facilities, and so on.

Once land has been obtained for the resettlers, cash compensation should take the form of supplemental assistance to enable resettlers to buy capital inputs (such as farm implements and fertilizers) for their new land and to meet recurrent household expenditures for a specified period of time. Recurrent expenditures can include school fees and uniforms for children, health-related expenses related to travel and medical treatment in hospitals, household expenses on items such as salt, sugar, milk, soap, drugs and other simple medications, and casual labor—all of which require ready cash.

**Involving Resettlers in Decisions on Resettlement Issues.** The resettlement process should be an enabling process that eventually leaves the resettlers in control of their situation in a new environment. This sense of control and independence should be imparted to resettlers early in the resettlement cycle. Thus, resettlers should be fully informed about resettlement procedures and should also fully participate in all decisions. Their views on compensation procedures must be sought and they should also be asked to indicate any aspects that have been neglected in resettlement planning. Resettlers should be given enough time to consult among themselves and with their leaders on all these matters, in order to come up with informed decisions. Available resettlement areas should be suggested to them and their views sought on whether or not they would opt to settle in those areas.

**Devising Ways of Handling the Host Population.** Consideration of the host population in the receiving area has rarely been a matter of major concern in past resettlement programs. However, conflict and strained relations can easily result from competition between hosts and resettlers for the use of common, but scarce, resources such as water points and grazing areas. Resettlers also bring with them children who have to be accommodated in the available schools, no matter how limited in number these schools might be. Provision of social services to resettlers in the areas of health, training, and employment might also lead to conflicts, depending on the characteristics of the resettler population. Resettlers could be viewed as undesirable competitors for the
few non-farm activities such as operating "matatu" transport, running small retail shops, or hawking household wares, fuelwood or charcoal.

Since it is rare that implementing agencies find "empty lands" on which to resettle displaced families, "the risks are that population density in receiving areas will increase suddenly to levels above the carrying capacity of the land and the natural resources available to both hosts and incomers on a sustainable basis." Differential treatment in favor of resettlers through the provision of better houses and relocation allowances may arouse feelings of jealousy and generate strained relations between incomers and hosts. It is therefore necessary to accord both groups equal treatment, as far as this is practicable, especially in the provision of common services such as education, water, health, and road improvements. Such treatment will not only reduce the potential for social conflict, but will also encourage the hosts to perceive the resettlers as having brought long-lasting benefits to the community.
NOTES


The purpose of this chapter is to describe the resettlement and rural development activities envisaged under the environmental action plan for the Lesotho Highlands Water Project (LHWP). The chapter starts with a review of settlement patterns in Lesotho. The second section gives an overview of the project, background to environmental impact assessment within the project, and basic social and economic information about the project area. The third and fourth sections discuss the compensation and rural development programs of the Lesotho Highlands Development Authority (LHDA). The last section briefly reviews aspects of the implementation of the resettlement program.

Background

Lesotho is characterized by mountainous and rugged terrain. The elevation rises from 1,500 meters in the lowlands to 3,482 meters in the mountains. Eighty percent of the country is mountainous. The mountains experience a higher rainfall than the lowlands, and this region is the source of major rivers. For example, the Senqu (Orange) River originates in Lesotho and more than 55 percent of its flow into the Atlantic Ocean comes from Lesotho, although only 5 percent of the Senqu River catchment area is located in Lesotho.

Lesotho is a land of 30,350 square kilometers with a 1986 population of 1.6 million and an annual growth rate of 2.6 percent. Seventy percent of the population resides in the lowlands and 30 percent in the mountains. Fourteen percent of the total population lives in urban areas, about half in the capital town of Maseru. The economy of Lesotho is dependent on agriculture and remittances from labor migrants to South Africa. There is very little industrial development, and water is the country's main natural resource.

Lesotho’s settlement pattern has been determined by its traditional social structure and its physical environment (topography, soils, and climate). These have been influenced by population changes, contact with foreigners, and development of infrastructure. The traditional settlement pattern of Lesotho is characterized by dispersed, concentrated villages, mainly located on spurs above valleys and on rough land near cropland. In the majority of cases, villages are separated from cropland. Individual
household heads have access to parcels of land, even though all land rights are formally vested in the king. Grazing land is intermixed with cropland, except in the higher mountain zones which are mainly used for summer grazing. All grazing land is communal.

Traditionally the village is the primary organizational base for management and control of community resources. The administrative authority for villages is the chieftainship, a hierarchical but highly decentralized institution of traditional tribal leaders whose functions include control and regulation of the use of community or village resources. This involves allocation of residential land and cropland to individual households, and control of the exploitation of other natural resources, including grazing. The levels of chieftainship correspond to groupings of villages into large administrative units. At the top of the chieftainship hierarchy is the king, followed by the principal and ward chiefs, area chiefs, and various levels of subordinate chiefs, down to the headmen in charge of individual villages.

Parallel and closely linked to chieftainship is the central government. The central government is a highly centralized, hierarchical bureaucracy of professional civil servants that operates through ministries and departments. The functions of the central government are, among others, to provide services, to enact and enforce legislation and regulations, and to carry out national settlement planning. The headquarters of all central government ministries is Maseru. The next level of government is the district, then local government where most ministries and departments operate through representatives. The boundaries of (political) wards and (administrative) districts do not always coincide, but rather overlap.

Over time, villages in Lesotho have increased in size and number. The increase in size can be attributed to increasing population. However, the increase in number can be attributed to the chieftainship system of placement. Traditionally every male child of a chief, depending on seniority, is allocated his own area of jurisdiction, in which to establish his own village with his own subjects. As the number of male children has increased within the chieftainship, more villages have been established. It can be observed that the size of the village is related to the seniority level of the resident chief; the more senior the chief, the larger the village and the area of jurisdiction.

Contact with foreigners has influenced the settlement patterns in two ways. First, the colonial government (later developed into the central government) established reserves for administrative centers. These developed into trade and industrial centers, hence also employment centers and centers of urban growth. They are now considered to be the primary regional centers for settlement planning. Second, missionaries established stations which became important centers for worship, education and health care. Some of the earlier mission stations have developed to a level where they are considered to be secondary centers for settlement planning.

Lately, settlement planning is being influenced by the development of infrastructure, particularly roads. Villages served by the roads expand rapidly,
particularly those located at major intersections. These villages are now considered tertiary for settlement planning. Also, new villages are developing along the roads. Currently the growth of settlements in Lesotho is such that there is no spare land available to resettle people. Any expansion or development activities will infringe upon property or resources that belong to some individual or community.

Lesotho Highlands Water Project

The Lesotho Highlands Water Project is a scheme for storage and transfer of water and generation of hydroelectric power. The purposes of the project are to generate revenues by selling surplus water to the Republic of South Africa, to generate hydroelectric power to meet energy demands in Lesotho, and to help develop the mountain regions. As the name "Highlands" implies, the greater part of the project will be implemented in the remote, inaccessible mountains of Lesotho.

Project implementation will take place in three phases. In the current phase, a 180-meter high dam, Katse Dam, will be constructed on the Malibamatso River (a tributary of the Senqu River) high in the mountains. The full supply level of the reservoir will be 2,060 meters above sea level and the reservoir will extend 45 kilometers upstream. Katse reservoir will provide storage for water from all the other dams in later phases. A 45-kilometer transfer tunnel will be constructed to connect the Katse Dam and a hydroelectric power station at 'Muela in the foothills. A tailpond will be constructed below the hydropower station. From the tailpond, a 30-kilometer delivery tunnel will be constructed in the lowlands to deliver water to the Republic of South Africa. Construction of the dam and tunnels started in 1991 and is scheduled to be completed in 1996; construction of the hydropower station is scheduled to start in 1993 with completion in 1996.

Because of the remoteness of the area, it was first necessary to improve the infrastructure to facilitate project implementation. Infrastructure activities included construction of a road network, construction townships, and power lines. Infrastructure construction started in 1987 and is scheduled to be completed in 1992.

LHWP activities will have wide-ranging biological, physical, social, and economic impacts. The most significant direct impacts are reduction of land resources upon which the people depend for their livelihood, transport and communications barriers caused by the reservoir, relocation of some households and villages, improved access due to project roads, job opportunities in construction, and general development of the project area. It can be expected that the project impacts will increase competition for land, alter settlement patterns, and redistribute the local population.

The potential impacts of LHWP on the local population and on the physical environment were recognized at an early stage of the project. The feasibility study of 1986 examined these potential impacts in some detail. The study showed that the communities and individuals in the project area would have to find a new economic base...
for survival. The study made two important recommendations. First, measures must be taken to minimize the negative impacts and to maximize the positive impacts of the project. Second, measures must be taken to maintain the living standards of the population affected by the project.

These recommendations were legally incorporated in both the international treaty between the government of Lesotho (GOL) and the Republic of South Africa (RSA), and the order establishing the Lesotho Highlands Development Authority, an executing agency for that part of the project which is in Lesotho. A specific treaty obligation is that:

The Parties agree to take all reasonable measures to ensure that the implementation, operation and maintenance of the project are compatible with the protection of the existing quality of the environment and, in particular, shall pay due regard to the maintenance of the welfare of persons and communities immediately affected by the Project. (LHWP Treaty, 1986, Article 7, para. 18)

An environment division was established within LHDA early in the implementation of the LHWP. The mandate of this division is to minimize the negative impacts and maximize the positive impacts of the project on the local population and the environment. As part of the detailed design for the first phase, the environment division commissioned and undertook a number of biological, physical, social, and economic studies. The purpose of these studies was to provide detailed information to be used in developing programs that will enable the local population and the environment to absorb the negative impacts and exploit the opportunities created by the project. These programs are the compensation plan, the rural development plan, and the natural environment and heritage plan. These plans are interlinked and together they constitute the environmental action plan for the project.

Throughout this environmental assessment process, a series of public meetings (pitsos) were held in the project areas to solicit the views and opinions of the people on possible mitigation programs. In order to have more public participation in the project, LHDA has also instituted various committees. Examples are the compensation advisory committee (see below, LHWP Compensation), the SDA management committee (see Resettlement in Phase IA), and the liaison committee. The liaison committee is composed of representatives of various government ministries, parastatal organizations, and nongovernmental organizations. The duties of this committee include coordinating LHDA activities with those of other sectors and facilitating implementation of LHDA activities.

Table 5-1 gives a summary of the social and economic information about the project areas. LHDA conducted the first socioeconomic census in 1988. While project activities will also have impacts in other areas, the focus of the census and subsequent studies is on Katse local catchment (influence area of Katse Dam), and 'Muela (influence area of the hydropower station). A local catchment is defined as the area draining

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laterally into the reservoir, excluding the area upstream at the top end of the reservoir.

As Table 5-1 shows, the project areas are fully settled with different traditional local administrative authorities. As in the rest of Lesotho, a substantial proportion of households has members, mainly males, working in South Africa. About one-fourth of the households are headed by females who are widowed and old. The economy is mixed, with migrant remittances providing the main source of cash income, and agriculture as the principal source of subsistence for a majority of households.

LHWP Compensation

From the start, it was realized that the project would affect both individual and community property. In line with the requirements of the treaty and the order, it was necessary to find a means of compensation. This was critical because, at the time, there was no adequate compensation legislation in Lesotho regarding acquisition of property for public purposes. The first step in the design of the compensation program was therefore the development of appropriate compensation legislation. To this end, LHDA, with government assistance, established a consultative advisory group on land acquisition and compensation. This group included senior LHDA and government officers and principal chiefs. Members of the group were:

- Environment Division Manager (LHDA - Chairman)
- Social Development Officer (LHDA - Secretary)
- Public Relations Manager (LHDA)
- Senior Rural Development Advisor (LHDA)
- Conservation Officer (LHDA)
- Attorney General (GOL, Law and Justice)
- Commissioner of Lands (GOL, Interior)
- Chief Lands Officer (GOL, Interior)
- Senior Physical Planner (GOL, Interior)
- Principal Chief of Matsieng (Chieftainship)
- Principal Chief of Kweneng (Chieftainship)

This group held a series of private as well as public meetings in the project areas. In the first round of public meetings the group informed the public about the project, its impacts, and implications for the local population. Participants in these meetings were asked to consolidate their ideas about the means by which they would like to be compensated for the properties they would lose to the project. After an interval, the group returned to hold another round of public meetings. In these meetings the public was once more informed about the project and its impacts. This time the participants were asked to give their views on the means by which they would like to be compensated. Individual opinions ranged from cash payment in a lump sum to a pension fund, and from employment opportunities to payment in kind. In some cases there were written comments from the local chiefs.
Another way to determine popular opinion on compensation was by means of a formal questionnaire. In the LHDA socioeconomic census of 1988, one question concerned the respondent’s opinion on compensation for lost property. The highest proportion of respondents, 68 percent, said they preferred an annuity in kind.

The advisory group further held several internal meetings to review and advise on the compensation policy. The policy was drafted and finalized by LHDA, and approved and gazetted by the government with certain amendments. From the compensation policy, LHDA drew out a set of compensation regulations which was also gazetted. The LHDA compensation policy and regulations form the first extensive legislation on the subject of compensation in Lesotho. Currently, these apply to LHWP activities only. This policy has served as a guide in formulating the compensation plan.

The guiding principles of the compensation policy state that the project will replace directly, wherever feasible, those losses that individuals and communities suffer as a result of project activities and that all compensation will, as far as possible, be in kind. This decision was based on experience that cash payments leave the affected people worse off. It is therefore the responsibility of LHDA to identify all losses and those suffering the loss, to assess the replacement cost of each lost asset, and to find means of replacing the property.

The plan provides direct compensation for:

**ARABLE LAND.** Households that lose 1000 square meters (0.1 hectare) or more are given an equivalent amount of maize at a rate of 1000 kilograms per hectare per year to replace the lost harvest, for a period of fifteen years. The program started in 1988. Currently, LHDA is considering including pulses in order to improve the diet of the affected individuals. For land less than 1000 square meters, and gardens, the affected households are given a single cash payment. This program began in 1989.

**OTHER PROPERTY,** including houses, kraals, trees, fences, and any other improvements, is physically replaced by LHDA. In the case of houses, since 1988 LHDA has paid for new house construction. Replacement is based on the internal floor area of the house. The households secure alternative sites (allocated by the village chief, and usually only a few meters away from the structure to be replaced), choose the shape of the house they want (round or rectangular) and the roofing material (thatch or corrugated iron). For trees, LHDA purchases and gives five seedlings of a similar type for each tree affected; this program started in 1991 on a pilot basis. Fences are replaced with similar fencing material. LHDA pays for the cost of labor to reconstruct kraals using the original materials (stones), and any other costs associated with the inconvenience suffered.

**GRAZING LAND AND RANGE RESOURCES.** As these are communal property, LHDA will compensate the affected communities by providing fodder for a period of five years at the rate of 560 kilograms per hectare per year. The distribution of fodder among families in the village will be decided by local grazing associations.
BUSINESS AND GOVERNMENT PROPERTY are compensated by cash payment based on the replacement value of the property. Valuation is commonly done by the government valuer, and property owners have the right to nominate their own valuers. An additional goodwill payment is made for loss of business.

As part of its public awareness programs, LHDA staff, together with the consultative advisory group, held meetings to inform the public about the approved version of the compensation policy and regulations. Besides these public meetings, radio programs were broadcast and pamphlets, written in Sesotho and outlining the compensation policy, were produced and distributed to the public in the project areas.

Projected property acquisition by LHDA presently includes 1,010 hectares of arable land, 3,308 hectares of grazing land, 34 hectares of woodlands, 189 houses, 3 government premises, 3 business properties, 528 fruit trees and 1928 other trees. The projected total compensation budget to 1996 is maloti 24.1 million (about US$9.3 million) in 1989 prices.

Rural Development

Direct compensation for loss of income and assets as described above is short-term and specific to affected households. However, the impacts of LHWP go beyond individual households and will be long-term in nature. Long-term compensation will be provided in the form of rural development programs designed to enable the affected communities to regain their economic productivity. The concept of compensation with development has been recently advanced by the World Bank, in response to the realization that unless specific measures aimed at developing and diversifying their economies on a sustainable basis are implemented, impacted communities are often left worse off than they were at the time of disturbance.

In the case of Lesotho, this requirement is critical as the impacted communities have primarily rural, land-based economies at present. The amount of available land will be reduced and the project infrastructure will create more pressure on the remaining resources. Without any access to additional land, the only option is to implement a diversified rural development program that includes training in economic enterprises as well as improved agriculture and other technologies.

LHDA's rural development programs include:

PRODUCTION. The aim is to increase productivity of the remaining land resources by intensifying extension programs and supply of inputs. Specific programs include crops and fodder production, horticulture, range and livestock management, community forestry, and fisheries. The livestock program is interesting in that it provides for reducing the livestock population (and hence pressure on grazing land) while increasing productivity. Based on Ministry of Agriculture experience, LHDA is proposing a
livestock exchange in which owners are given two good quality stock in exchange for three poor quality stock.

**Dialogue and Training.** The aim is to involve people in the identification, planning, and implementation of suitable projects. Specific programs include: (a) land use planning with the people, in which communities, through their leaders, will be helped to develop land use classifications for their areas and suitable production patterns for each land class; (b) a rural training program to provide individuals with skills such as literacy and numeracy, business and entrepreneurial development and handicrafts, so that they can diversify their income away from traditional agriculture; (c) income generation outside Katse and 'Muela areas involving a one-time transfer of capital to individuals losing property outside the main working areas of LHWP. Participants will be encouraged to identify and implement a project that suits individual circumstances and localities.

**Infrastructure.** The aim is to improve the availability of services to the communities. Specific programs include rural electrification, rural roads, cross-reservoir transport, water supply and sanitation, and settlement planning. There is also a special program of community construction, targeted at the areas adjacent to the main structures or within the working areas that will bear the highest impact from construction activities. These are: Ha Mensel, adjacent to the dam and construction township; Ha Lejone, adjacent to the tunnel contractor's site establishment and a gateway to the project area; and Botha Bothe township, developed by LHDA for construction workers in the northern working sites. Special efforts will be made to provide proper infrastructure to accommodate the expected "boom town" growth, and to provide the needed social services in these areas.

**Tourism Development.** This program is conceived to take advantage of the tourism potential of the project. Areas will be reserved and developed for tourism purposes, which will also generate local employment. This program is being developed with the conservation program and visitor information center program of the natural environment and heritage plan.

Some of these rural development programs will be implemented directly by LHDA; others will be implemented through government departments, parastatals, and private contractors. The rural development program has been late in starting, but is scheduled to commence in 1992. The projected total budget for the rural development programs up to the year 2001 is maloti 124 million ($47.9 million) in 1989 prices.

**Resettlement in Phase IA**

Project resettlement activities are linked to both the compensation and rural development plans. In the compensation plan, a household that loses residential property to the project is compensated directly. The rural development plan provides for land use planning, including the location and development of villages, and for reconstruction of the local economy.
As part of the compensation package, resettlement in Phase I A is comparatively small. A majority of the households to be resettled are those that are affected by infrastructure activities. In most cases they have been relocated in the same village and in some cases in the same yard. Recent information on the relocation of villages indicates that only four villages will have to be relocated. All of these villages have less than ten households each. Only one village is actually located below the full supply level of the reservoir; the other three are located too close to the full supply level on steep slopes. In all cases, their relocation will involve movement within the same jurisdiction and under the same headman. Current projections show that a total of 189 houses involving 60 households will have to be replaced.

Households or institutions that are relocated to new sites must negotiate with the local land allocation authority. LHDA assists where needed. So far, no major problems have been encountered. Only one owner of a business complex has opted to go out of business because he could not find a suitable location for doing business.

The greater part of the resettlement program falls within the rural development package. Implementation of this package depends on legislation enacted by the central government and the availability of funds to develop the infrastructure. None of the rural development programs has started yet, although much of the planning is complete.

As part of planning the construction aspects of LHWP, environmental considerations such as settlement planning, were taken into consideration. Common engineering practice locates construction camps at each worksite, and there are nine worksites in the project area. However, for social and environmental reasons LHDA decided to reduce the number of construction camps and to locate them in areas that could more easily absorb the expected impacts. It was also decided that the design of these construction camps should blend with the future development of the affected communities. The most notable example is Botha Bothe township, which serves five main worksites for tunnel and power plant construction.

As part of implementing the settlement planning program, LHDA has formed a selected development area committee in partnership with the local land allocation committees of villages adjacent to the dam site. In this partnership LHDA advises and makes plans for expansion of adjacent villages. These plans take into account formal settlements, informal settlements, business area development, and development of infrastructure, including roads, water supply and sanitation.

Although much planning has been done to control resettlement, the public response to the project has exceeded the planning forecasts. The project has indeed brought new opportunities. For instance, people from outside the project area have established new businesses and sought employment in the project area. This has led to an influx of new residents who have influenced local settlement patterns in various ways.

Entrepreneurs in the formal sector have negotiated with local land allocation authorities for residential and business sites. The classic example is one village where
eighteen shops have been established in twelve months, with more on the way. Entrepreneurs in the informal sector have rented space from local residents to erect "shacks." Job seekers rent houses. Renting of houses around the major worksites is a "mountain innovation." Tenants pay for sleeping space, not for a house. It is thus common to find up to six unrelated people of different sexes in a single house. In some cases, tenants have rented stables as houses. All these lead to overcrowding within the village and inside the houses.

Conclusions

The approach to planning for the environmental and social impacts of the Lesotho Highlands Water Project described in this chapter illustrates how legal provisions, combined with good environmental management, can provide the basis for design of effective mitigation programs. Direct compensation for lost income and assets provides immediate comfort and confidence to recipients, and allows for the detailed design and implementation of rural development programs aimed at long-term, sustainable compensation.

This chapter has attempted to show the physical, social, institutional, financial, and economic constraints specific to Lesotho that influence the planning and implementation of mitigation programs. However, public response may make most of the plans obsolete. Currently, the influx of population into the project area has become a bureaucratic headache, and it may cause local frustration if the plans are not implemented soon. The reason for this influx of population may be found in the fact that two independent institutions are responsible for land management, the decentralized traditional chieftainship and the centralized state government. Nevertheless, it is hoped that the adopted approach will prove to be appropriate and beneficial to the communities that have suffered losses due to the implementation of the first phase of the project, and that the lessons learned during this phase will be useful for the planning of future phases.
<table>
<thead>
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Source: 1988 socioeconomic census, LHDA.
REFERENCES


NOTE

PROJECT NYLON

**HISTORY.** What has become known as the "Nylon zone" of Douala is a vast peripheral area of spontaneous settlement, located about 5 kilometers from the city center. To the south, it backs onto the Douala-Yaounde highway; to the north, it joins the new industrial zone; to the west it follows the airport road; and to the east, it is bounded by the future 8-kilometer ringroad. Thus defined, the zone covers an area of 700 hectares and presently houses nearly 250,000 people — more than the third-largest city in the
country. Since 1956 the zone has been declared unhealthy and unfit for construction. In 1956, the master plan for the city confirmed that no new construction should be undertaken there, since it was made up of permanently flooded swampy lowlands broken by a few low hills.

However, from the late 1950s, people, particularly those who had been displaced from the nearby New-Bell neighborhood, began to occupy the site. Through hand labor they carried out major works to fill the regularly flooded areas, to build roads, and to dig drains. Despite these efforts, the floods continued, the road network remained insufficient, and the public areas became too small to serve the growing population.

At the end of the 1960s, faced with increasing population pressure, the need for organized action became clear. The lack of potable water, the constant flooding, the lack of roads, and the general insecurity of the situation obliged the people to face the challenge together. Thus, in July 1971, the first local organization was created in Nylon, in the form of a resident committee which was charged with (a) reorganizing the area by subdividing it into sectors, blocks, and lots, with leaders for each; (b) planning area improvements based on the use of local labor to build roads, clear drains, and construct small bridges; (c) planning for the resettlement of people who would have to move in order for these works to be carried out; and (d) improving security by carrying out a census of the permanent inhabitants and mobilizing the population in groups by blocks and lots.

Between 1971 and 1975 the area was given de facto recognition as part of the city. Water standpipes were installed, a real road was built, and administrative services began to be provided. In the 1980s, the government decided to integrate the "Nylon area," previously considered as marginal, into the fabric of the city, and to complement the efforts of the people by strengthening infrastructure and services in the area. At that time the site sheltered approximately 180,000 people.

A feasibility study carried out by consultants Halcrow Fox led to the identification of the First Urban Development Project, whose principal component was the development and restructuring of the "Nylon area." Planned activities which were not completed in the course of this project were included in the Second Urban Development Project, financed by World Bank Loan 2999-CM. The responsibility for implementing Project Nylon was assigned to the Urban and Rural Land Development Authority (Mission d'Aménagement et d'Equipement des Terrains Urbains et Ruraux - MAETUR), a parastatal attached to the Ministry of Housing and Urban Development. In 1981, MAETUR established a special unit for the project, called the Nylon Development and Restructuring Agency (Agence de Réstructuration et d'Aménagement de Nylon - ARAN).

**PROJECT OBJECTIVES.** The project was conceived as a pilot operation for the development and restructuring of urban areas of spontaneous settlement. The objectives of Project Nylon included upgrading the local infrastructure and services to acceptable levels, restructuring and regularizing land tenure, and building an institutional base to
carry out similar programs in other areas of Cameroon.

The principles governing these objectives were (a) to maintain as many families as possible in the area; (b) rehouse the displaced families; and (c) recover costs from the beneficiaries, in order to ensure the replicability of the restructuring operation.

**PROJECT COMPONENTS.** The project is a complex operation, integrating:

- **Basic infrastructure,** including the construction of primary and secondary roads serving the twelve neighborhoods that constitute the "Nylon area," and linking them to the urban road network in accordance with the Douala master plan. Other infrastructure elements consist of construction, cleaning, and reshaping of drains; and installation of primary water supply, electricity, and street lighting networks.

- **Neighborhood rehabilitation** through the restructuring of a pilot neighborhood of 60 hectares, housing about 20,000 people. This consists of building secondary and tertiary roads and footpaths, providing electricity and water, and redefining plot boundaries in order to establish units of an acceptable shape and size in accordance with urban regulations. This operation should later permit residents to obtain title to their land.

- **Development of the resettlement area.**

- **Project support activities** such as studies and consultancies, housing credit, building renovation, self-help housing assistance, support for construction enterprises and craftsmen, community projects, savings programs, and creation of financial mechanisms integrating the informal sector into the urban economy.

- **Technical assistance, supervision and monitoring of construction.**

- **Recurrent costs of the implementing agency.**

To facilitate the execution of the project, the government of Cameroon entered into technical and financial cooperation agreements in 1983 and 1989 with the World Bank and in 1984 and 1987 with Switzerland.

**ACCOMPLISHMENTS.** Among the achievements of MAETUR-ARAN, we may note:

- **Basic infrastructure,** including 13 kilometers of roads, fifteen water crossings, 10 kilometers of drains, and the partial completion of primary water and electricity networks.
Complete restructuring of a 60-hectare neighborhood.

Preparation for the restructuring of the other neighborhoods.

Demarcation of lots in resettlement areas (Dibom II: 923 lots; Ndogpassi III/1: 1,041 lots; Ndogpassi III/2, lot 1 (400 plots) and lot 3 (1,100 plots)).

Construction of the Madagascar market (17,200 square meters, covered) with space for 1,500 traders, as well as five other social infrastructures: Dibom II social center, Dibom II health center, Ndogpassi primary school, Bilongue primary school, and Soboum health center.

Strengthening and expansion of the Nylon People's Savings Bank.

Planning and execution of communal work programs, including drain clearing and construction, and installation of culverts.

Construction assistance, such as providing help with administrative procedures (building permits, land titles), help with the design of model homes, and technical advice on renovation.

To complete Project Nylon, however, more remains to be accomplished. Roads serving four of the twelve neighborhoods in the area must be built, drains must be recalibrated and treated, primary networks for water and electricity set up, and inter-urban boulevards completed. Upgrading and redefinition of plots in eleven neighborhoods must take place. Social infrastructure remains to be built, including schools, playgrounds, and community centers. In terms of resettling and accommodating families by the Second Urban Project, development of the resettlement areas must continue.

Treatment of Displaced People

*NUMBERS DISPLACED.* ARAN, the executing agency for the project, is responsible for resettling not only the people displaced from the Nylon area, but also for all those displaced by the infrastructure works financed by the Second Urban Development Project in Douala. Four factors work together to cause population displacement: (a) acquisition of rights-of-way for the construction of roads and drains; (b) acquisition of land for resettlement areas; (c) acquisition of sites for social infrastructure; and (d) redefinition of plots in the restructured zones, in accordance with the norms for size and shape.

The number of displaced people is estimated to be 7,814 families, of which 6,814 will come from the Nylon area and about another 1,000 from other parts of the city. About 4,782 families have been displaced by basic infrastructure (3,782 in Nylon and 1,000 elsewhere), 738 by social infrastructure, 425 in the resettlement areas, and 1,869
as a result of restructuring (all in Nylon). Among these 7,814 families, 3,700 have been effectively displaced by now, mainly due to the construction of basic infrastructure in the Nylon area.

**Household Profile.** As is generally the case in spontaneous settlement areas, the large majority of Nylon residents are among the poorest people in the city. A baseline study of household income in the area showed that 55 percent of these families are below the poverty line, estimated at 40,000 FCFA per month (about US$160), while the proportion is only 25 percent for the city of Douala as a whole. Apart from the 40 percent of the population which has regular wage employment, the residents of Nylon have irregular income based on craftsmanship and community businesses, when they are not actually unemployed.

**Land Tenure.** The land tenure laws of Cameroon, set forth in the ordinances of 1974, define the lands under private property rights either as registered and titled lands or "freehold lands." Lands in the second category should have been declared immediately to the administration in order for titles to be issued.

With the exception of some ten properties which had land title, the Nylon area was occupied in an irregular fashion. The state did not consider the occupants as land owners. In addition, the area had been declared unfit for construction in 1906 under the German regime and later in 1959 by the "Dorian" plan. Thus the housing and other construction undertaken in Nylon was carried out in violation of the rules governing urban development. Finally, the quality of construction is generally poor and would not meet normal safety standards. Given the irregular nature of land occupation, the substandard level of site improvements, and the dilapidated and dangerous housing, the residents of the Nylon area had no legal right to compensation when their land was expropriated for public purposes.

**Principles for the Treatment of Displaced People.** The following principles have been applied in dealing with the 3,000 families displaced from Nylon so far:

- The right to rehousing. Everyone displaced in the context of Project Nylon must be given a plot of land on which to build another home.
- Rehousing must be permanent. Consequently, the new site must have an acceptable level of services. At a minimum, the level of service must be equal to the level which prevailed at the original site.
- Cost recovery. In order to assure replicability, beneficiaries must make a financial contribution corresponding to the cost of site development, not including the cost of land acquisition, primary networks and social infrastructure.

**Resettlement Areas.** To resettle the families displaced from Nylon and the Second Urban Development Project, the state placed three sites at the disposition of
MAETUR-ARAN: Dibom II, Ndogpassi III, and Nkolbong.

**Dibom II.** Located at the southwestern corner of the Nylon zone, along the Douala-Yaounde highway, the Dibom II resettlement area has an area of about 43 hectares and includes 923 plots with an average area of 200 square meters. The plots are served by unpaved 8-meter wide roads on a 10-meter embankment. Foundations are built of a compacted mixture of volcanic gravel and sandy clay, with drainage provided by concrete faced drains. Each plot is individually linked to the water supply network and has a septic tank which can be emptied.

Dibom II also includes the following social infrastructure: a primary school with twenty-four classrooms, four water standpipes, street lighting, a health center, a social center, and a small market (still under construction). This housing development was handed over to the residents in 1984.

**Ndogpassi III.** The Ndogpassi area is located north of the Douala-Yaounde highway, and extends over 220 hectares. Because of its size, the development of this area was planned in two phases. The first phase includes 1,041 plots with areas ranging from 150 to 300 square meters. The level of service is slightly higher than that provided in Dibom II, since some roads will be fully paved. Social infrastructure that has already been built includes a primary school with twenty classrooms, a secondary school, and a community center. The second phase will include five areas of which two will be used for resettlement. This will provide approximately 1,500 plots which are now under development.

The number and variety of social infrastructures planned for Ndogpassi give it the status of a new city: four primary schools, three secondary schools, an administrative center, a sociocultural center, a market, and a sports complex. The development of Ndogpassi is part of a broader strategy intended to integrate the resettlement areas into larger areas undergoing the normal processes of urbanization, corresponding to the average standard of the city of Douala. For this reason, in addition to the resettlement areas, significant amounts of land have been reserved for high-income housing, for public services, and for commercial activities.

**Nkolbong.** Located about 10 kilometers along the highway towards Yaounde, the Nkolbong resettlement area extends over 236 hectares. Site improvement works have not yet started there. The area will be linked to the city by the 10-kilometer ringroad and the eastern urban boulevard crossing the Ndogpassi resettlement area and the Nylon area. Site development operations include demarcation of about 4,000 plots and construction of facilities foreseen in the East Douala local master plan such as municipal administration, post office, schools, hospital, various social services, and commercial activities.

**Household capacity for cost recovery.** In accordance with the project objectives, resettlement plots are made available at servicing cost. For an average plot with an area of 200 square meters, the price varies between 510,000 and 1,000,000.
FCFA ($2,000-$4,000). Since the purpose of the operation is to provide replacement housing, the family must also absorb the cost of constructing a house. The minimum cost of an acceptable house is a little less than 2 million FCFA ($8,000). Furthermore, since the time allowed for moving from one site to the other is relatively short -- three to six months, according to the law -- the displaced families are faced with a very large financial need. This need is even more difficult to meet given that the family receives no financial compensation for the structures it must leave behind at the old site. And finally, low levels of household income and the informal nature of economic activities mean that most families are not eligible for bank loans.

**Support Measures.** A number of supporting measures have been included in the project to assist in the resettlement of displaced people, both in the legal acquisition of rights to plots and in the administrative procedures related to home building. These measures include credit, construction assistance, and administrative assistance.

*Credit.* In selling the resettlement plots, the principle applied until now has been that payment must be made in full before plot development starts. The period of payment was initially fixed at four months, judged to be sufficient time for a family to obtain a loan from the Housing Bank of Cameroon. In view of the genuine difficulties of families in obtaining loans, however, the payment period has been extended to eighteen months. At the same time, purchasers have been permitted to start construction under specified conditions once more than half of the plot purchase price has been paid.

The two principal factors hindering the mobilization of funds are the lack of available funds in the banking system and the ineligibility of displaced households for normal bank loans. In order to overcome these obstacles, the financing agreements for Project Nylon included the establishment of a special line of credit for housing finance in the Housing Bank of Cameroon. Neighborhood committees in Nylon promoted the development of informal savings and loan associations ("tontines habitat") at the local level. The project authority negotiated with the Housing Bank to provide credit on more flexible terms. Finally, studies were undertaken to identify intermediary structures that could provide linkages between the classical banking system and the informal sector. For example, the People's Savings Bank of Nylon, which is being revitalized, could guarantee loans made to individuals or to tontine groups.

*Construction assistance.* ARAN provides interested persons with a range of designs and technical specifications for low-cost housing approved by the municipality of Douala. The designs are different combinations of completeness (from shell housing to a fully finished house), size (two to six rooms) and materials (ranging from wooden boards to cement blocks).

The purchasers also receive technical assistance during construction from a team which is responsible for ensuring that buildings are correctly sited and that construction is properly carried out. The purchasers of lots in Dibom II and Ndogpassi were assisted by the nongovernmental organization Architectes sans Frontieres. In addition to this technical assistance, ARAN has carried out some site improvements directly, including
the installation of septic tanks at Dibom II, and an experiment with prefabricated housing at Ndogassi.

**Administrative assistance.** To improve efficiency, administrative procedures relating to building permits, loan applications, and land titling are handled by the agency, which has a special relationship with the institutions concerned.

**Results.** After the first resettlement operation, among the results recorded by July 1990 were (a) 3,702 households displaced; (b) 2,063 resettlement plots made available; (c) 1,385 plots sold; (d) 1,042 plots fully developed; and (e) 90 plots with ongoing construction.

In theory, the resettlement areas should have been available before people were actually displaced by the project. In practice, this did not happen, resulting in a deficit of about 1,700 plots. This was due primarily to the initial design of the project, which separated the financing of the project works in Nylon from the financing of the resettlement areas. World Bank financing and government counterpart funds were earmarked for works in Nylon itself, while the government of Cameroon was fully responsible for the development of the resettlement areas. The economic crisis which prevented the state from meeting its commitments on time therefore had a more marked effect on the resettlement component.

With respect to housing credit, the initial assumptions of the project were too optimistic. The Cameroon Housing Bank was not able to provide the amount of funds needed. The People’s Savings Bank of Nylon and the "tontines habitats" have not yet developed a significant financial capacity. In addition, the economic crisis also affected the incomes of the target population. Even excluding a number of families which deliberately chose other resettlement solutions, many families have had to adopt temporary solutions while waiting for permanent resettlement.

In view of this somewhat dramatic situation, the government of Cameroon developed a new strategy in July 1990, aiming to provide a more satisfactory solution to the problems of displaced households, while taking into account the conditions of the new economic environment.

**New Proposals**

**Principles.** The new approach to the resettlement of households displaced from the Nylon area and under the Second Urban Development Project is based on the following principles:

- All displaced households must be compensated. Compensation covers all property improvements, whether on privately owned land or national lands.
• All displaced households must have the opportunity to obtain a plot in a resettlement area if they wish.

• Compensation payments and resettlement plots must be available before households are forced to leave their homes.

• Resettlement costs must be paid by the beneficiaries. However, plot costs and methods of payment must be compatible with household income levels.

**Ndogpassi Operations.** Based on these principles, and in accordance with Bank policy stipulating that projects involving land acquisition must now include resettlement plans, financing for the resettlement of families displaced from Nylon and other parts of the city under the Second Urban Development Project has been included in the current Loan Agreement no. 2999-CM. This loan finances, among other things, the servicing of plots reserved for the urgent resettlement of 1,500 families, including 1,200 families displaced from Nylon which have not yet been resettled, and 300 families that will be displaced under the project.

In order to expand the range of options, different levels of site servicing will be offered to purchasers. Minimal service will available to 23 percent of the lots, while 47 percent will have an intermediate service level, and 30 percent will be fully serviced. The shares of different plot types offered correspond to the distribution of household income levels. For the poorest households, plots have been reserved for which development costs will be subsidized by the state.

Finally, the methods of payment and of site development have been made more flexible. Thus, plots can now be purchased over five years (sixty monthly payments) by households which did not receive any compensation payment, and over three years (thirty-six monthly payments) by households which have received compensation. The minimum payment before plot development can begin has been reduced to 20 percent of the purchase price, and even 10 percent in the case of the poorest households.

**Conclusion**

The success of resettlement programs for households displaced by urban projects depends on an understanding of the principal factors involved:

• The relatively large number of families to be displaced.

• The low levels of income and consequently the limited capacity of these households to contribute to project costs, as well as their eligibility for conventional credit.
The nature of urban occupation which does not generally give them the status of landowners in the legal sense, and thus does not entitle them to compensation if they are displaced.

Project scheduling which must give priority to the preparation of resettlement areas in advance of displacement.

The treatment of displaced people should not be considered a temporary act of charity. In fact, these people constitute an important part of the urban population, and should not be left in a marginal position. On the contrary, their rights as citizens of the city should be fully recognized. This means that they should be treated as beneficiaries of urban projects, in the same way as the people who are able to remain in the redeveloped areas.
Chapter 6

Involuntary Relocation in Urban Areas of Mozambique

Francisco Pereira

Until independence in 1975, the cities of Mozambique were built in the pattern of many African cities in the post-colonial period: a nucleus well-endowed with urban infrastructure and sound buildings where most of the colonialists lived, and shanty towns on the periphery, lacking infrastructure and characterized by spontaneous growth, intended for the local population. The control of population growth in the urban centers, and in particular the occupation of the urbanized zone, was based on discrimination, with the objective of assuring a low density of population and a high quality of infrastructure and municipal services in that zone.

After 1975, with the natural elimination of such barriers to access to the urban centers, urban growth increased rapidly to more than 8 percent per year. There was a veritable race to the cities where the signs of change were most evident, where better employment opportunities could be found, and where people could benefit from a stronger economy. Insecurity created by prolonged and intensified warfare in the rural areas greatly accelerated this trend, resulting in recent years in a steady increase in the uncontrolled migration of so-called displaced persons towards the cities. The city of Maputo, for example, which in 1975 had a population on the order of 400,000, today has around 2 million inhabitants. In just fifteen years, the city’s population has increased by 500 percent without any major new investments in housing stock or urban infrastructure.

This growth was accompanied by a drastic reduction in the management capacity and control of municipal institutions, due to the massive exodus of foreign technicians. This created the conditions for overcrowded occupation of the existing buildings and a growing spontaneous occupation of urban land. Today the city of Maputo does not have a single urban architect dealing with the problems of urban land use control. Such control can only be exercised indirectly through some techniques of physical planning.

Nationalization and Its Consequences

Along with this growing imbalance between the size of the urban population and the reduced management capacity of urban institutions, two political decisions taken in 1975 and in 1979 significantly affected urban development in Mozambique: nationalization of

Francisco Pereira, a civil engineer, served as General Director for Roads and for Economy and Construction in the Ministry of Public Works in Mozambique. He is currently Project Coordinator for the housing component of an urban rehabilitation project in Mozambique.
the land, and nationalization of privately-owned buildings providing rental housing. These two measures provoked a total collapse of the private construction industry which suddenly came under state control. Although this was not the intention, the state became the sole agent for planning and carrying out housing and infrastructure investments, with responsibility for the management of more than 70,000 houses, all the urban and rural land in the country, and all of the construction and infrastructure enterprises.

With nationalization, the state approved a land law affirming that urban land could be used for residential purposes free of charge, and a rent control law that established house rents in relation to the income of the occupants. For the management and maintenance of its large housing stock, the state created in 1977 an agency called the State Housing Administration (Administração do Parque Imobiliario do Estado - APIE) which still exists today.

As a consequence of these two measures, the supply of nationalized land passed rapidly out of state control and into the hands of individuals, since there was no restriction on demand for plots for housing construction. A simple written request sufficed to obtain a plot. Many of these plots allocated more than ten years ago still have no construction today because the owners only acquired them as a possible future source of income.

Given that rental charges were only determined on the basis of income, there was naturally a race to occupy the buildings with a high quality of construction. The inevitable consequence was that these buildings rapidly deteriorated due to overcrowding, abuse and lack of maintenance. In Maputo, for example, more than 50 percent of the building elevators no longer work even in the upper class areas, and a survey of 2,000 buildings showed that many of them shelter four or five families in apartments intended for a single family.

The Urban Rehabilitation Project

In this context the government of Mozambique, in 1987, solicited a loan from the World Bank to carry out a program of urban rehabilitation, with the intention of slowing the accelerated decline of the principal cities of the country. The program, which was given the name of the "Urban Rehabilitation Project" of Maputo and Beira (Projeto de Reabilitação Urbana - PRU), defined the following principal objectives:

- Strengthening the technical and management capacity of local institutions.
- Rehabilitation of housing and urban infrastructure
- Introduction of cost recovery mechanisms related to state investments in urban development.
Involuntary Relocation in Urban Areas of Mozambique

Included within the PRU areas of responsibility were water, drainage and sewage, roads and bridges, housing, garbage, employment generation, institution strengthening and training.

The housing component of this project covers fifteen sub-projects in three principal areas: (a) completion of apartment buildings started before independence, on which construction had been paralyzed for a long time for lack of capital; (b) rehabilitation of degraded nationalized buildings, preceded by resettlement of the occupants in core houses constructed in suburban areas; and (c) basic urban infrastructure in the peri-urban parts of the cities, as a preliminary to starting up self-constructed housing programs.

For the technical and financial management of this component, considering the weakness of the existing state institutions in this sector, a new unit was created in the Ministry of Construction and Water, called the Department of Housing Unit for Management and Supervision of Housing Programs (Departamento de Habitação Unidade de Gestão e Supervisão de Programas Habitacionais - HABITAR), which operates through contractual arrangements with national and foreign technical specialists. HABITAR in turn created local agencies, called Project Coordination Units (UCP), relying on contracted technical assistance to assist them in project implementation. For financial management, HABITAR selected through competitive bidding a joint venture of a local and a foreign firm.

The housing component of the PRU began in 1989 and was expected to last over four years. Of the three sub-components, naturally the building rehabilitation program was the most complex, since it involved the resettlement of the inhabitants. The solution was to provide temporary housing through the construction of low-cost core houses in existing neighborhoods. The core houses when completed will have 72 square meters of space, but in this phase have only 36 square meters divided into three rooms, a latrine and an outside kitchen. All of the houses have electricity, with a light in each room and a stove connection. A water faucet is located outside each house.

When the building rehabilitation is completed, new rents will be established, and the previous residents who wish to and are able to pay these rents will be able to move back into the building. As an alternative, they may stay in the core houses which can be acquired at subsidized prices and with access to credit. Naturally the previous conduct of the occupants and the condition of their apartments prior to rehabilitation are factors which will be taken into account in the decision to authorize their return to the buildings.

The selection of housing units to rehabilitate in the two cities was initially made based on data available to APIE. Subsequently a survey of some 2,000 households was conducted, providing information on the type of occupation, the condition of the housing units, and the opinions of the inhabitants concerning the proposed move to core housing. The results of the survey showed that most people were able to move out during the rehabilitation period, but only 60 percent made a definitive move into the available core housing.
About 1,000 apartments were selected for rehabilitation, two-thirds in Maputo and the rest in Beira. Based on the survey data, it was projected that 380 core houses would be needed, 300 in Maputo and 80 in Beira. The rehabilitation program was designed to be carried out in cycles of six months to one year, depending on the rehabilitation work needed. During the rehabilitation period, all of the residents are moved into the core houses. At the completion of each cycle, some of these people return to the rehabilitated building or to another state apartment, and others choose to remain in the core housing. The choice is made in the first instance by the affected household and later agreed to by APIE.

The Need for Relocation

In order to make the proposed move more attractive, construction of the core houses was to be integrated into existing neighborhoods. Thus it was necessary to start by moving out present residents who were living in the project zone without a concession. Although legally these families had no right to compensation, after long discussions between the representatives of the local institutions and the residents, it was agreed that, taking into account previous practice and the fact that these families had no other resources, the project would provide them a plot with a certificate of occupancy and a house approximately equal to what they had before. Any permanent housing materials were reused, such as doors and zinc roofing. Families who lived in reed houses, all which were in a very poor state of repair, would have new houses after moving. About fifty families who occupied plots in the project zone were moved in an operation that took about two months, including the time for construction of the new houses.

The second rehousing operation took place between February and March of this year. It concerned eighty families who lived in the first apartment building to be rehabilitated, and who moved into core houses within two neighborhoods. Before moving, all the residents participated in several meetings where the reasons for the move were explained, together with the procedures, the design of the core houses, the possibility that they could purchase their new homes, and the time period within which the move would have to take place. Residents carried out the move themselves, after receiving a certain sum to cover the cost of transporting their household goods. This completed the first phase of the project, involving two types of involuntary resettlement: first, of the families living in the spaces where the core houses were constructed, and second, of the families living in the building to be rehabilitated. From this experience we can draw some conclusions and recommendations.

Problems to be Addressed by Planners

The first issue concerns the selection of buildings to be rehabilitated. The more degraded the condition of the building, the more likely it is that people will want to move to core housing, but the more difficult and costly will be the rehabilitation works. A difficult
but indispensable task is to reconcile these two aspects in order for the operation as a whole to be viable.

The second issue is the design of the houses to be offered for the move, which must take into account the financial ability of the families to purchase them. Cost controls that were imposed in order to ensure that the houses could be purchased in the future by the residents had led to the selection of the least expensive design. This, in turn, led to some difficulties. In spite of the fact that the sanitation systems were not operational in the buildings that were to be rehabilitated, some of the residents complained that the core houses had latrines and outdoor kitchens rather than interior kitchens and bathrooms. The size of the houses also caused complaints since most occupants of state-owned housing live in relatively large houses at low rents.

However, the fundamental issue is the existence since 1977 of a subsidized rental system, which gives no incentive for home ownership since the value of rent is always less than a monthly payment for a house purchase. A recent study showed that in order for the government to be able to guarantee the maintenance and renewal of the nationalized housing stock, the current value of rents for existing houses should be increased by eight to fifteen-fold, and by about forty times in the case of new construction. But if rents were increased to this level, 90 percent of the present residents in the urban centers would have to leave their homes for lack of the financial capacity to pay these rents.

The third issue is linked to the relocation of families living within the limits of a project area, and the fact that no compensation legislation exists in Mozambique. Since land belongs to the state and there is virtually no local control over its occupation, rapidly growing spontaneous settlements are found everywhere. This means that each project must negotiate with the occupants of the land, even those without title, the conditions under which they will be willing to move. The present project, while establishing a minimum level of assistance for moving occupants without title, has also carried out a campaign to promote the concept of registering their occupancy with the local authorities.

Conclusion

A comprehensive assessment of the building rehabilitation program, including the resulting involuntary relocation of the residents, shows a very positive outcome from an economic point of view. The present conditions provided by the core houses and even by the new reed houses are considerably better than those provided by the evacuated buildings or by the existing reed houses. In both cases, an excellent opportunity is provided to improve the housing itself, as well as giving the settlers title to the plot to which they were transferred.

The unit cost of rehabilitation, based on a current contract for a building with twelve floors and three new elevators, averages less than US$150 per square meter.
Involuntary Resettlement in Africa

Adding the cost of core housing, about $120 per square meter, the cost per square meter of these complementary investments represents about one-third of the unit cost of new construction at standards similar to those of the rehabilitated building. This calculation does not take into account the additional benefit resulting from the fact that the project has produced, in addition to the rehabilitated apartments, an equal number of new core houses.

Given the viability of this program, a significant number of firms and institutions have approached HABITAR, expressing their willingness to finance rehabilitation costs, including the resettlement costs of the residents, in exchange for the right to rent the rehabilitated building with an option to buy. This prospect is encouraging for the future of the building rehabilitation program, which is fundamentally limited only by the availability of land within the city that is not already occupied by high density spontaneous settlements.

These rehabilitation operations will also be accompanied by eventual changes in the core housing project. Notably, in the future we will provide less space in the living room and bedrooms in order to include a bathroom and kitchen, which are the most complex aspects for the residents to carry out for themselves.

Another issue related to relocation is the policy of subsidies for the purchase of low-cost housing. If the government is to provide incentives for this type of relocation, it will have to adjust the present value of house rents, which amount to less than ten centimos per square meter. As a consequence, any housing offered for purchase, however low in price, requires a monthly payment of more than this rent. In the case of the present project, even a mortgage with a payment schedule extending over twenty-five years would require a monthly payment equivalent to ten times the present rent, which is not feasible for the occupants.

An important feature which was not adequately appreciated in the project was the need for publicity and dissemination of the project objectives through the means of social communication, particularly since this was a new program. Thus, some elements of the local press were inclined to echo the complaints of the resettled inhabitants, rather than obtaining the view of the project authorities. The reason for this attitude is based on the fact that the state, having set up a nationalized property system of subsidized rents and free access to urban land, unintentionally separated the concepts of cost recovery and economic criteria from the analysis of housing policy. Thus, both the citizens and the public institutions continue to consider it an obligation of the state to resolve the people’s housing problems regardless of cost, an issue which can be expected to continue for some time.

The political changes which are occurring in Mozambique, with the introduction of multiple parties and the market system, will certainly bring about profound changes in the conception and implementation of national housing policy. It is to be hoped that new economic actors will introduce a greater dynamism in the development of these programs. In the meantime, on the eve of the elections, one may note a certain
reluctance on the part of government to embark on such programs, which can be taken advantage of for electoral purposes, since they imply the resettlement of people in conditions different from those they have been used to enjoy. It seems, however, that no one doubts that this program constitutes an appropriate response to the continuing decline in the existing housing stock, as well as a possible way to provide better living conditions, at least in terms of sanitation, to the resettled people.
Chapter 7

Social Impacts of the Creation of Lake Kariba

Christopher H. D. Magadza

Lake Kariba lies on the Zambezi River, bordered by Zambia on the north and Zimbabwe on the south. These two countries were once members of the ill-fated Federation of Rhodesia and Nyasaland, a political configuration of the central African British colonies. The territories comprising the Federation were Northern and Southern Rhodesia and the protectorate of Nyasaland, now called, respectively, Zambia, Zimbabwe, and Malawi. The Federation disintegrated in the early 1960s. In the historical part of this chapter, these countries will be referred to by their former colonial names.

After the constitution of the Union of South Africa, of which the Southern Rhodesian white electorate declined to be a member, the British government decided to set up an administrative structure that would unite its remaining central African territories of Northern and Southern Rhodesia and Nyasaland. Northern Rhodesia then also contained a protectorate, Barotseland, which was included in Northern Rhodesia. Consequently, in the early 1950s the British government proposed the Federation of Rhodesia and Nyasaland. This political and administrative structure was welcomed by the Southern Rhodesia electorate, in which at the time only white settlers had the vote, and by the white settler elements of both Northern Rhodesia and Nyasaland.

However, the black majority of the three territories was not consulted as they were not enfranchised. Nevertheless, traditional leaders of Northern Rhodesia in particular made representations to the British Crown to register their dissent on the proposed political merger. At the time of the proposed merger, Southern Rhodesia had the political status of "self-governing colony," while both Nyasaland and Northern Rhodesia were closely linked with the British Crown. The traditional and political leaders of both territories saw the proposed merger as inevitably resulting in political domination by the Southern Rhodesia political system, which bore a very close resemblance to the South African apartheid system, conspicuous for its racial discrimination. Furthermore, the black people of the two northern territories saw the economic benefits as accruing mainly to Southern Rhodesia, to the detriment of their own economic and political prospects.

The two major activities that were to be the economic backbone of the Federation were to be the exploitation of Northern Rhodesia's vast copper resources, and the white

Christopher H.D. Magadza is Director of the University of Zimbabwe Lake Kariba Research Station. He is an aquatic ecologist who has worked on tsetse-fly and eutrophication control, fisheries and vegetation studies. Professor Magadza is a founder and former vice president of the African Academy of Sciences.
settlement dominated agriculture of Southern Rhodesia, based on cheap labor from Nyasaland. The capital gains benefits from this economic base would finance secondary industrial development in Southern Rhodesia. The British government was convinced that under the technical leadership of the white settlers in the region, the political merger would result in economic complementarity between the three territories and create the necessary climate for economic and political development. Thus, much against the will of the black people of British central Africa, the Federation of Rhodesia and Nyasaland was instituted in 1952.

Kariba Hydroelectric Project

In order to develop the region’s industrial potential, the federal government realized that it needed to develop the energy resources of the region. Hydroelectric power was the obvious answer, and a survey of the hydroelectric potential of the area was undertaken. This survey identified the Kafue Gorge on the Kafue River, a tributary of the Zambezi River, as a suitable site for developing hydroelectric power. Between the Kafue flood plain and the middle Zambezi Valley, the Kafue drops 400 meters in altitude over less than 5 kilometers of its length, making this stretch of the river an ideal site for cascaded hydroelectric dams. However, since the Kafue River was located in Northern Rhodesia, the white-dominated federal government was reluctant to invest in such a vital resource in a country that was bound eventually to come under a black government. Thus, an alternative site had to be found, one that would both satisfy the technical requirements of large hydroelectric power generation and allay the apprehensions of the white Southern Rhodesian settlers.

Thus was born the Kariba Hydroelectric Project, located on the Zambezi River, which formed the boundary between Northern Rhodesia and Southern Rhodesia. To manage the construction and operation of the project, an international company, the Central African Power Corporation (CAPCO), was formed. This company was owned in equal shares by the participating countries, but the bulk of the company’s physical assets were located in Southern Rhodesia. Thus, at the breakup of the Federation, CAPCO found itself owned by two mutually hostile countries, independent Zambia with a black popular government, and a racially torn Rhodesia, besieged by an escalating liberation war.

The Gwembe Valley and Its People

The area that would be inundated by the project was known as the Gwembe Valley. This valley lies in a semi-arid zone, largely due to its low elevation. It has a mean rainfall of 600 millimeters, mainly confined to the months of November to March, high evapotranspiration, and a temperature range of 30 to 32 degrees C. During the warm season, daily temperatures in excess of 40 degrees C. are not uncommon. For most of the year, evapotranspiration exceeds precipitation.
The inhabitants of the Gwembe Valley are the Tonga people. Their lifestyle has been described by Colson and Scudder. Briefly, they are a people who were cut off from the rest of the world, due to the difficulty of access to their remote area. They are a people who have migrated from the south of the continent and are closely related to the Sotho. Their history is shrouded in mystery, but it is surmised that they penetrated deeply into this otherwise inhospitable habitat in order to escape the slave trade, whose ravages were witnessed by David Livingstone on his travels in the area. Traditionally, when a young Tonga woman reaches puberty she has her front teeth removed, an operation that renders her somewhat less attractive to the conventional eye. Perhaps this was another Tonga method of avoiding slave traders.

The Tonga cultivated gardens on the fertile flood plain, where they were capable of raising more than one crop a year. They kept no livestock, relying on the abundant wildlife in the valley for their protein. The main crop grown was millet, consisting of varieties which could survive in a low rainfall regime.

The Gwembe Valley, like other low-lying tropical areas, had endemic diseases like malaria, sleeping sickness, and filarial elephantiasis. These diseases are transmitted by mosquitoes and tsetse fly. It is not known how prevalent these diseases were among the Tonga people prior to the Kariba Dam project, but by present standards, malaria must have accounted for a high death toll. This disease accounts for the greatest percentage of admission rates at the Kariba hospital. The degree of genetic isolation of the Tonga people prior to the building of the dam can perhaps be indicated by a curious three-toed condition among some of them, a condition that is said to have arisen due to inbreeding.

Impacts of the Kariba Project

At the time of construction of the Kariba Dam, notions of environmental impact assessment were only beginning to develop in the industrialized countries and did not play a significant part in project design and execution in developing countries. Unlike the high dam at Aswan, whose future lake bed contained culturally valuable remains of ancient settlements, the Gwembe Valley appeared to have nothing of value to save. Consequently there was little pre-project investigation into the life and culture of the Tonga people. Apart from transforming the Gwembe Valley into the vast Lake Kariba, there appeared to be no ecological concern that would warrant a pre-project ecological survey of the area.

It was anticipated that the lake would have a major impact in creating a fisheries resource, but no pre-project study of the fisheries potential was attempted either. In retrospect it is doubtful whether the technical manpower or the technology for doing so existed at the time. However, some preparation was made for the fishery by clearing certain areas of trees prior to inundation. It was envisaged that in these cleared areas, trawling would be the principal method of fishing, a notion that assumed the emergence of trawlable stocks. A freezing plant was built at Sinazongwe on the Zambian shore to process anticipated large fish catches.
In summary, there was no environmental impact assessment program as such for the Lake Kariba project.

Relocation of the Tonga People

Prior to the inundation of the Gwembe Valley, the Gwembe Tonga lived as a single social group, occupying both sides of the Zambezi River, leading a life of mixed hunting and gathering and cropping. Because of the prevalence of the tsetse fly, they were not pastoral. At the time of construction of the Kanba Dam, the Gwembe Tonga population was estimated at 86,000 people. Of these, 55,000 lived in Zambia, while the Tonga residing in Zimbabwe numbered about 31,000.

Although archaeological records indicate that the Gwembe Valley has been settled since the Acheulian (Stone) Age, the origin of the present inhabitants is still unclear. Their oral history, as told by living elders, associates them with the Nguni tribes of Southern Africa. This tradition of their prehistory also tells of raids by slave traders, as well as by the Ndebele people who now occupy the southwestern part of Zimbabwe. These raids drove the Tongas deeper into the refuge of the valley, where they lived in isolation from other plateau people.

Detailed studies of the life and culture of the Tonga were done by Colson and Scudder both before and after resettlement.² Like the division of Germany by the Berlin Wall, the inundation of the valley divided the Tonga into two separated political populations. In the earlier stages of the separation there was limited visiting across the lake by family members, but after the breakup of the Federation and the ensuing hostilities in Rhodesia, the separation became complete. Unfortunately, the territorial governments of Northern and Southern Rhodesia, not anticipating the political disintegration of the Federation, did not think to give the Tonga people a chance to choose the side of the lake on which they would like to settle so that closely related family groups could remain intact.

In the planning phase of the Kariba project, little thought was given to educating the Tonga about the consequences that this engineering feat would have for their future. They could not comprehend that man could change nature; that the rhythm of the Zambezi River which had punctuated their lives for generations would cease; that the mighty Zambezi, guarded by their river god Nyaminyami, would disappear, to be replaced by a vast man-made sea; that man would challenge natural powers and tame the fury of the Zambezi at Kariba Gorge; that they would have to leave their traditional homelands forever, abandoning their ancestral spirits and their forefathers’ graves, now drowned by the "pale men."

Consequently, when the waters began to rise, the Tonga were incredulous. Some traditional leaders refused to give up their homes and move to higher ground. In Southern Rhodesia they had to be moved by force. On the Northern Rhodesia side some preparations had been made to relocate the Tonga in an orderly fashion. Here families
were moved into homes provided by the government. Training facilities for fishermen were provided at Sinazongwe to train the Tonga to exploit the fishery opportunities provided by the lake. Furthermore, a pilot irrigation scheme was set up at Malima. However, neither of these facilities was managed by local personnel, and at the departure of the expatriate staff, they collapsed.

**COST OF LIVING.** One of the results of the relocation of the Tonga people was that they were suddenly thrust into a commercial environment, although they had previously been treated as a non-commercially minded people. Due to crop failures and other exigencies, they had to buy food and other basic commodities in an environment that had little income generating capacity. The irony of the situation is that although this is the most impoverished part of Zimbabwe, the prices demanded by local traders made the area the most expensive in which to live. In 1989 the cost of living in the Omay area was about 100 percent higher than in Harare.

**HEALTH.** Two factors affect the general health of the people of the Zambezi Valley. The long neglect of the area by colonial administrators meant that such services as health and education were little developed, and then only by voluntary groups such as missionaries. Endemic diseases continued to exact a high toll among a people with limited access to medical care.

The second factor was that the urban center of Kariba town and the fishing villages that developed along the shore became centers of prostitution, and consequently the frequency of sexually transmitted diseases (STDs) increased. Data from Kariba hospital show that endemic malaria and STDs are by far the most significant causes of morbidity. Malnutrition among children is also quite common, in spite of the fact that the lake now boasts a Z$140 million fishing industry. Because of the high frequency of this condition, the Kariba District hospital has had to mount a special nutrition program.

**AGRICULTURE.** In the valley the Tonga had evolved an agricultural strategy that gave them a number of options in coping with their food needs. Using both the seasonal rain and the flood pattern of the Zambezi River, they were able to raise crops throughout the years, cultivating mainly the flood plain alluvial soils. At the inundation of the valley they were translocated to semi-arid lands with a high risk of crop failure. The Tonga then became a food deficit people. Furthermore the presence of the tsetse fly made it impossible for them to rear livestock. There were indications of widespread famine in the early days of the resettlement.

At the completion of the construction, some urban centers had developed on the lake shore. The location of these centers was determined by the access routes to the lake shore. A lucrative fishery developed, as well as a thriving tourist industry. However, since these developments were centered on the towns, they were of little benefit to the Tonga whose resettlement areas were remote from the new urban centers. The Tonga therefore continued to be a food deficit, underdeveloped people.

In an attempt to enhance food production in the resettlement areas by enabling
the Tonga to rear cattle for draft power, an internationally financed project to eradicate the tsetse fly has been mounted. The immediate result of the project has been to open a once remote area to resettlement by other land-hungry tribes. This new onslaught into the valley has now unleashed important environmental land use problems, including large-scale deforestation, soil erosion, and siltation. The tsetse eradication program has also resulted in the buildup of pesticides in the lake. Data collected by the University Lake Kariba Research Station show high concentrations of DDT in fish-eating birds. Samples of mothers’ milk from Kariba have contained levels well beyond the World Health Organization permissible limits. The objective of the tsetse eradication program is to enable the peasant communities to expand subsistence farming, a land use strategy which may not be sustainable.

Fisheries. While Zambia had a traditional artisanal fishery based on its inland lakes and rivers, Zimbabwe had no such natural resource and therefore lacked an artisanal fishing tradition. Southern Rhodesia began an extensive program of water resource development in the early 1950s by building dams for agriculture and potable water supply. These man-made water bodies offered a potential for European sport angling, and consequently facilities were established to breed bass and trout to stock these lakes. Thus, when Lake Kariba was built, Zambia had a traditional fishery infrastructure for catching, processing, marketing, and distribution of fish to low-income consumers, while Zimbabwe did not. The industry which eventually developed on the Zimbabwean side of the lake was initially based on a capital intensive, monopolistic pattern, with a very small number of companies holding large fishing concessions. In the initial stages of the industry, the only local people participating in fishing on Lake Kariba on the Zimbabwean side were the displaced Tonga. Due to the remoteness and inaccessibility of their fishing camps, they could not market their produce and had to rely on white fish traders to collect their dried fish, often on a barter exchange basis for food and other essential commodities.

Land use options. The management of peasant agriculture in the Zambezi Valley is problematic. It is clear that current agricultural practices are not sustainable, and the question of whether the valley should be tilled at all is now being examined. If it is eventually accepted that the Zambezi Valley should not be farmed, this will raise the question of how the indigenous communities can find an alternative form of livelihood that does not involve cultivation.

Although the Zambezi Valley around Lake Kariba is a rain deficit area, it has other natural resources of considerable economic importance. Its breathtaking wildlife are matched nowhere else in Africa. The valley is one of the few remaining regions with appreciable timber resources, while in the rest of the surrounding region such resources are either exhausted or rapidly dwindling. It also has mineral resources, particularly coal reserves, which will be needed to meet ever increasing demands in the woodfuel-impoverished Southern Africa of the future.

Wildlife enthusiasts have often made unsubstantiated claims that wildlife can be more productive than domestic animals. Such claims are questionable when production
is computed in terms of carcass value. However, if wildlife is exploited for its trophy value, then indeed it can match domestic animals in revenue generation. Since the Zambezi Valley currently generates hundreds of thousands of dollars in wildlife-based tourism, it seems logical that the people of the valley could earn higher revenues by utilizing their wildlife, rather than persisting in destructive land use practices. Such a strategy would also naturally conserve the wildlife resource of the area.

Current land use has resulted in increasing conflict between wildlife and local inhabitants. Realizing its economic potential, some local authorities have formed trust funds for wildlife utilization. However, one sociological problem that still needs to be solved is to find a method of disbursing revenue from a communally owned asset such that individual benefit can be realized. The current method of using such revenue is the provision of communal facilities such as schools, clinics, and roads. Individual poverty is not addressed.

Project Evaluation

The Kariba case study illustrates a number of poignant facts. It was built to rob one country of its mineral wealth to benefit another country, as well as Western and South African investors. Such cynicism was unavoidable in the context of the politics of that era. Settler images of the African as a creature who lived outside the aspirations of Western economic values, a being quite indifferent to the notion of self-advancement and hence unmotivated by profit incentives, were very much in vogue. It was further held that any attempts to lift the African from this complacency would constitute an unbearable shock to the social fabric. Consequently, native commissioners of those days actively discouraged any monetarization of African values. In this view, the only accommodation needed for the displaced Tonga was to find them land where they would continue to exist unperturbed by Western civilization, simply because of lack of physical access to it.

This naive view partly accounts for the plight of the Tonga displaced from Lake Kariba. A more significant problem, however, was the complete lack of understanding of the trauma that involuntary resettlement would create in that circumstance. Little was it realized then that such an experience would constitute an irreversible departure from previous norms. Involuntary resettlement brings about a departure from known and tested ecological norms for natural resource use; it alters long established social norms by placing the displaced persons in new and alien social environments with new taboos and unfamiliar traditions; it uproots people from stable economic traditions with the vistas of unfamiliar markets and commodities. It places the resettled persons on a long path of evolving and adapting to conditions in the new environment, the full impact of which only gradually unfolds over a very long period.

The planning and management of Kariba lacked any of these insights on account of both its political and historical setting. It was conceived in the era when engineers reigned supreme and scholars of the social sciences commanded low esteem among the "developers" of the middle twentieth century, often being viewed with suspicion as
"leftist agitators." What lessons have been learned, if any? The World Bank has recently released a policy document on resettlement. This is a significant development, but until the leaders of developing countries in which such projects are undertaken recognize the impacts on resettled people, scientific observations are of little effect. The recent acquiescence of the government of Zambia to large-scale land acquisition by a multinational company, resulting in more displacement of a people who had finally begun to cope with their new environment, is an oversight of some considerable dimensions.

The insistence of the Zimbabwe administrators to develop the Zimbabwean side of the middle Zambezi on traditional rainfed cropping systems, with the ecological consequences that will be unleashed, is also a cause for some concern. This illustrates another regrettable situation in which scientific research seems unable to influence the development process. There are ample data to suggest that the development strategies currently being pursued by civil administrators will lead to hardships in the long run. Such information, even when brought to the attention of developers, appears to have little influence, while donor agency projects take pride of place in the decisionmaking process. There is an urgent need now for developers and scientists of both natural and human affairs to meet on a common platform where they can share the knowledge and wisdom needed to guide African development into the twenty-first century without doing irreparable damage to the fragile environments which are the very sustenance of development.
NOTES


5. Magadza, op. cit.
CHAPTER 8
LONG-TERM IMPACTS OF RESETTLEMENT:
THE AKOSOMBO DAM EXPERIENCE

Martha A. Tamakloe

The involuntary relocation of people must be seen as an organic and multidisciplinary process. It always takes place within a specific economic, social, cultural, and political context. To have meaning and relevance, resettlement policies must be formulated with these factors in view. Resettlement in itself is a process of change, which is inherently disruptive as well as constructive. Therefore, resettlement projects should involve measures to minimize the social disintegration that is likely to occur.

It is important to discuss the impact of resettlement wherever it occurs, for there are lessons to be learned from resettlement projects which are relevant to integrated rural development processes. In this chapter, the main policy guidelines and strategies adopted for the Akosombo Dam Resettlement Scheme will be discussed, followed by an outline of the implementation of the resettlement policy and programs. Impacts of the various programs on the resettlers are identified, and lessons drawn for future settlement policy and planning.

Akosombo Dam Resettlement Policies

The Volta River Project (VRP) at Akosombo led to the formation of a lake which covered a total area of 8,500 square kilometers or 4 percent of the total land area of Ghana. In a white paper on the VRP, the government of Ghana established a goal of suitably compensating the population to be displaced by the project. This goal was decided on the advice of technical experts and planners. However, this goal was later broadened in a statement by then-Prime Minister Dr. Kwame Nkrumah, into an undertaking by government "to ensure that no one was worse off as a result of the creation of the lake." The goal of appropriate compensation was given legal backing in the Volta River Development Act (VRDA). A semi-autonomous body, the Volta River Authority (VRA), was set up to be responsible for developing the hydroelectric potential of the country and also for the resettlement of the affected people.

The VRDA allowed compensation to be made in kind or in cash, at the option
of the government. A preparatory report commissioned by the government in 1956 advocated a policy of outright acquisition of all rights in the area. Public facilities were to be replaced and private rights compensated in cash. Limited technical and financial assistance was to be provided to enable the affected people to resettle themselves.

Construction of the dam did not start until 1962, due to protracted negotiations for financing the project. By this time the policy outlined above had become obsolete for several reasons.

First, it was discovered that the cash compensation envisioned would be inadequate to enable the affected people to build their own replacement houses.

Second, most of the property had not been valued to establish the basis of cash compensation, and the time needed for valuing the remaining property would be insufficient for valuers to determine the entitlements of the affected people and to allow them to make their own arrangements before flooding.

Third, Ghanaians, including the affected people, expected the government to resettle the people in better conditions than they had before.

Fourth, it was found that suitable land for farming was limited. Thus, the traditional system of shifting cultivation had to be changed to a more intensive technique. Otherwise, the available farming land could not sustain the increased population.

These considerations led to the development of a new policy. Under this policy, the central government through VRA would undertake resettlement under improved conditions.

To implement the new policy, three programs were developed:

- An attempt was to be made to improve agriculture by providing access to land, by transfer of new technology with government assistance, and by commercialization of farming.
- Settlements were to be regrouped in larger population units in order to more economically provide social and physical infrastructure and services.
- People were to be provided with improved living conditions through better housing than they had in their previous places.

In other words, the whole resettlement exercise was seen as an opportunity to promote social change in the affected area.
Human Settlements

The formation of the lake affected 80,000 people in 740 villages scattered over an area of over 7,770 square kilometers. Six hundred of those villages had a population of less than 100 each. There was only one sizeable township, with a population of 4,000. The people came from nine different ethnic groups with varied cultural backgrounds and practices: Akwamu, Kwahu, Asant\-\-\-\-\-\-\-\-\-, Krobo, Brong, Buem-Akan, Ewe, Krachi, and Gonja. They were mainly subsistence farmers living in thatch-roofed mud houses. Only 2 percent of them were riverine fishermen.

For purposes of resettlement planning, villages were regrouped into fifty-two new settlements ranging from 2,000 to 5,000 in size. The size and location of the new villages and planning parameters such as house design and room density were determined on the basis of comprehensive data analysis. Important criteria for site selection were soil conditions, health conditions, water supply, access to other communities, and linkage of the sites to towns and settlements of a higher order. The size of settlements was determined by the agricultural program proposed and also by the number of people needed for the services to be provided to function economically.

**HOUSING.** Average plot sizes of 2,135 by 3,050 meters were recommended for housing, to allow for future expansion. Where possible, housing layouts were designed in such a way that the size and number of wards would reflect the ways in which villages had been grouped for the settlements. Services provided included 82 school blocks, 46 markets, 146 public latrines, 52 boreholes, 6 wells, and 162 water standpipes.

The policy with regard to housing was to provide the sites with "nuclear" or "core" houses. These had concrete floors and aluminum roofing for two rooms and two porches; however, only one room was completed before allocation. It was planned that additional rooms and the two porches would be completed by the settlers themselves with materials and technical aid provided on arrival at the new site. Materials were to be provided to the settlers who were to supply their own labor. Three basic housing types were designed. Two of these were detached dwellings on separate plots, and the other consisted of semi-detached units.

Each entitled household was allocated a core house, no matter what the size and complexity of the household might be. Separate kitchen, bathroom, and storage areas were not provided.

**FARMING.** The policy was to improve farming by giving each settler enough prepared land to sustain a satisfactory level of living. Initially, it was decided that each subsistence farmer should have a minimum of twelve acres under mechanized farming. Tree crop farmers were to have a minimum of five and a maximum of fifteen acres. Intensive livestock farmers were to have a minimum of three acres each, and pastoralists were to have a minimum of thirty acres. These initial target figures were reduced by half during implementation, but even so, less than a third of the reduced acreage could be cleared before the arrival of the settlers.
The farming program failed for several reasons. New technological inputs for cultivation did not arrive on time. Then, when the machinery arrived, there were problems with maintenance and efficient use. Finally, the implementation structure began to disintegrate with the transfer of key committed agricultural officers.

**FISHING.** In planning resettlement, no fishery program was prepared because it was thought that the traditional fishermen would develop this by themselves. This lack of consideration for development of the fishing industry proved later to be a mistake (see below, Economic Impacts).

**Long Term Impacts of Resettlement**

When Nkrumah's government was overthrown in 1966, the government of the National Liberation Council (NLC) was not in favor of large-scale, state-run resettlement farms based on mass organization of farmers. The NLC was more interested in small-scale, peasant agriculture. Thus, the policy of mechanized agriculture was replaced by the provision of subsistence plots for the settler families. Responsibility for the agricultural program was handed over to the Ministry of Agriculture, which proved unequal to the task and subsequently abandoned the settlers. The result was a withdrawal of institutional support for the agricultural program.

While the Busia regime was committed to rural development, this was seen as a strategy designed to improve the socioeconomic life of a specific group of people, namely the rural poor, mainly by organizing the poor themselves. The approach to rural development pursued by Busia did not assign any special role to resettlement. Nothing substantial was achieved under Busia's government before his overthrow. Although subsequent governments were concerned with growing rural-urban disparities in national development, no practical attempts were made to reverse this trend.

The changes in policies and development strategies by various governments towards resettlement affected the development of the resettlement towns by creating an atmosphere of uncertainty both for the resettlers and for those charged with managing the affairs of the resettlement program.

**SOCIOCULTURAL IMPACT.** Programs designed to improve the living conditions of the resettled population were not always culturally sensitive. For example, the settlers were to be compensated with a new type of standardized housing which replaced their former structures of mud and thatch. A 1979-80 survey covering about 40 percent of the over 12,000 houses constructed showed that 27.5 percent of the surveyed houses were still in the same state as they were at the time of evacuation. A subsequent survey conducted at Mparum and Mem Chemfe showed that 23 percent still remained incomplete and 42 percent were not occupied. At Mparum only 2 percent of the core houses had been completed and extended. Surveys conducted at Danyigba and Vakpo in 1981 showed that after fifteen years of resettlement, only 34 percent of the houses in these two settlements had been completed.
One of the major problems in housing was overcrowding, not only in physical terms but also in terms of role density. For example, in some societies in the Volta Basin, the wives of polygamists take turns in using one room, so that one may sleep outdoors while it is the turn of the other wife to sleep with the husband. A menstruating woman must not enter a room containing a fetish or medicine; thus, a woman in this state has to find a sleeping place elsewhere. Also, the inability of the resettlers to complete the core houses affected their ability to be a hospitable "landlord," considered to be a valued role, to any visitors.

The policy to increase the size of settlements by regrouping villages led to an increase in social scale or increase in social density and volume, in the Durkheimian sense. In other words, there was an increase in "the number of people in relation and the intensity of those relations." This means that one behaves among a much larger, less familiar and critical audience than in the pre-resettlement villages. Women complain about gossip and mockery from people of other villages, and major domestic quarrels are heard throughout the towns.

The regrouping of villages affected social cohesion in some cases. In Mpamu, for instance, there are problems of conflict of authority, allegiance, and inter-ethnic relationships. The problems of integration, cooperative decision-making and action still persist. For example, new machinery that should have been installed on the basis of communal action remains idle.

This social stress stems from the early days of resettlement when there was an intra-tribal conflict between the Twi-speaking Kwahu peoples of Apaaso and Dukumang over the status and roles of different hierarchies of traditional authority. Dukumang has a paramount chief who is senior to the sub-chief of Apaaso. This has brought a conflict of authority and allegiance. In recent times, the younger generation has also begun to support and at times to fan the conflicts. Even religion has not been able to ameliorate the situation. Cooperative irrigated vegetable farming has suffered and still suffers some setbacks in membership because the cooperative was initiated by Roman Catholics. While the aim of resettlement was to enable the development of social cohesion and nationalism (in the spirit of "unity in diversity"), the villages which were grouped into new units find it difficult to develop a community spirit devoid of conflicts of interest.

In some of the settlement towns, the ethnic composition of the settlement has changed. For instance, in Amankwaakrom, ethnic Kwahus were at first in the majority. Today, Ewes (Battors and Tongus) make up 39 percent of all households, the strongest ethnic group in town, while the Kwahus form only 21 percent. The main reason for this change is migration. Kwahu compounds in the pre-resettlement villages tended to be larger than Ewe houses. The Ewes, therefore, found it easier to adapt to the "core houses." Consequently, the Kwahus were more inclined to migrate than the Ewes. Also, Ewes formed the strongest ethnic group among the people who migrated to the town at a later stage. Probably a considerable number of Kwahu households were replaced by Ewe immigrants.
**ECOLOGICAL CHANGES.** Most of the resettlement sites were chosen because the environment presented an ideal setting for the farming activities of the people as they existed in their previous settlements. The forest was almost virgin, the climate was cool and the soils were fertile. Most of the areas had very good rainfall with two seasonal peaks. By early 1970, however, the climatic conditions had changed. A few years after resettlement, rainfall began to decline until there were no longer two rainy seasons. Instead, there was one short rainy season and a long dry season. Wind speeds became stronger and temperatures rose, leading to the drying up of the once perennial rivers in some of the settlements.

These ecological changes affected flora and fauna. Typical trees such as silk cotton, wawa, odum, and palm trees began to disappear. Now neem trees and other shrubs are noticeable. Previously, there was a great variety of large game species such as deer and antelope, but now only rats, grasscutters and guinea fowls can be found.17

Several reasons have been advanced for this destruction of the ecology. Among them is the argument that the lake itself was responsible for this destruction. The situation was facilitated by the VRA’s clearing of all the vegetation for mechanized agriculture at the time of resettlement. These environmental changes led to the loss of soil cover, soil erosion, and destruction of agricultural land, drastically affecting crop yields.

**HEALTH PROBLEMS DOWNSTREAM.** With the construction of the dam, there were changes in the flow of the Volta River below the dam. Aquatic weeds and snails proliferated as a result of the slow flow of the river. These changes had adverse effects on the riparian communities in the area.18 There has been an increase in the incidence of schistosomiasis, both urinary and intestinal types, associated with aquatic weeds and snail intermediate hosts. The loss of seasonal flooding and the drying up of the creeks have led to the loss of agricultural lands and important fishing grounds. These changes have affected the socioeconomic life of the people who migrated to the Volta Lake area, spreading schistosomiasis along the Volta Basin.

**ECONOMIC IMPACTS.** The farming program put in place to benefit the resettled people failed for a number of reasons:

- Land acquisition arrangements should have been worked out before the arrival of the resettlers.

- There was no systematic planning for the program. Resources of labor, equipment, and financing required were not available.

- The whole program was too ambitious to be executed within the two years available to the VRA.

- Assumptions made about the time required for the resettlers to learn the new farming practices were, to say the least, unrealistic.19
The policy of mechanized clearing of farmlands near the settlements led to the destruction of the topsoil, thus depriving the settlers of their economic base. Also, the traditional practices of shifting cultivation and crop rotation as practiced in their previous settlements were no longer possible. This meant intensive cultivation of the available land for many years without shifting, leading to the destruction of soil nutrients. Coupled with these constraints were the ecological changes described above. Since the amount of land allocated to each individual was so small, it became apparent that a meaningful living could not be sustained in the settlements.

**Migration.** Response to the failure of agricultural production due to climatic changes and poor organization started a process of migration in the basin. For instance, in the resettlement town of Amate, the population in 1964, soon after evacuation, was 4,067. In 1980 it was 1,813. This figure increased to 2,320 in 1988, when the expected population in 1988 should have been 17,498. Typically, younger family members left town and their aging parents behind. Those who were left behind to cultivate the land faced severe drought leading to the failure of their crops. As a result, people had to travel to barter fish for food crops.

The first massive exodus of settlers came a few years after resettlement. The second phase was that of reoccupation after 1970. The Volta Basin was reoccupied by people from different parts of Ghana who were attracted by the fishing potential of the lake and later by the fertile lands in the Afram Plains.

It was not appreciated that the cash returns from the fish catch under Ghanaian conditions would be attractive. On the contrary, the returns were high and the fish catch from the lake rapidly exceeded 20,000 metric tons. As a result, many traditional fishermen who had abandoned fishing and gone to work elsewhere returned to their traditional activity. These included skilled tradesmen and teachers. One study located 950 fishing villages, mostly newly established, along the shores of the lake. The population of the fishing communities was estimated to be 60,000 people.

In recent times, Mpamu and Amate resettlement towns have benefited from immigration. In Mpamu, 23 percent of survey respondents were migrants who were not among the original resettlers. In Amate, immigrants account for 54 percent of total households. Most of these were fishermen who were attracted by the fishery potential of the Volta Lake.

The abundance of fish has also provided work (fish smoking and drying) for women in the affected area. However, creek fishing in the lower Volta has suffered. Although the towns and villages of this area have had a wave of prosperity due to the fact that people who migrated from the area to the lakeshore fishing villages spent some of their savings in their home towns.

**Irrigated Agriculture.** The major response to the ecological changes, especially in the Afram resettlement area, has been the shift to drawdown irrigated farming. Drawdown agriculture refers to farming along the littoral zone of the lake.
which is seasonally inundated and becomes exposed as the waters recede in the dry season. Moisture is retained in the soil after inundation, which helps to produce crop yields much higher than those of the upland areas.25

This type of agriculture was first started on an individual basis. When the idea caught on, people petitioned the VRA for licenses to occupy drawdown land. These lands were used mainly for tomato cultivation. The land was prepared in October and November and tomato seedlings planted in December. Harvesting was carried out before the lake started rising after the first rains. Studies show that the yields have been encouraging.

However, drawdown farming is not popular with every farmer in the resettlement towns. For instance, in Amankwaakrom, due to the inland location of the town, this form of agriculture is not popular and only 35 percent of the farmers are engaged in drawdown farming. Using traditional hoes and cutlasses, farmers grow beans, rice, pepper and tomatoes for market.

Attempts to make the best of the situation in the resettlement towns have spawned many interest groups, notably cooperative organizations. For example, currently 80 percent of the farming households at Mpamu belong to a cooperative organization for irrigated agriculture.26 Technical changes imposed by drawdown agriculture have also begun to make an impact on the people of Mpamu in social as well as economic terms. There are new patterns of cropping, mechanization, and increasing use of improved seeds and chemicals.

Income levels are higher than in the last two decades. At Mpamu, over the past six or seven years, local employment has expanded and residents have received substantial cash income. It has been estimated that over 57 percent of the farmers earn 50,000 cedis per year from tomatoes alone, and 38 percent earn over 70,000 cedis per year.27 At Amankwaakrom, income levels are higher than in Amate and Mpamu. In early 1987, a household budget survey showed that the average annual household income was 37,000 cedis.28 In 1988, men in Amankwaakrom had an average annual income of 147,000 cedis while women had 16,500 cedis. The differential level of income between the sexes may be due to the multiple roles of women and the type of farming they are engaged in.

Conclusions and Recommendations

Changes in policies, as a result of increasing or decreasing aspirations on the part of policymakers and planners, are not conducive to the effective implementation of resettlement programs. Such changes are likely to affect the development of the new settlements. Local pressures very often lead to the implementation of policies which in the long run prove inimical to the interests of the resettlers and the larger society.

For instance, the government policy to provide better facilities than what the
resettlers had before created a problem of meeting the operation and maintenance costs of the services. Efforts to get the local administration of the district councils and utility agencies to take over the operation and maintenance of the services failed. The reason appears to be that the principal services provided in the resettlement towns were undoubtedly superior to those provided in similar rural non-resettlement villages and towns of the districts. The local authorities do not collect enough from the settlers to meet running and maintenance costs, as the services tend to create a heavy financial burden.

In executing programs, time is of the essence. Most of the initial problems encountered were the result of lack of adequate time for planning and implementation of resettlement programs. In the Volta resettlement scheme, activities were poorly scheduled. Resettlement activities started after dam site preparations began, allowing insufficient time to undertake the necessary research and to relate it to effective development planning.

After twenty-five years of resettlement, there is still a lot of human suffering in the resettlement towns. The traumatic experience seems to have deprived some of the resettlers of the ability to plan their own future. While in some settlements the mood is now different from that of the last two decades, when the mood was one of despondency, there is still an attitude of dependency. Some resettlers do not take a gloomy view of the future, but expect the government to make a commitment to helping them plan their future.

Three specific recommendations may be made:

1. There is a need to broaden the feasibility studies carried out in planning for resettlement. Adequate research should cover both immediate and long-term effects. Surveys and baseline studies relevant to local development should be carried out. Studies which can be expected to increase control of the physical, sociocultural, psychological and biotic environment are needed. In the case of the Volta resettlement experience, too much was attempted by the planners on the basis of insufficient data on local conditions. The ecological and climatic changes were unforeseen as there was insufficient data to make such an assessment.

2. A high-level coordinating body consisting of representatives from government, sector agencies, researchers and scientists, local people, and the dam authority is essential. In the case of the Akosombo Dam resettlement, the organization set up to plan and execute the program was known as the "working party." The working party did not have full control over the departmental heads who had the responsibility to implement various parts of the program.

3. It is necessary for all development agencies to have a proper perspective on the possible impacts of the project. A typical example of neglecting to consider potential impacts is the failure to develop a fisheries programme and to anticipate migration processes in planning for resettlement in the Volta Basin.
In conclusion, it appears that in the case of the Akosombo Dam resettlement, planners overemphasized the national interest of the Volta River Project, as against the local interests of the resettlers.

The Akosombo Dam resettlement scheme has highlighted far-reaching human problems and challenges. One may note in particular the dilemma of retaining a relatively stable social structure under pressure from the affected people themselves, who see in resettlement an opportunity for progress and development, defined in terms of the introduction of Western-style innovations. A corollary is the dilemma of promoting sustainable development without creating a dependency syndrome on the part of the resettlers.

Often these are impossible tasks to perform successfully. Since resettlement is inherently disruptive, perhaps the best solution is to seek alternatives which can avoid institutionalized resettlement altogether.
NOTES


Involuntary Resettlement in Africa


20. King, op. cit. 130.


24. Diaw and Schmidt-Kallert, op. cit.


27. Ibid.


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CHAPTER 9

THE KAINJI LAKE EXPERIENCE IN NIGERIA

J.S.O. Ayeni, Wolf Roder, and J.O. Ayanda

The creation of Kainji Lake and the consequent resettlement of 44,000 people was the single largest project of Nigeria's first development plan (1962-68). Initiated by an Act of Parliament which set up the Niger Dams Authority to construct and operate a hydropower dam on the Niger River, it was seen as a cornerstone of economic development. Of its total cost of 80 million pounds sterling, one-quarter was required for the resettlement effort.

The primary purpose of the dam was to generate 960,000 kilowatts of electricity from twelve turbines of 80,000 kilowatts each to supply industrial, commercial, and domestic users. In addition to this, the dam was expected to achieve three other important objectives:

- To store water for flood control and for irrigation, thus allowing year-round cropping to feed the increasing population of the country.

- To improve navigation on the river by submerging obstacles such as rocks and rapids, thereby enabling barge traffic from the Niger Delta to Niamey in the Niger Republic.

- To increase the catch of fish in the man-made lake environment.

The dam was closed on August 2, 1968, to form a lake which is 135 kilometers long and 25 kilometers across at its widest point. It has a surface area of 1,250 square kilometers, with a storage capacity of 15 billion cubic meters, of which 11.5 billion are available for use. The maximum drawdown for power generation is 10 meters, at which time about one-half of the reservoir bottom is exposed.

J.S.O. Ayeni is an ecologist who has been Director of the Kainji Lake Research Institute (now the National Institute for Freshwater Fisheries Research) since 1986.

Wolf Roder is a Professor Geography at the University of Cincinnati. His association with Kainji began in 1966 when he served as FAO socioeconomicist on a team which studied the region before impoundment and resettlement. In 1989-90, he returned to Kainji to assess how people around the lake had fared since the dam was closed.

J.O. Ayanda is Assistant Chief Research Officer of Obafemi Awolowo University, where he heads the Socio-Economics and Extension Services programs. His research work focuses on the social and economic impact of dams on resettled populations.
Kainji Lake is counted among the dozen largest man-made lakes on the African continent. The lake is located in an environment of guinea savanna woodland, with a mean annual rainfall of 1000 millimeters, divided into a rainy season and a dry season of equal lengths. The rainfall, and with it the vegetation, diminishes from south to north, so that Yelwa is somewhat drier with a shorter rainy season than New Bussa.

To permit formation of the lake, about 44,000 people were displaced and had to be resettled near its shore. With the exception of a few civil servants and traders, these were all peasant farmers, fishermen or nomadic pastoralists. The people were told to expect improved social and economic conditions from the dam after resettlement, although the specifics of these promises remained implied rather than spelled out. Expectations included better roads and water supplies, along with social services including schools and health centers.

Unfortunately, of the four objectives enumerated above, only the last has been fully achieved. Only eight of the twelve turbines have been installed, so that no more than 760,000 kilowatts can be generated. Initial estimates of river flow by British consultants proved to be over-optimistic. Experience has shown that actual flow makes it unlikely that the design capacity of the dam will ever be achieved. With the passage of time, it also becomes increasingly difficult to obtain turbines of the necessary, and now outdated, design.

Of the four major irrigation projects initiated by the Niger River Basin Development Authority, none has borne fruit. The largest, covering 20,000 hectares on the Kontagora River, has been abandoned. Two somewhat smaller projects of 5,000 hectares each continue under construction. The smallest scheme of 320 hectares is chiefly used by secondary farmers who have other jobs and pursue farming as a supplementary activity. The limited success of the government projects is in striking contrast to the modest success of small-scale irrigation efforts by farmers.

Kainji Dam is provided with a locking chamber served by a 6-kilometer long access canal, capable of taking four barges of 5,000 tons each simultaneously. The 49-meter lift of this lock is said to be the highest in the world. River transportation by tow and barge, for which further canals, locks, and quays were provided upstream and downstream of the dam, never materialized. During the long construction period, transportation by road and rail became more important means of hauling goods and people. In truth, hardly any barges or other craft have been locked through Kainji Dam since its completion.

One clear implication of these failures is that development projects should avoid over-ambitious planning without consideration of implementation delays and without securing adequate managerial resources. The remainder of this chapter will focus on the long-term impact of the dam on the social and economic well-being of the resettled people.
Kainji Lake Resettlement

The impoundment of the lake displaced 44,000 people living in 4,320 houses in 239 settlements. Through consolidation of some villages on a voluntary basis, 141 new settlements were formed with a slightly larger number of houses (4,517). Among the many studies devoted to examination of the results of resettlement, Oyedipe's book stands out. References cited in this paper can only represent a small sampling of the extensive literature concerned with the lake. Comprehensive access to this body of work may be found in the extensive bibliographies of Ibeun.

Resettlement occurred under two successive policies. The first seventeen villages were merely compensated in cash, and then resettled themselves at indicated locations. Later, villages were compensated with built houses and some cash for grain storage structures.

Cash Compensation. By 1963, there was an immediate need to move the people from Kainji Island and from the surrounding construction area and saddle dam location. At the time, little was known about the people, and even their numbers were a mere estimate. Cash compensation and self-help moving was decided upon because it was thought that the people were used to moving their villages and competent to build their traditional compounds. Consolidation into eleven new villages took place, and some piped water, schools and markets were provided.

Without any evidence of a lake forming, people were distrustful of government claims. Their reluctance to move from the river caused delays and manpower shortages when everyone needed to build a house at the same time. The Resettlement Authority recognized that traditional mutual help among family and friends would be difficult when every family was engaged in construction.

Replacement Housing. The new policy called for the authority to construct basic sandcrete-block houses in an architectural adaptation of three traditional styles. With villages erected in their new locations, the move took place in the last dry season before the lake began to rise in 1968. The actual move went smoothly and quickly with the help of lorries and tractors to transport people, crops, and possessions. No village was caught in the rising lake waters, although there were the inevitable mixups and delays. Most villages were merely moved to the shore of the lake. Eighty-nine villages with a population of 22,576 moved as units without change. The other 150, with a population of 21,427, were consolidated into 52 new villages based on their own choices.

The resettlement of such diverse groups of people was an exercise of great complexity and difficulty. All accounts have high praise for the honesty and conscientiousness of the Resettlement Authority under the leadership of Alhaji Shettima. It was highly unlikely, however, that the modified traditional house designs of unfamiliar materials would be received with unmixed enthusiasm by everyone. Among their advantages, the new houses are permanent and fireproof. The asbestos or aluminum roofs are less subject to leaks than traditional thatch. However, the thermal properties...
of sandcrete make the houses much hotter or colder than traditional mud houses. The absence of granaries, smoke ovens, and mud beds initially involved the people in heavy construction demands. Windows, doors, and ventilation were criticized for being too small or too large and not being provided with closures. People accepted their houses, however, and immediately set about modifying them to their liking by traditional mud construction. Desertions or abandonments were few in number.4

Resettlement Impacts

Three years after the move, Oyedipe drew a stratified sample of twenty villages and interviewed a random sample of thirty household heads in each village. As some villages comprised less than thirty compounds, his total sample included 513 households. He asked the resettlers to compare their new environment with their old villages, taking into consideration houses, farmland, water supply, roads, and markets. His analysis indicates that two-thirds of the respondents felt they were better off; a quarter claimed not to perceive any difference; while four percent felt they were worse off than before. Some of the latter deserted their new compounds. Oyedipe came to the conclusion that the resettlement had been a resounding success. He found the truth of this conclusion reinforced after he had an opportunity to compare Kainji with the experiences at Lakes Volta and Nasser.5

Among the many reasons advanced for this success, several appear the most important. Only minimum necessary pressure was used to ensure people would leave their old homes. Having agreed to leave, no further demands were made to interfere with their social, economic, and cultural traditions. The new compounds became their absolute property, and no attempt was made to limit their use of modifications, even to the point of desertion or sale. In addition, some central services, water supply, market structures, and mosques were built in many villages.

Today, a majority of the people have adjusted well and remain in the resettlement houses. Most compounds have been extensively modified to cope with increasing extended family size and with education, which creates demands for a more urban lifestyle. With twenty years of tree growth shading what was once raw construction, the resettlement villages now appear little different from the adjacent non-resettlement villages. Although some of the old men express nostalgia for the island way of life, a new generation is growing up for whom the lake is the only environment they have known and love.

Several scholars have advocated borrowing the experience at Kainji as a guide for other resettlement schemes in Nigeria.6 And indeed, the authorities have not remained oblivious to research and experience. The resettlement at Jebba Reservoir, 38 kilometers downstream from Kainji, was based on the existing model. In this case, as in others, even more acceptable houses were introduced, based on standard Nigerian structures with corrugated steel ("zinc") roofs.
Ecology and Environment

The guinea savanna region of the Kainji Lake area is exploited for irrigation and dryland agriculture by peasant farmers. It is further used for livestock grazing both by sedentary farmers and by nomadic pastoralists. Artisanal fisherfolk exploit all parts of the lake environment, the inshore shallows and the deep water, the permanent and the drawdown swamps, and the tributaries. Many species, from small eluteid sardines to the largest Niger perch, are taken. In the form of smoked, dried, and fresh products, they enter local and long distance trade channels to supply the large cities of the nation.

With sections located to the east and west of the dam, Kainji Lake National Park is strongly associated with the lake. The present National Park was demarcated as Borgu Game Reserve at the time construction commenced. With impoundment, its boundaries were extended to the lake to take in the deltas of the Doro, Timo, and Menai streams. The park, dam, and lake form a tourist complex which attracts about 5,000 visitors annually.

Our understanding of the flora and fauna of the region derives importantly from research conducted in the park. One of the earliest ecological surveys of the park listed the fauna of the reserve and estimated their numbers in the west section of the park. Comparing these numbers to those collected by Ayeni in 1987, an unfortunate decline is evident in all species except kob. Elephants appear to have vanished entirely. The main cause of this decline is believed to be poaching by local people and outsiders.

Over 130 bird species are resident in the area, especially along the shore line and in the riverine forest. Some of the bird life represents paleoarctic migrants whose residence is confined to the dry season. There are a number of reptiles located in the park, including crocodiles and monitor lizards. It has been observed that none of the African mammalian and bird species has been listed as part of the international genetic pool of domesticated species. A prime candidate for such listing would be the many wild and domestic guinea fowl varieties of this area.

A list of plant species in the park was produced in 1976, together with a detailed vegetation map. This work has since been extended to provide a list and guide to the common aquatic plants of the lake region. Of greatest importance is Echinochloa stagnina (burugu grass) which is widespread in the lake shallows. It has a protein content of 9 percent and provides indispensable dry season fodder for livestock.

Tourism was never seen as an objective of the dam, but it has developed as an unforeseen beneficial impact. It generates revenue for the park and provides a source of employment for the local people. However, future tourism prospects will depend on careful conservation of park resources. The decline of wildlife must be halted by protection against poaching and disease. The native vegetation needs to be defended against grazing livestock and the felling of trees for firewood or cattle browse. What is specifically true of the national park can be more generally applied to the rest of the lake area, since the savanna environment extends throughout the region.
Agriculture

Farming was and remains the major occupation of the inhabitants of the Kainji Lake area. The improvement of agriculture near the reservoir, in the drawdown area, and by reclaiming fadama land below the dam, was one of the project objectives. To this end, soil studies were carried out in the region. The two studies together found about 2,400 hectares of irrigable lands located at various places above the 144.8 meter contour and below 152.5 meters. Since only between 330 and 450 hectares of irrigated gardens were lost to the lake, this may be regarded as an adequate supply. In a separate study, the soils of the lake bottom were evaluated. This study found that land between the 137.7 meters and 144.8 meter contours comprising about 19,000 hectares could be suitable for intensive farming. Land below 137.7 meters is exposed for too short a period to permit cultivation. A study of the general agricultural potential of the area found the soils capable of supporting many different crops, from grains to vegetables to root crops, either farmed by irrigation or in the drawdown area.

More recent studies have examined the yield response to fertilizer at different contour levels. These studies show that the period during which the drawdown area is exposed is of major importance. At a high contour, the land becomes dry too soon, while at a low contour the rising lake water may force an early harvest, thereby curtailing yields. Thus there is an imperative need for farmers to know the intentions of dam operators in terms of predicting the rise and fall of the lake waters.

Before impoundment, peasant farmers practiced irrigated agriculture along the banks of the river during the dry season when the river was in flood. Small gardens relied on lifting water by hand in large calabashes or by shaduf. Among a variety of crops grown, onions stand out as the major cash crop shipped to all parts of the country. The lake flooded large areas of the alluvial bottom lands and islands which were the original site of this activity.

Because the lake did not rise to its highest level in the first year, the 1968-69 season saw no onion farming. By the following year, however, the farmers had re-established their irrigated gardens. About a third of the farmers engaged in this kind of irrigation and the more serious among them were able to work an average of 0.2 hectares each. Onion yields were estimated at 12 tons per hectare. Over time, the use of petrol pumps became the most desired means of lifting water. Since these pumps command a higher lift and a larger field, they have all but replaced the traditional hand methods of irrigation.

The most recent study of farming in the drawdown area indicates that this activity still relies mainly on the use of hoes and cutlasses. On the average, 0.9 hectares of land is used per farmer, and a large part of this land lies fallow or is used only for livestock grazing. This study suggested that only mechanization would provide the speed and timing needed to fully exploit this land for crop production.
Pastoralism

Of all the people of the lake region, the nomadic Fulani pastoralists suffered perhaps the greatest loss of resources. A pre-resettlement survey reported that there would be a loss of 359 square kilometers of grazing land supporting some 100,000 head of cattle. It suggested three measures: (a) setting aside suitable grazing land for these cattle; (b) provision of camps for the transhumant Fulani; and (c) eventual establishment of new grazing lands in the vicinity of the lake to avoid cattle moving to the neighboring republics of Benin and Niger. Since the nomads owned neither land rights nor permanent homes in the lake area, they did not participate directly in the resettlement program. Many left the lake area at the time of impoundment in the course of their normal migrations to Benin and Niger.

The response of the Niger Dams Authority, with the help of the Food and Agriculture Organization of the United Nations and at a cost of 260,000 naira, centered on the establishment of grazing reserves near Bin Yauri and Yashikera. Earth dams or ponds were established at 8 to 10 kilometer intervals. The project met with only limited success because the grazing land was frequently burned too early in the dry season. In any case, the grazing reserves proved inadequate when a succession of dry years in the 1980s drove large numbers of Fulani herds towards the better watered south. The shores of the lake, the drawdown area, and the aquatic vegetation of burugu grass have become indispensable dry season grazing resources. They have attracted a large number of pastoralists into the area, more than doubling the livestock numbers.

This increase in livestock numbers, together with the simultaneous need for more cropland by farmers, puts increasing pressure on grazing resources. There is evidence of range deterioration as a consequence of overgrazing. Bare patches of soil and an increase in termite hills may be observed. To feed their livestock, pastoralists may lop off branches of preferred trees for their browse. Early burning of the grass to encourage a flush of new growth exhausts the nitrogen content of the soil. No effective remedy for these problems is in sight at this time.

The age-old conflict between farmer and herdsman continues in the region. Cattle are capable of inflicting considerable damage on crops, but are encouraged to graze the stubble after harvest with the farmer obtaining the benefit of livestock droppings. Conflicts are exacerbated in the dry season, when the lake water and grazing attract large herds. At the same time, onion and vegetable production are in full swing, so that farmers have to constantly protect their gardens with vigilance and fencing. Sedentarization of the cattle herders has been proposed as one solution.

Fisheries

The Niger River has been fished probably as long as there have been human settlements along its banks. Based on research conducted in 1966-67, Jenness vividly discussed the fishing and fishermen of the region. He found only 500 full-time professional
fishermen who migrated within the area with the seasons. Many of these originated from the upstream areas of Argungu and Birnin Kebbi. For the greater part of the farming population, fishing was a subsidiary occupation exercised during the low water season.

Several types of fishing gear were used effectively, adapted for use by one or two men. They included hooking and baited lines, as well as seven kinds of fishtraps woven by hand from local grasses. Several different kinds of nets were used, and plant poisons were used in small pools. Fishermen also had a variety of harpoons and spears for large fish, manatee, hippopotamus, and crocodiles. The complement of gear has not changed in essentials since this study was done, although fishermen from the delta have introduced a large hinged liftnet, the atalla, for catching small clupeid sardines. What has changed is the distribution of equipment, as the open lake has made the use of cast nets and gillnets more effective. Over all, the artisanal fishermen are quite capable of exploiting the varied resources and environments of the lake.

At the time of impoundment, all local boats were dugout canoes, abara. Small boats were constructed locally, while large abara were brought from the southern forests. These craft proved difficult to use on the lake. At the same time, large local trees were declining in number, and the dam did not permit passage of large abara from downstream. Research conducted at the Kainji Lake Research Institute provided leadership in the construction of small boats from planks, and in the establishment of local boatbuilding workshops. Today, a 6-meter boat is the standard craft, with larger plank boats, driven by outboard engines, serving as transporters.

Estimates of total catch from the river before the lake are extremely haphazard, but have been given as 3,000 to 4,000 tons. A feasibility report for the project predicted that this would rise to 10,000 tons after impoundment. Soon after closure, decaying vegetation fertilized the reservoir, followed by the expected increase in plankton and algal blooms. The consequent explosion of the fish population lasted only three to four years. Total catch in 1969 was estimated at 17,000 tons; in 1970, 28,600 tons; in 1971, 11,000 tons, and in 1972, 11,000 tons. After that, total catch estimates drifted downward to reach 4,500 tons by 1977, and the annual offtake is believed to have stabilized at that level.

Overfishing may have contributed to the decline in the catch. The evidence includes (a) a decline in catch per boat and per fisherman, (b) use of increasingly smaller gillnets to catch immature fish, (c) low productivity of the littoral zone, (d) high concentration of fishermen per unit of lake surface, and (e) rise in effort expended to catch a unit weight of fish. The rapid influx of fisherfolk which took place immediately after dam closure confirms this picture. Most of the temporary fishing camps of the immigrants have today become permanent villages with mud houses and zinc roofs. At the same time, there is no doubt that some changes in species composition and abundance must be ascribed to ecological causes rather than to fishing intensity.

In this situation, some conservation measures may pay significant dividends. Ita has advocated limiting the minimum mesh size to three inches, reducing the pressure by
requiring licensing of fishermen or boats, and prohibiting the use of poisons. With sound management, it is estimated that the lake could produce between 8,000 and 12,000 tons per year, which is in line with the pre-impoundment estimate.

The National Institute for Freshwater Fisheries Research is engaged in intensive research on aquaculture in ponds and cages, and in fish breeding experiments. Yields of 6 kilograms per square meter to 21 kilograms per square meter of tilapia grown in cages have been obtained by manipulating the stocking rate. Such yields exceed a thousand-fold what can be obtained by gillnet fisheries. Aquaculture may prove to be the most effective technology for fully exploiting the resources of Kainji Lake.

Lessons Learned and Knowledge Needed

1. The original concept of the Kainji Dam with its diverse objectives was perhaps overambitious, involving a measure of political prestige rather than cool planning. With only eight of the twelve turbines finally installed, even the primary objective has not been achieved. There is a need for a comprehensive planning approach to development projects which will pay careful and continuous attention not only to the construction phase but also to long-term operation and its costs.

In this context, it is worth noting that a second dam has been built 38 kilometers downstream of Kainji at Jebba. In turn, it has had unfortunate impacts on two major Nigerian industries located downstream by curtailing their water supply. The Nigeria Sugar Company at Bacita has been unable to reach its design capacity of 50,000 tons of sugar from 7,500 hectares of land. Its operations have been confined to 5,600 hectares and a production of 35,000 tons annually. The Nigerian Paper Mill at Jebba found water levels falling below its pump intakes, and had to shut down production temporarily, having suffered considerable damage, estimated at 15 million naira, to their equipment. Clearly, the lessons that could have been taught by the problems at Kainji have yet to be learned.

2. The plans for Kainji failed to provide specific proposals to achieve the expected irrigation benefits. Either these should have been omitted or the intentions, plans, and directives should have been clearly spelled out. It is only to be expected that after-the-fact government projects failed, while the modest success of the peasant irrigation farmers should be getting more support from the authorities.

3. Barge transport was prominent on the Niger River when Kainji Dam was in the planning stage. Its importance persuaded the planners to include lock chambers, quays, and landing steps in their design which were then constructed at great cost without consideration for the changing national pattern of transport. The locks are not used, as no barge has locked through either dam. Had a timely planning process investigated the need for water transport in the light of road and rail alternatives, these costly mistakes might have been avoided.
4. A lack of fishery regulations has made it difficult to control the influx of migrant fishermen or to limit the use of various gear and methods of fishing. Fisheries law should be considered as one aspect of man-made lake development.

5. Despite the numerous ecological studies carried out in the Kainji Lake National Park, there has not been continuous implementation of the mitigation measures recommended for the Kainji Basin area. We have a clear understanding of the pattern of habitat use and the intensity of vegetation consumption by wildlife and livestock species, but we lack the financial capacity for monitoring and enforcing the required legislative and fiscal measures.

Tourism has been one valuable though unforeseen result of dam development. As one of the few viable reserves in West Africa, the Kainji Lake National Park may deserve the attention and support of the major international wildlife conservation organizations, such as the World Wildlife Fund and the International Union of Conservation and Nature.

6. The resettlement scheme was a success because it aimed at replacement of lost villages, and left the people undisturbed in their social, economic, and cultural life. Resettlement and economic development are separate activities. Since the resettlement, additional wells, schools, and health centers have been built by government. Major new tarred roads have reached the west bank and the north end of the lake. Unfortunately, other roads provided by the resettlement scheme have been allowed to deteriorate through neglect of maintenance. There have been modest advances in mechanization of irrigation and lake transport, in livestock numbers, in dug wells, and in education. Such advances are due to the initiative and hard work of the peasant farmers and the artisanal fishermen themselves. Their progress and enlightenment needs to be supported with roads, communications, and health and education infrastructure.

7. The conflict between nomadic herders and farmers, and the possible solution through sedentarization of the former, remains an open issue. There is much research yet to be done in this area.

8. At the time Kainji Dam was planned, little attention was paid to environmental impacts, and scientific knowledge of the region was in its infancy. Considering the problems that resulted from reservoir creation, it appears important to incorporate an environmental impact assessment process into planning activities in Nigeria. Environmental assessment may have the additional benefit of identifying areas of weakness and misplaced emphasis in the planning, construction, and operational stages of a project. Even now, the magnitude of the effects of farming, grazing, and the concomitant use of chemicals such as fertilizers and herbicides, on the lake water, fisheries, and the soils of the Kainji Lake Basin, is very poorly understood and never subject to a thorough cost analysis.

9. There is a need for national fishery legislation to regulate and manage the fisheries in man-made and natural lakes in Nigeria. Laws to be enacted need to address
the roles of aquaculture in cages, pens, enclosures and ponds as a part of fisheries. Only under a clear legal mandate can the management of a high and sustained yield be foreseen.
NOTES


4. Oyedipe, op. cit.


The Kainji Lake Experience in Nigeria


18. Roder, W., *op. cit.*


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30. Otubusin. Personal communication.
Most observers seem to agree that African resettlement projects have not generally been successful, and that efforts have often fallen short of expectations by a considerable margin. Studies carried out by the World Bank and by individual researchers reveal a number of common shortcomings that recur in resettlement operations. These are problems of policy, organization, implementation, and resources, and most of them have been addressed in contributions to this volume.

Based on lessons drawn from past experience, the World Bank has adopted a formal resettlement policy which defines the basic principles, procedures and conditions applying to relocation schemes. Particularly in terms of safeguarding the interests and participation of local populations, the Bank guidelines appear to be excellent. As the importance of resettlement planning in development programs for Africa appears likely to increase, government and development agencies will need to pay more serious attention to policy action and project design to mitigate negative impacts of such programs and to create developmental opportunities for the participants.

While such efforts are indeed important, there is an urgent need for a more broad-based approach to managing large-scale population movements in many parts of the African continent. One major problem with most resettlement projects is that they have to be based on integrated and coordinated efforts. They tend to be quite expensive, and have to be large and complete to begin with. In other words, learning, flexibility, and opportunistic adaptation — precisely the qualities needed when the chances of getting it right the first time are small — are likely to be ruled out. In addition, in order to be successful, resettlement projects presuppose that someone is in a position to manage them.

The ability of African governments and their agencies to undertake integrated programs of this kind clearly varies, but is often quite limited. In many countries, administrative capabilities are exceedingly scarce and governmental structures too fragile and ineffective to serve as instruments of development.1

The existence of such problems does not mean that involuntary resettlement programs should not generally be implemented, nor does it mean that Bank guidelines
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should not be adhered to. There is bound to be an overall rise in projects causing resettlement. This rise will be most pronounced in urban infrastructure projects, and a great number of projects will be in Africa. Despite such developments, involuntary resettlement will continue to affect a relatively small number of people compared with the numbers involved in voluntary movements and population displacement due to wars, ethnic strife or ecological deterioration. Such large-scale ebbs and flows of population pose major challenges to governments trying to develop strategies for economic growth and social change. Given the current growth and mobility of Africa's population and the problems following from the spatial distribution of the population in relation to productive resources, there is an urgent need to explore and identify alternatives to very demanding resettlement operations. Such alternatives are likely to be environmentally focused land management programs based on the need for planners to facilitate development rather than to superimpose preconceived programs on settler populations.

The case of Kassala Province in eastern Sudan embodies some of the central concerns planners should be taking into account.

Kassala Province Area Description

Kassala Province is situated in the eastern region of the Sudan between the Eritrean Hills in the east and the Blue Nile in the west, covering an area of more than 120,000 square kilometers. The most characteristic feature of this land-locked province is the extensive flat clay plains, which comprise one of the world's largest areas of black cotton soils.

Despite the apparent uniformity, a relatively large variety of vegetation and land uses is found. This is due to the considerable climatic variations and the rivers which flow into the province. The climate is hot and tropical, semi-desert in the north (with average annual rainfall less than 150 millimeters) and wet monsoon in the south (with average annual rainfall more than 800 millimeters).

In 1988, the estimated population of Kassala Province was 2.7 million, of whom approximately 700,000 were refugees, most from Ethiopia. The estimated increase per year over the period 1978-88 was about 5.6 percent due to natural increases, migration and the influx of refugees.

Land Use

Before the colonial era, pastoral nomadism was the dominant way of life in the province. In specific areas favorable to permanent human settlement, land was also used for rainfed, small-scale subsistence cultivation. Land use changed rapidly during the late colonial era and after independence in 1956. This led to sharp competition for land and the emergence of an economy with a dual nature, traditional as well as modern. This period was characterized by the increasing degree of diversity, spatial expansion and the intensity of land use that became manifest in the late 1970s and the early 1980s.
Today, over 60 percent of the active population is engaged in agriculture. Rainfed farming occupies over 90 percent of the agricultural area, while the rest is allocated for irrigation farms. There is a declining subsistence-oriented type of rainfed farming which still supports a larger proportion of the population than the expanding large-scale mechanized rainfed farming practiced on private schemes and state farms. Main rainfed crops are sorghum, sesame and sunflower; principal irrigated crops are cotton, groundnuts, wheat and sorghum.

Livestock production is an integral part of the activities of almost everyone in the area. The Butana plain, which covers about one-third of the total area of the province, is traditionally considered one of the best pasture areas in the Sudan. It is believed that the total livestock population, despite recent losses during the 1984-85 drought, is twice as high as in the early 1950s. While such estimates remain uncertain, they still indicate the continued importance of livestock rearing in Kassala Province.

Expansion of Agriculture

Since the early 1960s, there has been a steady expansion of large-scale irrigated and rainfed farming in the province. Whereas the expansion of irrigated agriculture has been through public investment, the greater part of the growth in rainfed mechanized farming has been through private investment. Despite the apparent wish of the government to control land rights and limit holding size, much of this development has been unauthorized.

Today, mechanized rainfed farming occupies more than 20 percent of the surface of the province. Land is leased from the government of Sudan at a nominal rent. While start-up costs are high, cheap credit has been available and labor costs are low, workers being recruited from as far away as western and southern Sudan on a seasonal basis. A system of crop rotation with fallow is prescribed, but mandatory fallow periods are generally not respected and sorghum monocropping is widely practiced. As a result, yields tend to drop sharply after a few years, a problem traditionally "solved" by farmers expanding onto new, vacant plots.

The expansion of mechanized farming has had a far-reaching impact on pastoral nomads. It has reduced grazing areas, particularly wet season pasture, disrupted nomadic routes of migration, and blocked access to watering points originally intended to serve pastoralists. Attempts have been made in south Kassala to regulate grazing activities and control the expansion of mechanized farming, particularly through the enactment of a regional law to enforce a grazing line and demarcate nomadic routes, but the political lobby of the farmers has so far proved formidable. Currently, schemes are being established even in the heart of the Butana rangelands, and during the height of the dry season, pastoral households have to pay exorbitant prices for grazing their herds on schemes after harvest.
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With the abolition of the system of native administration in 1971, there has been no credible institution capable of articulating and pursuing the interests of pastoralists in interaction with government institutions. Many new groups have entered the area, and there is increasing nomadic competition over watering points and pasture lands. The shortage of water has led to considerable digging of private wells among well-off pastoralists and merchants. An increasing number of pastoralists also resort to purchasing agricultural residues in mechanized farms.

The consequent rise in the cash requirements of pastoral production threatens to deplete the herds of small pastoralists. The conditions under which the majority of pastoralists in the area live are quite severe, and there are also clear signs of environmental deterioration.

On the other hand, intensified commercialization of livestock production has also offered opportunities, both to better-off pastoralists as well as merchants and settled farmers. In their hands, pastoral activity is being steadily transformed into a full-fledged capitalist form of production pursued on the basis of wage herding and increasingly commercialized inputs of animals, fodder and water. The main strategy of these groups is to settle and invest in hand-dug wells to secure water for their animals and to fall back on agricultural residues in rainfed mechanized schemes for fodder.

The irrigated schemes also play an important part in developments within the province. The New Halfa Scheme was established in 1964 to serve not only as a settlement area for local nomads but also for the resettlement of about 50,000 Nubians forced from northern Sudan by the construction of the High Dam at Aswan. Since its establishment, New Halfa tenants have been struggling to cope with low yields and low revenues, due to factors such as insufficient irrigation water, lack of machinery, fuel and spare parts, a distorted disincentive pattern, and rising production costs. As a result, the majority of tenants combine agriculture with other sources of income, whereas others leave their tenancies for fellow tenants or share-croppers to cultivate, thus making it possible for some tenants to expand their own holdings.

For tenant farmers with a nomadic background, the establishment of the New Halfa Scheme has resulted in a new type of transhumance. Animals spend the wet season and part of the dry season on the Butana and are driven back to the scheme for crop remains and other grazing during the height of the dry season. This alternative use of range pastures and scheme grazing land has affected herd size and herd composition. Although reliable figures do not exist, it seems clear that the scheme has contributed to an increase in animal numbers and a tendency to breed sheep, goats and cattle, rather than camels which are not accepted inside the scheme by management.

Because tenants can maintain their consumption level with agricultural income in times of shortage rather than by slaughtering and consuming their herds, tenant households seem to be less sensitive to ecological pressure than nomadic households. As a consequence, there has been a deterioration of the conditions in the rangelands caused
by changing patterns of land use and the wider access to lands formerly retained by particular groups of pastoralists for their own exclusive use.

A recently published report, "Environmental Profile of Kassala Province," portrays the situation as quite alarming as far as cultivated lands and rangelands are concerned. Erosion is a serious problem and constitutes a real danger to the sustainability of the use of lands for grazing as well as cultivation.4

Given the fact that the region is commonly regarded as one of the most productive areas in the Sudan, holds a population of nearly 3 million and presently plays a crucial role both in terms of food production and in terms of national earnings from major export crops, a decline in production and sustainability of present economic activities will have serious consequences beyond the boundaries of the province.

One particularly worrisome aspect is the excessive urban migration which has taken place over a short period of time. This process, triggered not by urban economic development, but by rural poverty, accelerates the deterioration of the environment in the vicinity of the towns. It also creates enormous urban problems since present services and infrastructure do not meet the needs of the people.

Interconnections and Strains

The interconnections which exist between developments within agriculture, pastoralism and urban centers do not by themselves represent a new development. As in other parts of the Sudan, groups have typically had to survive by operating social and economic networks which often cross ecological zones and help link them together. Building and maintaining such links within the community, and then outward to neighboring societies and across ecological zones, gives strength to the fabric of rural life. Survival during periods of adversity can depend on the extent and flexibility of such linkages.5

Combining pastoralism with cultivation is also traditionally a common practice in the province. One type of relationship or linkage between cultivation and livestock production deserves special mention. Successful farmers often invest surplus in livestock in order to maximize security and growth. The fact that livestock, especially cattle, are so highly valued as an investment all over Africa makes this the most typical form of integration of livestock into agricultural enterprises.

These developments have put an increasing strain on the relatively successful ecological adjustments between farming and pastoral societies. New trends in land use and the organization of linkages between livestock and cultivation have consequently developed. New categories of population have also entered the area, largely because of pressures and strains following from the expansion of agricultural schemes elsewhere in central-eastern Sudan.
In ecological terms, there has clearly been increasing linkages between local ecosystems so as to create larger, more inclusive systems. Within these systems, localized variables with localized feedback loops become increasingly hooked into complex chains of linkage going through networks of varying scale, and only having feedback inputs into the locality after having been intermediated by many external systems. This implies that decisionmaking is not as localized as it was before. A multitude of decisions with impact on resources is taken in total or partial ignorance of that impact, or in spite of knowledge that damage somewhere is severe. Such interactions between different levels deserve attention because of their importance for planning, interventions and policy trade-offs.

Implications for Development and Change

The changes which have taken place in Kassala Province have a number of implications for efforts aimed at finding an effective portfolio of external interventions.

First, interventions are likely to affect systems of interaction which mediate efforts far beyond the immediate goals of the interventions themselves. Measures directed towards one specific locality, group or production system may produce undesirable consequences elsewhere as impacts are transplanted or transferred to units in different niches and over larger regions.

Second, any strategy for change, on any level, must recognize that there are different perceptions of the problems as well as different groups having vested interests in different courses of development. From the point of view of international aid agencies, there is of course a fine line to be drawn between intrusion into politics and informed assessment. But the tendency is often to go nowhere near the line and remain as isolated as possible. This is a mistake, not just because it prevents us from discovering bias which may occur in government spending and services, as well as in the underlying power structure, but also because there will normally be policy trade-offs to be made between different groups, areas and levels. For example, government cash crop development policies aimed at improving national food security may threaten local environmental sustainability and access to food by pushing food crops onto ecologically marginal land. Simply put, in any given case, there will normally be scope for policy interventions at more than one level. Informed planning decisions or recommendations can only be made on the basis of considerable knowledge concerning such interactions and possible trade-offs.

Third, we must also accept the notion of a development process that is open to constructive intervention at certain points of leverage. The problem is to know what can be changed and to know whether such changes would be improvements. Generally, a cautious strategy to agricultural and pastoral development is to ask if interventions can be formulated which build upon the best aspects of existing systems, rather than impose wholesale alterations upon them. The main task may not necessarily be to initiate a lot of change in the region, but rather to guide ongoing change.
Entry Points for Intervention

In determining possible entry points for intervention, a key factor is whether or not the process of development can be steered in such a way that technical and institutional capacities can get ahead of population and natural constraints.

Our existing knowledge indicates that mechanized rainfed agriculture has already made a major contribution to Sudan's self-sufficiency in sorghum and holds the key to future development in Kassala Province. During 1991-92, the total production of sorghum is estimated to be close to 4 million metric tons, of which 60 percent derives from the mechanized rainfed sector and 30 percent from the irrigated sector.

The price paid for this success has been the ecological deterioration of vast areas of savanna woodland and the exhaustion of soils over large areas. It was hoped that the expansion of agriculture into new areas would lead to a more widespread distribution of the rural population and the development of a new modern system of permanent agricultural settlement to replace the old system of shifting cultivation. This has not been achieved. In fact, a small number of absentee lessees — by 1985, some 40 percent of the cropped rainland in the Sudan, was controlled by some 4,000 investors — have dominated the rainland farming sector. Their interests have been in quick profits, not in the preservation of land productivity, sound ecological practices, or equitable development. As a result, rotations have been ignored and the regulations requiring that at least 25 percent of land be left fallow at any one time have been ignored. The ephemeral interests of investors and their managers have prevented a coherent pattern of new villages in the new cropping areas. Because the team working a farm does not live there all the time, they may simply move to a new area if results are poor.

Rainfed mechanized farming is clearly an area in need of urgent interventions, yet there is a major dilemma in formulating a new strategy. On the one hand, because of the country's rapidly growing urban population, Sudan desperately needs the grain supplied by the large mechanized schemes. On the other, the conditions which are attractive for the individual mechanized farmers have undesirable long-term environmental consequences. They also contribute to people moving out of their original adaptations and into rapidly growing cities and towns. In supporting a policy which attempts to secure increasing grain supplies for a rapidly growing urban population through the promotion of large mechanized schemes, the opportunity to reduce immigration to towns by a more labor-intensive production system is lost.

The encouragement of mechanized farming has been in marked contrast to the neglect of traditional agriculture. While it is evident that the returns to invested resources are consistently high in the traditional sector despite the low intensity mode of production, bias in government spending and services has continued to favor the irrigated and the mechanized rainfed sectors. Population movements and settlement patterns are, to a large extent, determined by such policies.

As far as Kassala Province is concerned, given the current political and
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administrative constraints on any policies which may lead to a major redistribution of lands, there would seem to be at least three major areas which deserve particular attention:

- The enforcement of a reduction of the intensity of cultivation by lengthening of fallow periods.
- Support and development of traditional rainfed farming systems.
- Comprehensive land use planning, backed by sanctions, to safeguard the interests of traditional farmers and pastoralists.

There are also several current trends that are worthy of support. Because all suitable land within the province is already occupied, and therefore further expansion into new lands is no longer possible in parts of the province, there is a tendency to abandon speculative land management for a type of cultivation that favors attachment to the land. Environmentally, this is a positive development and may prove to be an important incentive towards yield-increasing practices and technologies rather than expanded cultivation as the main source of growth.

Another trend among an increasing number of mechanized farmers is to invest in livestock, using agricultural residues and crop remains as feed. Creating this more positive linkage between cultivation and livestock rearing may also increase interest in soil maintenance and conservation.

Regarding livestock production, there is a clear need to reinstall a framework of pastoral land tenure in the area. In so doing, there has been a tendency to propose the wholesale revival of past arrangements concerning grazing lines, water policies, grazing agreements, and so forth. However, present producers face a new set of opportunities and constraints as developing trends and changes become established practices. One example is the establishment of private water points which also restricts access to grazing, since dry season grazing is only communal for those who have access to water. Another example is the current land policy which favors scheme owners and prevents the emergence of local agreements on the right to utilize natural resources.

Given the environmental features and constraints of Kassala Province, particularly the seasonal fluctuations in the supply of water and forage, the two basic inputs to pastoral production, nomadism represents an efficient and viable pattern of resource utilization. Over the last few decades, however, new forms of land use emerged and expanded at the cost of clearing vast areas of land formerly considered grazing areas. As a result, while there is increasing commercialization and the emergence of large economic units, there are also impoverished pastoralists whose viability is being undermined and who are leaving the pastoral system in fairly large numbers. Again, the issue is not just protecting a weak majority of livestock and agricultural producers against a minority of commercial enterprises. At present, none of the productive activities takes place within an institutional framework which may ensure their continued productivity.
In view of the current problems, an important step would be to maintain as much as possible the spatial scale of exploitation. As Salah El-Shazali has argued, this would require a comprehensive strategy consisting of several elements:

- Introduction of land adjudication systems safeguarding pastoral interests.
- Rehabilitation of defunct water points.
- Reopening of nomadic routes or grazing corridors currently blocked by unauthorized mechanized schemes.
- Enforcement of grazing lines beyond which mechanized farming is not to be undertaken.
- Establishment of a water policy whereby water provision is related to grazing resources and managed so as to assure range productivity and sustenance.
- Establishment of a proper institutional and administrative framework which would make it possible to protect pastoral interests and enforce sustainable land use.

Any new policy framework must also take note of the dramatic changes that have taken place in the livestock sector, particularly regarding the new linkages with irrigated and rainfed mechanized schemes. If proper measures can be introduced and enforced on the mechanized schemes, it may be possible to develop new relations of symbiosis rather than competition between animal husbandry and cultivation. Combined with the utilization of agricultural residues and serious efforts to establish workable arrangements for land use and land adjudication, it appears possible to halt the current trends and establish productive and sustainable agro-pastoral systems of production in Kassala Province.

Only with a reform of tenurial practice and land use will there be any chance of averting major ecological degradation, continued destitution of farmers and pastoralists, and excessive rural-urban migration in the province. Bold measures need to be taken, including (a) reform of customary land tenure, (b) introduction of improved practices in resource management, (c) a program of land demarcation and allocation, (d) controlled development of new settlements by the provision of water supply, and (e) introduction of procedures for range management.

While successful implementation of programs such as these will depend on popular support, it will also depend on creating a framework that allows cultivators and stock-keepers most affected by rural development planning to begin to exert influence over institutions which now appear to them as remote and occasionally hostile. By the
same token, one must aim at making institutions responsive to the need for sustained rural development at a time when pressures of man and nature are conspiring to convert large parts of Kassala Province into a land of wind-blown soil and impoverished humanity.

No Place for Projects?

Technological and managerial packages should not necessarily be a nation's first concern when deciding how to establish and maintain productive and sustainable systems of production and settlement patterns in a given area. To a large extent, the kind of thinking I have presented in this paper is policy-oriented. It is also based on the notion of a development process that is open to constructive interventions only at certain points of leverage. This does not mean that local interventions should not be encouraged as long as they are embedded in a progressive development policy which allows the interventions to be effective.

In fact, the cultural and economic heterogeneity of the central-eastern Sudan requires that we try to identify localized opportunities for desired development. Despite the fact that we are dealing with large, open systems, connected into the wider global system at many levels, it makes sense to start out on a modest and small scale. That is, as long as the overall systems perspective is not lost and we are able to trace the unintended consequences of interventions within the larger region.

Agencies involved in this work should remain flexible, adaptive and opportunistic. If an approach evolves and lives up to its promise, resources and credibility will flow to it. If it does not, then the enterprise can be quietly abandoned, the only losses being the small amounts of resources and credibility that will, by then, have been committed to it.
NOTES


10. Salah El-Din El-Shazali Ibrahim, *op. cit.*
SETTLEMENT AND INTEGRATION OF PASTORALISTS IN THE NATIONAL ECONOMY: RANCH RESTRUCTURING IN UGANDA

David Pulkol

Settling and integrating pastoralists into national economies is an urgent challenge in Africa today. Throughout the continent's drylands, a net decline in productivity is taking place, accompanied by an accelerated impoverishment of pastoralists in these areas.\(^1\) It is within this context that the problems of resource scarcity and increasing competition in Africa's rangelands have drawn, since the last decade, growing attention among governments, donors and academics.\(^2\) A variety of factors — droughts and famines in the 1980s, regional conflicts, local social tensions based on land use conflicts, perceived environmental degradation and desertification, low-level agricultural production and in some areas an acute lack of any kind of food security, a general decline in the socioeconomic welfare of livestock keepers, and the apparent failure of development programs funded in the previous two decades — have all combined to force the problems of African pastoralists onto the agenda of international institutions.\(^3\)

These pastoralist crises should be viewed as the result of complex interactive processes between new land tenure changes and old resource management practices among pastoralists in arid and semi-arid lands. On the one hand, these crises reveal the historical roots of the land question; on the other, they point to how government interventions have disrupted the traditional management of pastoral resources without providing pastoralists with the appropriate skills and necessary infrastructure they need to balance the utilization of their ever-shrinking material base with its regeneration and sustainability. The limits of the traditional solutions which African pastoralists continue to apply in a changing environment, along with the failure to adopt new production practices, are responsible for the ever-worsening pastoralist crises.

In parallel with the increasing degradation of the range resource has been a steady rise in the numbers of persons which the range has to sustain. In the case of southwestern Uganda, population growth has resulted in a migration of displaced cultivators from highly populated districts into the semi-arid zones. In addition, there is an internal natural population increase of pastoralists with limited opportunities for out-migration.\(^4\) This internal increase, along with the influx of displaced cultivators, has triggered a process in which the pastoralists are being pushed into ever more marginal parts of the rangelands. Migrants and local elites have worsened the problem by land

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David Pulkol is a development economist who has studied groundwater resources management, human resettlement, land tenure and resource management in arid areas. He is currently Deputy Minister of Education and Sports, Uganda, and Chairman of the Ranches Restructuring Board.
grabbing and fencing off huge tracts of the best portions of the rangelands for commercial ranching and dryland cultivation. The expansion of wildlife protected areas like Lake Mburo National Park and Katonga Game Reserve has caused further displacement of pastoralists. Inevitably, this shift from communal grazing to individual commercial ranches and other competing economic activities has served to increase pressure on the remaining communally accessible grazing lands.

Since Africa’s rangelands are capable of accommodating diverse economic activities such as grain production, game reserves, ranches and other uses considered to provide higher monetary returns, these lands have become contested territories in recent years. Pressed with the need to accommodate these competing economic activities in order to satisfy new national demands, governments in Africa have gazetted some of the rangelands as game reserves or forest reserves and have leased others to individual crop farmers or ranchers. In this contest for access to the range resource, the nomadic pastoralists have, in most cases, been left out. This is mainly because government planners and donor agencies consider pastoralism a backward form of activity, incapable of yielding animal products of a quality and quantity adequate to meet the ever-rising domestic food demands and exports. Such low yields derived from traditional production systems of nomadic pastoralism was identified by the Uganda government in the 1950s and early 1960s as constituting a serious problem requiring intervention.

Establishment of Ranching Schemes: The Bahima Experience

The problem of Bahima pastoralists and livestock development in the southwest corridor was compounded by government policy, which emphasized establishment of commercial ranches to replace traditional livestock husbandry. Driven by the need to reduce importation of milk and meat products, the Uganda government in the late 1950s and early 1960s borrowed vast financial resources from the U.S. Agency for International Development to eradicate tsetse infestation and develop commercial ranches in the lands that were traditionally roamed by the Bahima pastoralists. After eradication of the tsetse, this land was soon gazetted as game and forest reserves, leased to individual farmers, or demarcated into blocks of 5 square miles each which were then allocated to "progressive farmers" as commercial ranches. These ranches were heavily subsidized by the government in order to promote the beef industry in Uganda.

Under this policy, a total area of about 248,400 hectares was fenced off and allocated to 207 ranchers. The Bahima pastoralists, whose ancestors had for years past lived on and managed these range resources, were eventually displaced. The resident pastoralists were marginalized since they could not fulfill the criteria for land selection which required them to know how to read and write, to have experience in running a bank account, and to have background in a successful business operation. Worse still, they were not educated on the effects of establishing such ranching schemes on their traditional grazing grounds. Even the advertisements in national newspapers, published in English, remained inaccessible to these pastoral people, who could not therefore tender their applications in order to benefit from the establishment of ranching schemes.
These marginalized pastoral peoples, left without alternative grazing grounds, inevitably became landless, and yet they held huge livestock herds. For years they have had to fend for themselves by "squatting" with their herds in Lake Mbugo National Park, adjacent forest reserves, private leaseholds, and on the newly established government-sponsored ranches under conditions dictated by individual ranchers or their managers. In order to be allowed to graze his animals on a given ranch, a squatter had to pay to the newly arrived rancher one cow or bull for every ten cows or bulls in his herd.

Arrangements for use of water facilities by "squatters" had to be negotiated and paid for separately. By mid-1990, some squatters had to pay between 400,000 and 500,000 Uganda shillings (equal at the time to US$1000-$1250) to the rancher or his manager, in order to water their animals in one of the available valley tanks. These payments are required regardless of whether such valley tanks were provided by the government under the subsidy schemes or were the traditional water sources constructed using communal labor in the pre-colonial and colonial time by the Bahima or their Chwezi ancestors. Even then, such water facilities had to be shared with other subscribing pastoralists.

In cases where the specified valley tanks dried up before the end of a given year and the situation necessitated use of the tanks where the rancher watered his animals, the squatters had to negotiate an entirely different arrangement. In the event of the death of a squatter or his relatives, the squatter had to pay for a small piece of land for his burial. In certain cases they were not allowed to bury their dead on the ranch even if they had the money. This exploitation, which worsened from the 1970s to the 1980s, exacerbated the already-existing mutual hatred and suspicion between the ranchers supported by the state and the pastoralist squatters.

The Struggle for Land Access Rights

Most squatter families supported the armed struggle of the National Resistance Movement (NRM) against the Obote II and Okello regimes. Their children actively participated alongside other patriotic Ugandans in the guerrilla war of the 1980s which eventually overthrew these regimes in January 1986. On its ascent to power, the NRM government issued a proclamation telling squatters to stop paying dues to the ranchers, since these dues were illegal under the original terms and conditions of ranch occupancy. Government also promised to find a definitive solution to the rancher-squatter conflicts.

Under Legal Notice no. 5, 1988, a Commission of Inquiry was established under the chairmanship of Professor Mugerwa, Dean of the Faculty of Veterinary Medicine at Makerere University, with a mandate to inquire into the setting up, management and operations of the 207 government-sponsored ranches. The commission made two major recommendations to effect reforms and improve ranch efficiency.

First, the commission recommended that the government repossess fifty-three ranches totalling 63,600 hectares of land which had not been developed by the original
allocatees. All the squatters in the five ranching schemes of Ankole, Masaka, Singo, Buruli and Bunyoro were to be resettled on these undeveloped ranches.

Second, the commission urged that all the remaining ranches should be used and developed by the original allocatees.

These recommendations generated differences of opinion among policymakers. Some agreed with the recommendations, while others maintained that the 5 square mile average size of ranches was too large to be managed efficiently. They argued that since some small and medium-sized farms in the country had performed much better than large ranches, all 207 of the government-sponsored ranches should be scaled down to manageable size in order to allocate the rest of the remaining land to the squatter pastoral families.

As the ranchers' lobby was powerful within government, no action was taken from 1989 to the second half of 1990. On the ground, tensions between squatters and ranchers increased as ranchers became uncooperative and denied the squatters use of water facilities. The squatters, on the other hand, sought to gain access by force to the enclosed pasture and water facilities. These tensions exploded into open conflict in August 1990. The squatter uprising and subsequent heavy loss of property and displacement of ranchers drew government attention. The issue of resettlement of pastoralist squatters and their integration into the modern economy was referred to parliament, which recommended the establishment of a Ranch Restructuring Board (RRB). The RRB was charged with scaling down the ranches to sizes of between 1 and 3 square miles with resettling all landless pastoral families. Besides subdividing ranches and settling the squatters, RRB was also mandated to study and recommend a long-term policy regarding the management and development of livestock resources in Uganda.  

Strategies of the Ranch Restructuring Board

On taking office in October 1990, the RRB embarked on a rapid appraisal of the five government-sponsored ranching schemes. A three phased implementation strategy was conceived, and a detailed work program drawn up, mapping out critical activities for successful ranch restructuring. Phase I focused on short-term activities aimed at rapidly creating stable conditions for the eventual ranch subdivision and orderly resettlement. Activities undertaken during this phase were aimed at calming down the violent confrontation between ranchers and squatters, streamlining security arrangements in order to stamp out cattle thefts, road ambushes and armed robberies, strengthening veterinary services in order to control disease outbreaks, and integrating local political and administrative leaders with representatives of squatters and ranchers on Ranch Working Committees for the purpose of solving day-to-day problems in their areas. In addition, during Phase I, RRB undertook a thorough study of the condition of each ranch in order to generate data that would enable the board to make conclusive decisions and develop criteria to guide the subdivision and reallocation of ranches to squatter and rancher families. Finally, during this phase, RRB organized seminars and public meetings to
spread awareness of modern animal health care and production practices among squatters. This was done to facilitate their eventual integration into sedentary livestock farming.  

During Phase II, all activities related to decisionmaking and demarcation, subdivision, allocation, and settlement of the subdivided ranches will be undertaken. Identification and valuation of all items and infrastructure to be compensated will be carried out by government valuers. Other activities include recommendation to the Uganda Land Commission (ULC) and eventual granting of fresh leases and title deeds to all those who benefit from the ranch restructuring exercise, and assistance in the formation and registration of cooperatives and new limited companies to assist former squatters to adopt modern livestock husbandry practices based on commercial production strategies.

In Phase III, the final report will be prepared and submitted to government. The reporting process will be characterized by a series of board meetings aimed at pulling together the various threads of public opinion and taking stock of decisions and actions undertaken during the process of ranch restructuring. Insights gleaned from RRB's experience, coupled with a critical evaluation of past and present government policies and their varying effects on production strategies among Ugandan livestock farmers (such as input supply, marketing, range management practices, water provision, utilization and maintenance of infrastructure facilities) will provide the basis for long-range policy recommendations to shape future government interventions in the livestock sector.

Throughout the three phases outlined above, a number of critical activities will continue. These include (a) the streamlining and consolidation of security arrangements; (b) the rehabilitation, equipping and strengthening of veterinary services; (c) excavation and construction of water harvesting facilities; (d) education and awareness-building seminars; and (e) support of grassroots collaborative working committees. Members of the board have identified these activities as the necessary supports for successful ranch restructuring. Their consolidation throughout the implementation phases will guarantee the long-term sustainability of the ranch restructuring benefits.

The RRB members are therefore committed to handing over at the end of their assignment not only the subdivided and settled ranches, but also dependable security, veterinary and integrated politico-administrative systems within the areas covered by the ranches. Such self-sustaining systems should, in the short, medium and long term, contribute to an increased socioeconomic development in the arid southwestern areas of Uganda.

Integration of Pastoralists into the National Economy

Earlier government policies in Uganda emphasized the need to support the development of a few progressive ranchers with the hope that the benefits from these government-supported and privately owned commercial ranches would trickle down and enhance the welfare of a majority of the people in the country. Unfortunately, as recent research
indicates, such trickle-down effects in the ranching industry were not realized. Even during 1978, when ranching schemes in Uganda were at their highest level of productivity, only 5 percent of the total livestock population in Uganda was owned by government or private ranchers, while 95 percent of the livestock population was still in the traditional subsector. In addition, whereas both government and private ranches contributed 18 percent of the national beef supply, 82 percent of the supply came from the traditional subsector. And yet this traditional subsector has been marginalized by government. In the case of the Bahima pastoralists, access to productive range resources such as land and water has long been denied.

The traditional subsector has sustained the Uganda livestock industry for quite a long time. Given their ability to withstand the hazards of economic decline, and the fact that the majority of livestock producers is still in the traditional subsector, it is good economics for government to integrate these traditional livestock keepers into the mainstream national economy. It is therefore not only the pursuit of social justice and political stability that has motivated the NRM government to assist pastoralists to settle down in a sedentary life style, but also sound economic policy.

The experience of the Ranch Restructuring Board in southwestern Uganda, demonstrates that mere settlement of squatter pastoralists, if not accompanied by a continuous effort to change their resource management practices from traditional to modern methods adapted to their shrinking material base, will not only lead to the failure of ranch restructuring, but will generate even greater social, economic and environmental problems in the future. Integrating pastoralists into the mainstream national economy requires a deliberate effort to equip the pastoralists with the necessary skills, knowledge, and attitudes in order to be able to balance the utilization of their pastoral resources with the need for regeneration and sustenance.

**Key Areas for Intervention**

Integrating pastoralists into the modern economy, requires undertaking scientific inquiry into key issues in the livestock sector. Such an inquiry can enable us to map out appropriate intervention programs which can shift the traditional livestock keepers from their current conservative practices to more progressive methods of animal husbandry.

**Production Practices.** Traditional pastoralist production values centered around the color, physique and numbers of their animals. There is a need to examine the extent to which current pressures related to limited land availability have induced livestock producers to change their production strategies away from these traditions and towards factors such as milk yields, calving rates, and productive as against unproductive animals. In addition, it is important to determine which social and economic incentives are needed to cause the Bahima pastoralists to change their traditional, non-cost-effective strategies and become interested in adopting modern methods of managing limited range resources so as to ensure their sustainability.
MARKETING. There is a need to study the adequacy of existing public and private marketing arrangements for livestock products at the national, regional, and grassroots levels. There is also a need to examine pricing policies and to find ways of encouraging pastoralists to take advantage of market opportunities created by attractive prices. Furthermore, in order to assess the perceived and actual importance of the market to individual pastoralists, it is necessary to understand their other economic uses of livestock, the relative importance of social obligations met through animal charges (marriage, social gifts), the role of other income sources in the family, and the importance of cash in the household economy.

INPUT SUPPLY. It is important also to assess the access of pastoralists to critical inputs, such as acaricide, in the ranching industry. A critical analysis of supply and demand factors and the use and abuse of livestock inputs in the Uganda setting, is very important in order to map out appropriate government interventions that would make it easier for the majority of traditional livestock keepers to afford and use these inputs.

INVESTMENT. There is also a need to assess investment levels in the Ugandan livestock industry in general, and to examine current and past bank lending policies and procedures, in order to discover areas where improvement can be made.

MANAGEMENT. An examination of current and emerging management practices would lead to an identification of areas for improvement and negative management practices to be discouraged.

VETERINARY SERVICES. It is necessary to assess the content and mode of current veterinary extension services in Uganda, and to determine their scope in terms of service coverage and success, in various aspects such as disease control, production, marketing advice, and research. This assessment can indicate which sort of extension service would best benefit the newly subdivided ranches and the resettled pastoralists and help them in playing a leading role in the animal industry of Uganda.

EDUCATION AND AWARENESS BUILDING. There is a need to understand the knowledge, attitudes and practices of the traditional pastoralists in order to facilitate the programs aimed at creating and spreading awareness of modern livestock rearing practices.

Conclusion

The resettlement of nomadic pastoralists in southwestern Uganda in particular, and in Africa in general, means a radical change from traditional past ways of life to the present. This complete change in lifestyle is made necessary because of shrinking environmental resources.

A deliberate effort is required on the part of government to inculcate in the pastoralists appropriate attitudes, knowledge and skills which will enable them not only
to survive in the new situation but to function in a way that is beneficial to themselves and the whole economy. A policy that aims at merely resettling the nomadic pastoralists without changing their attitudes and practices to suit the changed circumstances is not only doomed to failure, but may even breed more serious problems in the future.

The case of the Bahima pastoralists shows that resettling people of one culture into another is a complicated business requiring scientific research and local adaptation of ideas. Many elementary mistakes will otherwise be made. We should also bear in mind that in the course of solving one problem today, care must be exercised so that a bigger problem is not created for the future.
NOTES


5. Data from Ranch Restructuring Board files.


CHAPTER 12

SETTLEMENT AND RESETTLEMENT: EXPERIENCE FROM UGANDA'S NATIONAL PARKS AND RESERVES

Mark A. Marquardt

In Uganda, internal population movements have arisen from a number of factors related to the country's economic setting: the existence of agricultural land of high potential but low population density; settlement on land cleared of tsetse infestation; forced or induced movement of people out of areas of high population densities; the development of agricultural plantations requiring labor and outgrower schemes; and the settlement of displaced people resulting from civil unrest. All have been factors in the planned resettlement of various populations in recent history.\(^1\) However, when considering the problem of resettlement, one should also consider the spontaneous uncontrolled movement of people to find new homelands, which has been and continues to be the most common response to rising population densities in the Uganda setting.

One result of this spontaneous uncontrolled population movement which is caused by the growing land pressure in traditional agricultural zones has been an increasing incidence of encroachment into nominally protected areas. These include national parks, game reserves, and forest reserves. This encroachment has taken two distinct forms. The first, by families who had traditionally settled in areas around these reserves and merely expanded their farming operations into them. The second, by families who have moved their farming operations from areas of severe land shortage into the reserves, which they viewed as unoccupied and apparently available land. A number of factors in recent Uganda history have allowed this settlement within protected areas to take place.

The objective of this chapter is to review the current situation in Uganda with respect to spontaneous settlement on lands surrounding and within protected areas, and to present the policy options open to the government. The chapter also includes case studies illustrating three types of settlement: (1) enclaves within protected areas; (2) encroachment into protected areas; and (3) planned resettlement of people into protected areas. Each of these types of settlement offers alternative policy strategies for the government to pursue.

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Mark A. Marquardt is associate Research Scientist with the Land Tenure Center, University of Wisconsin-Madison, USA, and Senior Researcher at Makerere Institute of Social Research, Makerere University, Kampala, Uganda. He has done extensive research on land tenure issues in Botswana, Swaziland, Somalia and Uganda.
Land Tenure in Uganda

Land tenure may be defined as the institutional (social, political, and economic) arrangements through which individuals and communities gain access to the productive capabilities of land. Land tenure literature often speaks of a "bundle" of rights held by individuals in relation to access and utilization of land resources. These rights include, but are not restricted to, such things as the right to sell, mortgage, and bequeath land, cut trees, bury the dead, and construct homes. This bundle can be broken up, divided, and passed on to others. Some rights within the bundle are held by individuals, some by groups, and others by political entities.\(^2\)

For any tenure system, each of the rights in the bundle will have at least three dimensions: people, time, and space. No one ever holds land in a totally exclusive way. Other individuals and the community always have rights that impinge to some degree on land use. Thus the land rights of the individual are limited by those rights which are retained by the state and the community. A person may be unable to use land because the rights of access to that land are sanctioned by the local community. In a customary tenure system, for example, access to land is determined by membership in the group which sets allocation and reallocation procedures, inheritance rights, and so forth. Land records are maintained as part of the oral tradition of the group. In the Western context, access to land is determined through a more formal title structure with written documentation of ownership rights.

Similarly, rights may vary over time. Rights of land use may be seen as permanent, held by the individual and his progeny, or of a more limited nature, as in shifting cultivation systems or with leased or borrowed land. Individual perceptions of this time factor relate directly to the sense of security of tenure over land holdings and influence possible investment decisions.

Finally, land rights have a spatial nature. The use of land is restricted by some definition of boundaries. The degree to which these boundaries are fixed is to a certain extent determined by the level of land pressure and the need to indicate where one’s property rights end and another’s begins. This spatial question is of obvious concern where areas of different land use meet in intensive farming areas and the "unused" lands of conservation areas.

Individuals never have exclusive rights to land. The state at the very least retains the rights of taxation, eminent domain, control over land use, and reversion. The state’s rights with respect to conservation areas fall under the rights of land use control and eminent domain. The exercise of eminent domain generally implies a recognition of claims to compensation for lost land use rights. Traditionally, this compensation can take the form of alternative land rather than the cash payments characteristic of a more market-oriented society.

The 1975 Land Reform Decree vested all lands in Uganda in the central government. Prior to the decree, land was held through customary tenure arrangements,
freehold tenure, and, in central Uganda, through mailo ownership or mailo tenancies. Individuals who wished to formalize their land rights after 1975 did so through the acquisition of state leasehold rights. However, the land reform decree has had little effect on the majority of landholders. In most areas of the country, particularly non-mailo areas, customary tenure relations continue to exist with little interference by the state or outsiders.

Uganda’s National Parks and Reserves

Uganda’s national parks, game reserves, and forest reserves cover more than 1.2 million hectares, or about 16 percent of the total land area of Uganda. All of these protected areas have suffered to varying degrees from encroachment by settlers in recent years.

Wildlife in Uganda is managed by the Uganda National Parks, a parastatal run by a board of trustees, and the Game Department, which falls under the Ministry of Tourism, Wildlife, and Antiquities, and is responsible for managing game reserves, controlled hunting areas, and game sanctuaries. The National Park Act was passed by the protectorate administration in 1952. The two national parks established at that time (Queen Elizabeth and Murchison Falls) were created from previously existing game reserves, with additional territory incorporated into the park lands at the time of their gazettatement. People were generally absent in the areas encompassed by these game reserves, as they had been depopulated by the protectorate administration in efforts to deal with the infestation of the tsetse and resultant incidence of sleeping sickness. The area presently containing Lake Mburo National Park likewise had been heavily infested with the tsetse, resulting in an outmigration of the human population. That area was first administered as a controlled hunting area and later as a game reserve, before being declared a national park in 1982.

The abundance of wildlife provided Uganda with a major source of income from tourism through the 1960s. At that time tourism was the third largest source of foreign exchange earnings, after coffee and cotton. The slaughter of wildlife which began during Idi Amin’s rule and continued following the invasion of Tanzanian forces to oust the Amin government, along with the insecurity of the ensuing years until the present National Resistance Movement government came to power, has left Uganda with only a fraction of its previously vast wildlife population. While hunting using traditional means (bows and arrows, spears, and snares) had only a limited impact, the more recent slaughter using heavy guns and automatic weapons had a devastating effect on wildlife. The depopulation of animal life has emptied large areas of national parks and game reserves, giving the impression of large tracts of unused land.

Considerable wildlife also exists in forest reserves, which are managed by the Forestry Department, falling under the Ministry of Water, Energy, Minerals, and Environmental Protection. Central forest reserves were established by the colonial administration as a result of agreements with the rulers of the Uganda kingdoms (Buganda Agreement 1900, Toro Agreement 1900, and Ankole Agreement 1901). All
lands in other parts of the protectorate were declared crown lands, and forest reserves were gazetted from these lands as and when necessary. Prior to the early 1970s, forest reserves were well-managed, balancing economic use with the conservation of wildlife and maintenance of biological diversity. Settlement in forest reserves was permitted under the Forest Act of 1964, provided that the appropriate permits were obtained and the permit holder adhered to the conditions of the permit.

Since the early 1970s, forest resources have been depleted at a rapid rate, both on privately held land and within gazetted forest reserves. This has resulted from a number of causes, including unregulated commercial exploitation of timber resources, the growing demand for fuelwood not only for heating and cooking but also for small scale manufacturing and a growing number of brick kilns, the encroachment of human settlement and agriculture into formerly forested areas and forest reserves, and, to a limited extent, state-sponsored forest clearing schemes to limit cover for guerrilla activities.

Population pressures in some parts of the country, particularly the southwest, and recent civil disorders in other areas, led to a movement of settlers from these areas into the forest reserves. This spontaneous movement was supported by government policies in the mid-1970s which advocated "double production" and "freedom to settle anywhere," and appeared to provide government sanction for settlement in protected areas. The Forestry Department, understaffed and underfunded, much as the Game Department, was unable to control illegal settlement and exploitation of the forest resources.

Destruction of the resources the reserves were supposed to protect, whether wildlife or forests, created an opportunity for the settlement of people into the reserves. Settler encroachment on the nation's game and forest reserves has been extensive. The encroachment of settlement on the national parks in recent years has generally been more limited. That which has taken place has often resulted from the expansion of enclaves within the parks or from government policies which excised park lands and redrew park boundaries.

Enclave Expansion: The Case of Queen Elizabeth Park Fishing Villages

Within Queen Elizabeth National Park are found Lake Edward and Lake George, connected by the 32-kilometer Kazinga Channel. These lakes and the channel contain one of the highest fish biomasses to be found in the world. When the park was gazetted in 1952, a number of fishing villages were incorporated within the park boundaries. In some cases, these villages were permitted to continue to exist on park land. In other cases, the fishing villages were established as village enclaves on non-park land, yet completely surrounded by the park.7

The original understanding regarding the villages sited on park lands was that village members were only allowed to fish and to collect dead wood from the park to meet their fuelwood requirements. Livestock was not permitted within the park. As the
population of the villages expanded, park authorities saw a need to clearly demarcate the boundaries of the villages. However, these boundary demarcations were not maintained. There was never any attempt to formalize the tenure rights of people in these villages. Thus, the people have continued to live on park land with little security of tenure other than the understanding of land rights prior to the gazelting of the park.

The enclave villages present a somewhat different situation. As they are not located on park land, the park authorities have no direct control over village activities except where they have an impact upon the park. Katwe village, for example, has a long history of settlement tied to the salt extraction industry and related trade in salt from one of the crater lakes within the enclave. In addition to the salt extraction industry, there is a large fish landing in the village and a substantial fishing industry.

In recent years, the fishing industry has provided a major source of income for the people, while most other income earning opportunities have declined. While the Fisheries Department has tried to regulate the number of fishing licenses on the lakes, and thus indirectly to limit the number of people living in the villages and using the resource, the relatively high financial returns from fishing have led to increasing illegal fishing activities and a growing population in the villages. A growing population in both types of villages obviously puts greater demands on the resources of the park. These demands include fuelwood for cooking and drying fish, small plots of land for cultivation, increasing numbers of livestock, and basic social services such as schools and clinics, which then serve as a further incentive for others to settle in the area. Population increases also bring an increase in the poaching of wildlife within the park. At the same time, people do suffer some negative effects from the park, including predation on livestock and attacks on people by wildlife.

Several options are open to the government with respect to this type of settlement within park boundaries. If people are to remain in the fishing villages, alternative sources of fuelwood have to be found in order to prevent the present indiscriminate harvesting of wood from the park. Options could include community forestry projects, utilization of non-wood energy sources, and concessionary cutting of wood in the park from areas where severe acacia encroachment has occurred following the destruction of the elephant herd. Mechanisms need to be put in place to regulate the numbers of fishing licenses granted and the number of fishing boats allowed on the lake. Village boundaries must be clearly demarcated, indicating to the villagers as well as to the park authorities the limits of settlement. Access roads to the villages need to be improved to facilitate movement of fish to market (the potential for marketing fresh fish would eliminate some fuelwood needs), as well as to permit the flow of foodstuffs into the villages, thereby reducing the need for growing vegetables and keeping livestock.

If people are to be removed from the fishing villages, other issues must be addressed. The fishing industry is a major source of income for people in the area and revenue for the local authorities. There is evidence to suggest that some of the people fishing in the lake come from great distances, fish for a number of years to save money, and then return to their home areas. Relocation of the people means finding alternative
income generating opportunities, wage employment, or agricultural land. While many of the fishermen may have access to some agricultural land, this land provides at best a subsistence income. Resettling fishermen on additional agricultural land implies that such land can be secured elsewhere.

Spontaneous Settlement: The Case of Kibale Corridor and Forest Reserves

The Kibale Forest Corridor Game Reserve was established to provide a corridor for wildlife, mainly elephants, moving from Queen Elizabeth Park to the Kibale Forest Reserve. It also provides a buffer zone for the northern part of the park. The forest reserve itself contains one of the highest concentrations of primates in the world.

Settlement into the reserve began in the late 1950s and continued into the early 1980s. The settlers were primarily Bakiga people moving out of the severely overpopulated districts of Kabale, Kisoro, and Rukungiri. Severe land shortages, combined with inheritance rules that subdivide family land among all of the sons, led to a high level of land fragmentation and increasingly sub-economic plots in the areas of origin. These "push" factors were complemented by "pull" factors which encouraged settlement onto the lands of the corridor. The district on the western side of the reserves had been an area of Bakiga in-migration since the mid-1940s as a result of government-sponsored resettlement schemes designed to alleviate land and population pressures. The migrants hoped to take advantage of employment opportunities associated with the development of tea plantations around Fort Portal. As the resettlement schemes filled up, newcomers and second generation settlers were forced to look for land outside the settlement schemes. The game reserve was seen by local chiefs as land available for allocation, and they began settling newcomers on that land. The natural grassland vegetation of the corridor has fertile soils, which provided a further incentive for settlement in the reserve. A growing population in the corridor served as a magnet for further migration.

Land was thus made available to newcomers without diminishing the land base of earlier settlers. At the same time, the new settlers provided a buffer between the earlier settlers and the remaining reserve with its predatory wildlife. Throughout this period, little opposition to settlement was raised by the Game Department, while the Forestry Department began raising objections to settlement as it began to spill over into the forest reserve. Since 1972 the Forestry Department has continued to press for removal of people settling in the forest reserve.

Settlements in the two adjacent areas differ not only in terms of length of settlement, but also in terms of settler perceptions concerning their security of tenure. Levels of permanent investment in housing and agriculture are lower on land holdings in the forest reserve. Individuals who have settled in the forest reserve appear to recognize the tenuousness of their settlement rights. They have retained land rights elsewhere and have only expanded their farming operations into the forest reserve. Requiring that they move out of the reserve back to their original holdings may be a
feasible policy option for this group. However, those who have settled in the game reserve would be more difficult to resettle elsewhere, having come from areas of excess population, rather than from the surrounding areas, and having no land to which they may return. Forcing them out of the game reserve would only create the problem of finding adequate land for settlement in another area.

Degazetting Protected Areas: The Case of Lake Mbüro Resettlement Scheme

The area around Lake Mbüro was declared a game reserve in 1964 at the request of the Ankole local government. People then living within the reserve boundaries were allowed to stay. Tsetse eradication and bush clearing had taken place in the two previous years, in preparation for ranch development north of the reserve. Two years after the reserve was declared, a ranch was created within the reserve boundaries. Additional ranches were created within the reserve in subsequent years. By 1981 the position of game in the reserve had become desperate, due to the pressure of farmers and herdsmen using the good pasture and water holes.

In 1982 the area was declared a national park. This resulted in the forced removal of more than 6,000 farmers who had developed extensive farms averaging over 2 hectares each, and more than 40,000 cattle. No compensation was paid, although it was due to those who occupied the land legally by virtue of having been there before the game reserve was created. When the government was overthrown in 1985, the local residents took their revenge, destroying park facilities and reoccupying the area. In addition to those who had been forced out in 1982, other people came to take advantage of apparently free land and uncertainty over claims. Pressure on the park lands increased further when people who had been living on the ranches were forced to settle elsewhere.

In 1986 a task force established to look into these problems recommended that about 60 percent of the park be degazetted for the settlement of people who had claims in the area prior to the declaration of a national park. Additionally, land was made available for the resettlement of people from the Lowero Triangle and Bugerere, who had been displaced in the recent wars. The resettlement community was allocated 30 square miles of the 150 square miles degazetted from the park.

The degazetting of park land to provide land for settlement raises a number of issues. First, it reflects the government's inability to find "vacant" land for resettlement. Secondly, it reduces the amount of public land devoted to conservation activities. Reallocating such lands for settlement provides only short-term relief to population pressures. The land eventually runs out.

In the case of the Lake Mbüro resettlement scheme, the people resettled are traditionally cattle herders. While their herds had been destroyed during the war, their ability to adapt to sedentary agricultural production systems on marginal lands is questionable. Management decisions must now be made relating to the rebuilding of their herds. Finally, the land identified for the resettlement scheme had previously been
settled. When the area was designated for resettlement, the earlier landholders were forced to give up their claims and move elsewhere.

Factors Influencing Settlement and Resettlement

Factors influencing population resettlement are often discussed in terms of "push" and "pull" factors. "Push" factors are reasons associated with people leaving their earlier place of residence. In recent years, Uganda's growing rural population has been faced with an increasing shortage of land for subsistence agriculture. While subdivision of holdings ensures that some land is available to succeeding generations, these holdings are increasingly becoming sub-economic. Traditional fallow periods have been shortened or eliminated as homesteads try to maximize production on decreasing land areas, leading to a decline in soil fertility and a resulting decline in agricultural productivity.

There is some evidence that the Land Reform Decree of 1975 had an adverse effect on the security of tenure in some customary areas. Individuals who were able to secure state leases have been able to push peasants off the land which they were using, with little recourse other than some claim for compensation. The need for these disenfranchised peasants to find new land may also have contributed to encroachment on the reserve areas. Other factors such as disease and civil unrest can also lead to voluntary relocation. Such relocation may be seen initially by all involved as less permanent than the resettlement related to seeking new economic opportunities.

"Pull" factors, on the other hand, are related to the reasons people choose to settle in one area rather than another. In spontaneous agricultural settlement, major factors are the availability of land and the ability to establish tenure rights to that land. Tribal affiliations, negotiations with local authorities, the presence of pioneer settlers who are friends or relatives, and acceptance of outsiders by the indigenous population, are all factors influencing the decisionmaking process. Nonagricultural or supplemental employment opportunities in an area may also encourage population movements.

Each of these factors played a role in the resettlement of people into the conservation areas of Uganda in the past two decades. Coupled with the breakdown of central government authority was a breakdown of the administrative structure of institutions responsible for managing the national parks, game reserves, and forest reserves, and a central government attitude which did not see conservation areas as productive. As this position became known, the spontaneous resettlement of people from overcrowded areas was bound to take place.

Policy Analysis

The question facing the government at this point in time is how to deal with these settlements, now that a sense of order has been restored and the administrative structures are regaining the ability to manage the land under their authority. The government faces
three main policy options: resettlement, repatriation, or incorporation into the reserves. Each of these options has costs and benefits which must be addressed as the policy is developed.

**Resettlement.** Resettlement implies the ability of government to find alternative land on which to settle people. Such "vacant" land is increasingly harder to find. Historically, resettlement schemes relied on government to take over large estates, subdivide them, and allocate land to new settlers; to reallocate state or parastatal farms for settlement; to change existing land use practices, as in irrigation schemes, incorporating the existing settlers into new agricultural production systems; or to settle people onto unallocated state land which in theory had no pre-existing settlement, although often pastoralist or hunter-gatherer groups were already using these land resources.

The design of such resettlement programs involves costs, not only to acquire land for resettlement and to compensate individuals presently using the land who will not be part of the resettlement scheme, but also to compensate settlers for the costs of moving from their present homes. The latter costs may be addressed through the provision of alternative land and income earning opportunities within the resettlement scheme.

Basic planning issues must also be addressed if a resettlement scheme is to be a long-term success. McMillan has identified a number of these issues:

- The administrative and financial management of the resettlement program must be coordinated through the existing network of regional social services located near the settlement.
- Economic sustainability requires market proximity. Remote schemes increase infrastructure and transport costs.
- Schemes must be environmentally sustainable with sound natural resource management. Reproduction of low-resource agricultural systems can become environmentally destructive at higher population densities. "Vacant" land may be vacant because it is marginal. Planned resettlement onto such land may have disastrous results.
- Care must be taken to include the host communities as beneficiaries in the resettlement scheme. Where the interests of indigenous households are overridden in the establishment of a settlement scheme, this often alienates new settlers from the region and limits settler access to markets.

**Repatriation.** Repatriation implies the ability of government to move people back to their places of origin. The viability of this option depends upon the "push" and "pull" factors that led to the settlement in the first place. If limited or declining economic opportunities in the area of origin was a major factor influencing resettlement, forcing people to return to that area would have little chance of success. As people move
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out of an overcrowded area, they are unlikely to be able to retain land rights in that area. The likely outcome of a government policy of repatriation will be that people move into other areas of new settlement, simply reproducing the problem elsewhere. Another outcome may be that people move out of agriculture into urban areas seeking alternative, nonagricultural economic opportunities which may or may not exist for them.

On the other hand, if the resettlement occurred as a result of a program to expand existing viable agricultural enterprises outside of the reserves, the government may be in a position to reassert its authority over reserve lands with minimal economic consequences for the settlers. Indeed, the study of Kibale Forest Reserve shows that encroachers from the surrounding area knew that land rights in the reserve area were tenuous and had simply attempted to take advantage of the breakdown in administrative control over the reserve to acquire additional land.

INCORPORATION. Incorporation of settlements into the reserves recognizes the government's inability to resettle or repatriate encroaching populations. While it may be seen as a capitulation to reality and as a possible incentive to further encroachment, it also reflects the limited options open to government. What may be desirable from a park or reserve management standpoint, may be impractical from an economic, political, or social equity standpoint.

There is a growing body of literature and experience addressing the need to incorporate populations surrounding reserves into the management of these reserves. Previously, reserves were established with little or no consultation with people living in and around the protected area, with little or no compensation for lost lands, and with little or no compensation for the continuing costs of having the protected area nearby. Failure to address these issues obviously played a role in the resettlement of people into the reserves when central authority broke down in the country. People saw an opportunity to reclaim land or to continue the destruction of natural resources in the hopes that later government conservation policy would have little justification since nothing would be left to conserve.

The balance between the costs and benefits of conservation varies considerably between the local, national, and international levels of society. The costs, in terms of alienated land, restrictions on resource use, and damage to life and property, are mainly carried by rural populations, particularly those at the interface between settlement and conservation areas. The political and financial costs of administering conservation programs are carried mainly by national governments. The benefits of national prestige are enjoyed mainly by national governments, as are, currently, most of the revenues from the use of wildlife resources. The rural sector which carries much of the costs derives few benefits.

Incorporation of settlement into the reserves will only be beneficial if there is some mechanism to enable the population to capture a part of the benefit streams flowing from the reserves. If neighboring populations are able to receive direct benefits from the reserve, then it becomes in their best interest to preserve the resource which the reserve
is designed to protect. Thus land use strategies must be designed around attainable conservation objectives which minimize conflicts of interest. A realistic approach to conservation recognizes the need to identify valid objectives, to reduce conflicts between short-term individual interests and long-term communal interests, and to balance the costs and benefits equitably between different sectors of the local, national, and international communities.

Conclusion

The case studies described in this chapter illustrate a variety of settlement situations. Prior to formulating government policy with respect to such settlements, it is essential to understand the factors that led to the settlement in the first place and to be aware of the history of the settlement process. In Uganda, people have settled in the reserves for three fundamental reasons. First, to reclaim land which was lost as the reserves were created. Second, to relocate into vacant, seemingly unclaimed land. And third, to expand their land from areas outside the reserves. Such settlement may have been encouraged by the breakdown of central government authority, by the inability of local authorities to control population movements, and by official incentives to alleviate land pressures in surrounding or distant areas.

Three main options are open to government policymakers: resettlement, repatriation, or incorporation into the reserve. Policy choices must be based on a case by case analysis of the "push" and "pull" factors involved. Since different factors have played a role in each settlement situation, settlers may have different perceptions concerning their tenure rights, and settlement may have taken place over different time periods. The analysis should also show whether those "push" and "pull" factors are still in existence. A clear understanding of the factors leading to resettlement in protected areas will help to determine the success or failure of whatever policy is chosen.
NOTES


3. The Uganda Agreement of 1900 divided land within the protectorate between the Kabaka (the ruler of the Buganda) on one hand, and the Uganda Administration on the other. The agreement set aside 9,000 square miles as Crown or public land, while 8,000 square miles were divided among the Kabaka, his chiefs and other landholders. The unit of measurement of this land was the square mile, hence the name "mailo." The mailo land tenure system was in many respects unique in Africa, providing as it did thousands of square miles of land registered and granted to Africans rather than Europeans. The system remained in force for over seventy years, until the 1975 Land Reform Decree abolished all freehold titles, whether of mailo or public land. For more information, see Barnes, Grenville, et al. 1986. Country Profiles of Land Tenure: Africa 1986. (April) Madison, WI: Land Tenure Center, University of Wisconsin-Madison.


5. Ibid.


A major parasitic disease in the tropics, onchocerciasis (river blindness) has gravely handicapped both human health and socioeconomic development in the river valleys of West Africa. According to the World Health Organization, in the mid-1970s some 10 million people living in the endemic area were infected, and at least 100,000 were blind or had eyesight that was seriously impaired. The affected areas were not only a last frontier, but they contained some of the most fertile lands available for development.

The Onchocerciasis Control Programme (OCP) was launched in 1974 to bring the disease under control. OCP is executed by the World Health Organization (WHO), and carefully monitored by a Committee of Sponsoring Agencies (CSA), which includes WHO, the United Nations Development Programme (UNDP), the Food and Agriculture Organization (FAO), and the World Bank. By 1990, twenty-nine donors were financing OCP in eleven West African countries. At that time, OCP was entering its fourth and final phase, during which ongoing surveillance and control activities will be gradually handed over to the participating countries.

OCP had two major goals. The first was to break the transmission cycle of the disease through aerial application of larvicides to waters where the carrier (a small fly of the genus *Simulium*) breeds. The second was to facilitate the socioeconomic development of the river valleys once the disease had been brought under control. The achievement of this second objective was expected to take place through massive population movements into these previously sparsely populated but potentially highly productive areas.

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Della McMillan is a Research Affiliate of the Department of Anthropology and Center for African Studies at the University of Florida. She is currently working as a consultant for the World Bank and for the Vector Biology Control Project of the U.S. Agency for International Development.

Thomas M. Painter is the Regional Manager for West Africa for CARE/USA. For the past twenty years, he has done extensive research in Africa on rural development, natural resource management, household economy, migration, AIDS and education.

Thayer Scudder is Professor of Anthropology at the California Institute of Technology and one of three directors of the Institute for Development Anthropology. For the past thirty-six years, his special research topics have the impact of river basin development on local populations, the settlement of new lands and rural development.
As often happens, the highly successful disease control program received far more attention than did planning for the sustainable development of the areas where the disease was being controlled. Moreover, during the late 1970s a major policy decision cut back environmental monitoring of the impacts of the program to focus only on the impacts of larvicide on the aquatic environment. Rates of immigration into the area were already accelerating and no provision was made to monitor the environmental consequences of this change. As for policy formulation and development planning, within the CSA only UNDP provided a small amount of seed capital during the first ten years of the program.

Donor neglect of the socioeconomic component of OCP continued until the mid-1980s, when the Committee of Sponsoring Agencies decided to initiate a series of socioeconomic studies. The first was a geographical assessment of natural resource capabilities in the affected areas, carried out by Hunting Technical Services (U.K.) and Organisation et Environnement (France). The second, funded by UNDP and executed by the World Bank, was a Land Settlement Review, carried out by the Institute of Development Anthropology (USA).

The IDA team began its assessment in 1988 and submitted a set of seven final reports to the Bank in July 1990. Working in close association with host country colleagues and institutions, the team carried out field work in four countries (Burkina Faso, Ghana, Mali, and Togo) to assess experiences with spontaneous and governmentsponsored land settlement in the affected areas. Four of the seven final reports relate to those countries. A fifth describes a less intensive survey of land settlement experiences in the other seven OCP countries, including a brief description of environmental impacts where such data were available. The remaining reports are a Summary Report and an Executive Summary of findings and recommendations.²

Part of IDA’s task was to familiarize the eleven OCP countries, the CSA, and the donors with the global experience relating to land settlement in the tropics and subtropics, and with the relevance of that experience to the West African river basins which were the subject of the study. Global data illustrate the dynamics of the settlement process and expose a wide range of critical issues that should be addressed to increase the chances for successful development.³ Success was defined in terms of environmentally sustainable increases in production; rising living standards for the various types of settlers, for the host population, and for pastoralists; and potential for significant spread effects, at a financial cost that could be borne by the OCP countries.

Resulting from this broad approach to settlement experience, the Final Report recommended a set of low-cost development strategies that could be applied in each of the eleven countries, with modifications as needed to bring them into line with national policies and distinctive national features. In this chapter, we describe the development potential of land settlement in the OCP countries, and outline some of the study’s most important findings.
The Potential of Land Settlement

Policymakers and planners have seriously underestimated the longer-term development potential of well-planned and well-implemented land settlement programs. This underestimation of the potential is partly based on the poor initial returns found for a large majority of land settlement projects after a few years of implementation. For example, in a 1978 Issues Paper on land settlement, the World Bank concluded that three to five years after the start of implementation, economic rates of return were at least 50 percent below appraisal estimates. A later review of land settlement projects conducted by the Bank's Operations Evaluation Department came to a more positive conclusion. Projects focused on land settlement generally had satisfactory rates of return, fulfilled a range of other development criteria, and had major multiplier effects.

A second reason for underestimating the potential of land settlement is planners' poor understanding of the settlement process. During the initial years, settlers must behave conservatively, as they try first to regain food security while familiarizing themselves with a new environment, new neighbors, and new government officials. It is unrealistic to expect them to achieve rapid increases in productivity during this settling-in phase. Once food security is achieved, however, settler households in West Africa as elsewhere rapidly become risk-takers capable of significant economic and social change. Provided the opportunities are there — and this is where government policy and planning are vital — a majority of settlers can become more development-oriented than their neighbors or than they themselves were before resettlement.

Study Findings

The development strategies recommended in the Land Settlement Review reflect three premises relating to rural development. The first is that the agricultural and nonagricultural sectors are closely linked. More specifically, it is the rising disposable income of small-scale rural producers that drives development forward during its early stages. The second premise is that land settlement poses similar problems and opportunities throughout the tropics and subtropics, which elicit similar responses both from settlers and from host populations. The third premise is that the major resource involved in rural development is the people concerned. Consequently, project design should pay much closer attention to people's needs and desires, planning to facilitate development rather than to superimpose preconceived programs on settler populations. While crop agriculture is an essential starting point, settlers around the world prefer, and strive for, more diversified production systems.

Settlers are initially concerned with ensuring their short-term food security. As this objective is achieved, they start to invest in more valuable cash crops, in livestock, and in additional land, followed by investment in education of children (for nonfarm employment) and in a range of small-scale commercial activities. Settlers may fail to achieve their goals for reasons beyond their control, such as isolation from markets and unfavorable national policies. The importance of such constraints shows why the
development of settlement areas requires favorable national development policies and the assistance of government services as well as of nongovernmental organizations (NGOs).

In addition to economic viability, special attention must also be paid to the social viability of settlement areas. Constraints that must be overcome include isolation, lack of amenities and social services, and conflict with the host population and other traditional resource users. All of these interfere with the formation of viable rural communities.

Assuming a favorable national policy context for agriculture and rural development in general, the study recommended:

- Focusing on rainfed rather than irrigation-based land settlement.
- Promoting diversified production systems at the household and community levels, rather than a narrow emphasis on farming systems.
- Assisting spontaneous settlement rather than planning government-sponsored settlement programs.
- Developing the less-isolated areas preferred by spontaneous settlers, as opposed to remote areas with poor access to roads, services, and markets.
- Using line ministries to plan and deliver services, rather than specialized settlement agencies.
- Active involvement of local organizations and nongovernmental organizations (NGOs).

With respect to the environmental aspects of land settlement programs, the study recommended that government and NGO assistance should emphasize policies that would encourage settlers and pastoralists to establish roots in the area, including security of land tenure or specified use rights, together with access to water and other natural resources, health care, schools, and markets. The promotion of diversified production systems should incorporate host populations and pastoralists as well as settler households, and should provide economic opportunities for wives, children, and other dependents as well as for household heads. Within settlement areas, natural resource management strategies should be developed as early as possible, based on active involvement by the major local interest groups in resource mapping and zoning for different land uses.

Can The Development Potential of Land Settlement Be Realized?

The longer-term development potential of land settlement can be realized only if appropriate policies and plans are implemented. During a September 1990 seminar in Ouagadougou where the findings of this study were presented to representatives of ten
of the eleven OCP countries, prolonged discussion of several of its conclusions showed that significant differences of opinion still exist among African policymakers. These were especially clear with respect to the recommendation that future emphasis be placed on areas with better access to major markets and services, as opposed to the more isolated areas that governments would like to develop with donor funding.

Other areas of concern included the recommendations that customary systems of land tenure should be the starting point for providing security of tenure, and that pastoralists using the same resources on a seasonal basis should be integrated into the projects along with host communities and settler households. In contrast, the representatives present strongly backed a study recommendation to establish an international socioeconomic development unit based in West Africa to assist OCP countries with planning (including planner training), monitoring, and evaluation. Donor representatives present at the meeting were, however, relatively cool to the idea. Participants broadly agreed to the recommended preference for assisted spontaneous settlement, as well as to most other conclusions of the study.

Need to Emphasize Assisted Spontaneous Settlement

The IDA team rejected primary emphasis on either spontaneous settlement or government-sponsored settlement as inappropriate for the OCP countries. Dominant throughout the tropics in terms of settler numbers, spontaneous settlement — in which households move on their own initiative to areas where they perceive opportunities for improved welfare — tends to be characterized by low productivity that is not environmentally sustainable, and to be associated with few spread effects. Government-sponsored settlement involves a relatively small number of households at high cost, and has a relatively low success rate.

Instead of spontaneous settlement or government-sponsored settlement, we advocated assisted spontaneous settlement, combined in some circumstances with government-sponsored settlement where people are forced to move involuntarily, as for example by a dam project. Assisted spontaneous settlement capitalizes on the initiative of settlers who have the enterprise to move on their own. Its goal is to achieve productive and environmentally sustainable communities that combine spontaneous settlers with the indigenous communities and pastoralists already present, by guiding spontaneous settlers into appropriate areas, and by extending a range of services. While guided settlement is less expensive than government-sponsored settlement, no type of planned settlement is inexpensive, because planners must deal with problem-prone areas that lack infrastructure, especially roads, water supply, and market centers.

As for combining government-assisted spontaneous settlement with government-sponsored settlement, the Land Settlement Review recommended two models. The first incorporates surrounding communities into pre-existing government-sponsored settlements, as is currently occurring in Burkina Faso. The second, seldom encountered in real life, advocates combining from the start a "core" of sponsored settlers with a
larger population that includes hosts, government-assisted spontaneous settlers, and pastoralists. We would not recommend this second option as a "stand-alone" project, but rather as a means for increasing the benefits of large-scale national projects by incorporating a broader land settlement component. Examples include the construction of dams in areas of low population density (where the core of sponsored settlers is made up of those who must relocate from the reservoir basin), the establishment of forest reserves and national parks, and the integration of irrigation projects involving sponsored settlers into a wider area of rainfed agriculture.

Combining government-sponsored and government-assisted spontaneous settlement has a number of attractive features. For example, in planning for a core of sponsored settler households, government has the opportunity to create or expand markets and service centers that can serve not only the sponsored settlers but the larger population in the surrounding area as well. Because sponsored settlement allows a greater degree of government control, a core of sponsored settlers also provides the opportunity to introduce sustainable production systems that can subsequently be extended to the surrounding population.

Need for International Assistance

Regardless of type, the implementation of land settlement takes time. As with vector control, governments and donor institutions must commit funds over fifteen to twenty years. Land settlement as a development intervention concerns settler households which must evolve through a sequence of stages in relatively isolated, problem-prone areas. A special type of knowledge and planning is needed. The Land Settlement Review emphasized the need for "an appropriately funded, staffed, and located international institution ... to facilitate dissemination of information on lessons learned that relate to planning, implementing, monitoring, and evaluating the development of OCP areas." Without such an institution, donors and national governments will approach land settlement piecemeal. Not only will this jeopardize the implementation of successful development programs, it will also place at risk the river basins themselves, as vector control alone facilitates spontaneous settlement with attendant risks of environmental degradation.

While project implementation is clearly a national function, the international socioeconomic development institution might be a small planning, training and information-disseminating unit that could provide assistance to country planning ministries and to national onchocerciasis committees. To be effective, this unit should have a clear mandate and support from the OCP countries and the CSA for an active, outreaching mode of operation. It would initiate contacts with national planning ministries and national onchocerciasis committees in order to keep in focus OCP-related socioeconomic development issues and lessons learned from past and ongoing programs, as well as providing assistance to national and regional bodies on request.
Selection of Settlement Areas

The Land Settlement Review recommends that "Government strategies ... should emphasize the less-isolated areas that settlers prefer, as opposed to remote areas with poor access to markets and services—the exception being where isolated areas contain resources (such as water and forests) that require protection, or are the focal point for other development programs (such as dam construction)." This was the most controversial recommendation among our African colleagues. It was based on a number of empirical research findings. First, spontaneous settlers show a definite preference for less-isolated areas. Second, the most successful settlements are those located close to such capitals as Ouagadougou and Bamako, or to major regional centers. Third, financial costs rise significantly with the degree of isolation of an area.

As the exception in the recommendation indicates, the Land Settlement Review did not suggest that only the less-isolated areas be developed. More emphasis could have been placed, however, on the circumstances under which more-isolated areas might be selected. For example, in some countries spontaneous settlers are rapidly filling up the less-isolated areas. In these countries, governments should select and develop appropriate areas in advance of the wave of settlement. The increasing pressure on pastoral peoples warrants careful consideration of setting aside and developing appropriate areas of low population density for their use, areas that are apt to be quite isolated. Because of the costs involved, however, and the difficulty of finding donors willing to commit funds for extended time periods, such areas must be carefully selected and limited in number.

Land Tenure

Recommendation number ten in the Land Settlement Review is that customary tenure systems as opposed to state or private ownership of land, should be the starting point for providing security of tenure to hosts, settlers, and pastoralists in OCP areas. Given the need for settlers and pastoralists to live with host populations that claim customary tenure over the local resource base, including land, and given the frequent abuses that have followed from state ownership of land or legislation establishing individual ownership, we believe that there is no option but to use customary tenure systems as the starting point. Ideally, control of tenure should be eventually handed over to legally mandated community land management associations, as described below.

Additional Areas of Concern

The successful control of river blindness has indeed given the landlocked Sudano-Sahelian regions of West Africa some additional breathing space to address the difficult task of intensifying their traditional cropping, livestock, and forestry systems. Sooner or later, however, this breathing space will vanish. Time is already running out in some countries. In twenty or thirty years we are likely to see a saturation of river basins in the OCP countries, similar to what is already occurring in Burkina Faso. When this
occurs, not only will the national governments have fewer options, but these options will be more expensive.

Three areas that need immediate coordinated donor attention are:

1. Reinforcement of local land management institutions.

2. Projects to elicit the active participation of pastoralists in sound natural resource management at the community level.

3. Development of income-earning opportunities related to renewable forest products.

**Local Land Management Institutions.** Donors should support local institutions that provide leadership in sound natural resource management. Local people are more likely to support sound resource management if they see some tangible short-term benefit from this participation. National policies to reinforce their land tenure rights, or programs that raise rural incomes and living standards, might provide these benefits. The village land management (Gestion/aménagement des Terroirs Villageois - GTV) approach, which is currently being tried in the Sahelian states of West Africa, may provide innovative techniques for more effective local-level management of natural resources in the Sahelian zone of the OCP region, and may prove useful for the coastal OCP countries as well.

The success of these village land management associations requires (a) strong national support for the land management committee's legal status; (b) committed participation by the indigenous hosts as well as immigrants; and (c) strengthened sectoral funding to develop and maintain education, health, water, and rural road projects in the participating villages.

The first two requirements are generally considered to be within the scope of the existing village land management projects. The third is not, but it is just as critical to good natural resource management. Without targeted investment in infrastructure and government services, village leaders will not be able to convince either settlers or hosts that some tangible benefit will result from their willingness, for instance, to forego the extra income that could be earned from abusive wood cutting, or to invest land and labor in soil erosion control programs or spare cash in agricultural equipment and fertilizer.

The OCP river basins especially, because of their historic lack of settlement, have few access roads, basic health services, or schools. For the same reason, these areas are often distant from administrative and market centers and do not benefit from NGO services and programs. While the GTV approach is still experimental, it promises to increase local awareness of the relationship between natural resource management and sustainable agropastoral production in the OCP areas, and to enable local authorities to manage productive resources on the basis of wider community interests.
Experience with the GTV approach in the Sahelian OCP countries of Burkina Faso, Mali, and Niger reveals several issues that must be addressed before community-based institutions for resource management can be successful, and before elements of the GTV approach can be considered for use in other OCP countries. First, the model of natural resource management embedded in the GTV approach is that of sedentary village communities. In practice, however, and throughout the OCP countries, patterns of resource use among mobile pastoralist populations differ considerably from those of sedentary farming populations. These contrasting, and increasingly conflicting, indigenous modes of resource use must be considered in promoting local-level resource management.

Second, the model places undue stress on the appropriated land unit (terroir) as a site used by settler and host households for generating the real income they need for their livelihoods. Planners seeking more effective natural resource management through local-level institutions must be aware that people in OCP settlement areas may be reluctant to invest labor and capital in natural resource management when they have access to alternative, perhaps less risky, though often more distant, investment options. Interregional and international migrations link the village community with other areas offering such options.

Third, governments in the OCP countries must transfer power to the local level institutions that are being promoted for natural resource management. In all OCP countries, governments claim land ownership of last resort, and thus they have final authority over how land is allocated and used. Unless this arrangement is changed, that is, until governments formally empower local institutions to make decisions about access to and use of natural resources, we cannot expect a great deal of local-level commitment to these institutions. To date, and despite lengthy discussions about decentralization in West Africa, governments in the OCP countries are hedging when it comes to effectively transferring power to the community level for purposes of natural resource management.

It is necessary to monitor progress of governments in the OCP region in addressing such issues, and to examine the factors that contribute to or detract from success among local-level institutions in managing natural resources for agropastoral production. As there are so few examples of formally constituted village land management programs, research horizons should be widened to examine other types of community-based organizations that are associated with the implementation of environmentally sustainable systems or components of such systems.

**Participation of Pastoralists.** Livestock is — and is likely to remain — the principal means of investment for farmers in the OCP areas. Moreover, livestock manure is an essential component of intensive crop production. The amount of labor required to keep large animals on-farm generally forces farmers to board their animals with professional herders. Pastoralists have long been one of the main groups who have used the OCP river valleys, both as part of their seasonal migration patterns and as passageways to coastal country markets. Large areas of the Sahelian and Sudano-Sahelian regions of West Africa are better suited for grazing than for settled agriculture,
while the high incidence of trypanosomiasis in the forest zones creates a natural market there for pastoralist livestock products.

Intensification of Africa's pastoral production systems has remained one of the great "black holes" of agricultural development research. Nevertheless, Africa's pastoral production systems have been able to survive without major incident beyond a steady decline in their role in export earnings. Now even their survival is threatened, in part because of increased settlement resulting from successful onchocerciasis control. Since the late 1960s, the northward drift of sedentary agricultural production systems has escalated the pressure on pastoral resources in the lower rainfall areas of the Sahelian OCP countries. One result has been a steady shift southward in the pattern of pastoralist transhumancy and permanent residence. This southward migration is running into direct conflict with the agricultural migrants moving to the same areas for many of the same reasons.

The peaceful integration of farmers and herders throughout the OCP river basins is starting to break down. We believe that the breakdown of these basic social systems is far more serious than the failure of development interventions. The principal indicator of growing competition for river basin land is a steady increase in the level of pastoralist-agriculturalist conflict.

In some countries, local-level conflicts have been escalated by the need to seek scapegoats for worsening economic conditions. About two years ago, Ghana enacted a national law that expelled "alien" pastoralists from her territory. During the same period, several isolated attacks on Fulani villages in northern Cote d'Ivoire caused many pastoralists to flee across the border into Burkina Faso's southern river basins. In the last six months, violent killings have taken place on the Mali-Burkina Faso border, and several hundred migrating animals (but not their herders) were slaughtered on the Benin-Burkina Faso border. These incidents are but pale shades of things to come unless West African governments are helped to develop better programs and policies to integrate pastoralists in the process of national development.

The need for better programs to work with pastoralists — in ways that elicit the active participation of the pastoralists themselves — applies to Africa as a whole. One could argue, however, that OCP is both a cause and a possible solution to the problem. The sparsely populated river basins have long provided an "escape hatch" for pastoralists pushed out of other lands by the steady expansion of settled farming. Because of the successful control of river blindness, these river basins are now being occupied, some very actively. If these settlement trends continue, it will be increasingly difficult for the landlocked Sahelian countries to export their pastoralist "problems" to the south. The clash that can be observed in the OCP river basins of northern Ghana, Togo, Benin, Cote d'Ivoire, and southern Burkina Faso, and along the Mali-Burkina Faso border, will have enormous environmental consequences.

One possible solution involves the delineation of large agropastoral zones that will be reserved exclusively for intensive herding. At the present time, the settlement density
in many of the OCP river basins is still low enough that it would be possible to reserve large tracts of land for this purpose with only minimal involuntary relocation of settled farmers. So far, however, only a fraction of the agropastoral zones originally planned for the OCP river basins has actually been created. Those that were created have often been left unfinished. Little investment has been made in the health and education services and the rural roads that would make the zones agreeable places to live. Almost no attempt has been made to equip the pastoralist land management associations with the necessary literacy or accounting skills to manage the zones. In most cases, the pastoralists’ legal title to land in the agropastoral zones has also remained unclear.

These four domains: boundary delineation, legal title, local institutional development, and reinforcing sector investments should receive priority for donor funding. There is also a strong need to monitor and evaluate existing programs, especially the few successful projects that have already been implemented in the valleys.

**RENEWABLE FORESTRY RESOURCES.** A high percentage of West Africa’s remaining natural forest cover and protected forest and wildlife areas is located in the OCP river basins. These areas have been saved by their historic isolation. Land use planning for the valleys must therefore include natural resource planning to preserve some portion of the remaining forest cover and wildlife.

Past experience with classified forests shows that the simple delineation of boundaries around protected forests does not protect them from illegal cutting and grazing. Without the active participation of the local population in boundary enforcement, national governments must rely on an expensive, dense network of extension agents or rangers to enforce their zoning rules. Few West African countries have the financial resources to support this sort of direct regulation. Government planning that gives local populations a vested economic interest in the management and protection of wildlife and forests is more likely to be successful.

Several donors and governments have already started experimental programs to develop income opportunities from renewable forest resources in the OCP river basins. These renewable resources include honey, charcoal, firewood, and shea nut or karite butter. Several of these projects have been quite successful in Burkina Faso, Mali, and Niger. The genius of the concept is that it creates a group of people with a vested economic interest in preserving the natural forest cover. The same model can be used to control illegal cutting, grazing, and farming in the classified forests.

In contrast to the village land management committees and agropastoral zones, in this case a number of highly successful projects follow the same general program model. Donor support for local-level research will therefore be less necessary here than in the other two priority areas. Interventions need to focus on (a) incorporating income from forestry resources into a wider production system at household and community levels, since income from forest products alone is seldom sufficient to provide an adequate economic return to users; (b) expanding the managed forest model to embrace other large areas of contiguous forest; and (c) developing an appropriate body of
supportive tax and subsidy policies that will make these locally managed forestry projects profitable.

Conclusions

Today, new lands settlement is proceeding rapidly in Burkina Faso. Within the near future, large areas of Togo's most accessible river basins with good potential for crop production will undoubtedly be settled. The same can be said for Mali. By 1995, a mere twenty years after onchocerciasis control started, the options open to West Africa's agropastoralists will be dramatically different. If current population trends continue, the time line will be longer in some of the less densely settled OCP countries. Ultimately, however, here too the natural forests will be cut down through shifting cultivation, the only way for extensive farming to be sustainable.

Warning signals were issued for Burkina Faso in a series of environmental and economic impact studies as early as 1973. What has transpired in Burkina Faso has exceeded any expectation at that time. Although the rates of settlement have been much slower in other countries, they are likely to increase over the next twenty years. The current downturn in the economies of the Guinea Coast countries and changing patterns of interregional migration are likely to speed up, rather than slow down, these settlement trends.

The research reported in this chapter provides ample evidence that new land settlement in the OCP river basins can galvanize a wider process of dynamic regional economic growth and development. To accomplish this, however, requires assistance. Such assistance includes government programs to provide the roads, water points, and services that make sustainable land management also profitable. In addition, three priority areas need to be addressed now: local institutions for land management, pastoralism, and forestry. The environmental and social costs of inaction in this case will be especially high.
NOTES


The objective of this paper is to show that, over the long term, the capacity of Sub-Saharan Africa to find a sustained and sustainable path to economic development depends to a considerable degree on the conditions under which the necessary population redistribution takes place. The pace of that redistribution will be imposed by the rapid rate of population growth within the region. In this long-term perspective, we are mainly concerned with the major trends of settlement on the African continent, the net migratory flows (between countries, between natural regions, and between rural and urban areas) which determine such settlement, and the structural changes in the African economies which should result. We will draw from this some conclusions in terms of country development strategies and the appropriate forms of intervention for their external partners.

Over the long term, it is clearly the demographic explosion and its geopolitical, economic, social, and environmental consequences, which constitutes the most important event in the contemporary history of the African continent. In 1930, the population of Africa was about 130 million people. Today it exceeds 500 million. Even if significant and rapid progress is made in fertility management, we know that the population of Africa will exceed a billion in twenty to twenty-five years, and that a figure of 1.5 billion will undoubtedly be attained around the year 2030. In a single century, in other words over the course of four to five generations, the population of Sub-Saharan Africa will have increased more than tenfold.

Today, Sub-Saharan Africa is in the central phase of its demographic transition. This is the time when the rates of growth and of structural change are the highest, and where the resulting imbalances are the most marked. Despite some hesitation here and there, most African countries are now convinced that population growth must be brought under control. Let us assume that everything is done to ensure that the overall population growth rate of Sub-Saharan Africa is lowered as fast as possible, so that the limit of a billion people is not reached until after 2010 (but surely before 2020), and that the billion and a half mark is not reached until after 2030 (but probably not later than 2060).

Based on the plausible hypothesis that, in this not so distant future, Africa will not become a "nightmare" and Africans will still be surviving, three simple questions
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concerning the future of the region suggest themselves. The first question which comes to mind is, "Where will these billion Africans be living in the year 2010 or 2020?" The second question that should be asked is, "What will provide the economic basis for the survival and the satisfaction of basic needs for the African families of the year 2010 or 2020?" Finally, the third inevitable question relates to the accumulation of capital represented by the tenfold increase of the African population in less than a century: "How will the necessary investment in human settlements be financed?"

First Question: Where Will the Africans Live?

Before addressing questions relating to the distribution of this population among the countries of Africa and between urban and rural environments, let us begin by recalling the magnitude of past trends and the prospects for population growth in Africa in relation to the rest of the world.

AFRICAN POPULATION AND WORLD POPULATION. Today, Sub-Saharan Africa contains 10 percent of the world's population, compared to 7 percent in 1950. This proportion will reach 13 percent in 2010, 17 percent in 2030, and should reach 20 percent around the middle of the next century. But more interesting information for decisionmakers concerns the changing contribution of Africa to the pattern of world population growth. While in 1950 Africa represented only 8 percent of the world's population growth increment, in 1990 it represented 18 percent, and will reach 30 percent in 2010, 35 percent in 2030, and close to 50 percent over the longer run. Let us remember these ratios. They will help us to understand the magnitude of the need for infrastructure investments, in order for people to spread out and settle sustainably on the African continent. They will also help us to understand why net resource transfers are and will continue to be ever-more necessary to make sure that such settlement is carried out under acceptable human conditions.

DISTRIBUTION BETWEEN COUNTRIES AND INTERNATIONAL MIGRATION. A quick look at the maps showing natural resource development potential in Sub-Saharan Africa shows that a tenfold increase in population necessarily implies significant shifts in the spatial distribution of the population. If, in 1990, the population of Africa was distributed as it was in 1930, the situation would be unbearable in some parts of the continent (Great Lakes countries, Sahel region) and the continent would be, on the whole, much poorer than it is now. If this were the case, Côte d'Ivoire would still be a small country of 5 to 6 million people today, instead of 12 million, and would be considerably less densely populated than Rwanda.

International migrations in Sub-Saharan Africa are not well-known because they are most often carried out in a clandestine manner, and people prefer not to know about them. But, after the fact, one is forced to acknowledge their importance. Although part of the migratory flows represents people who have been forcibly displaced or who are fleeing areas of conflict, these international migrations are essentially based on economic motives, and the long-term consequences of these flows are logical and predictable.
Côte d'Ivoire is the most important country for immigration in Sub-Saharan Africa. Since independence, it has received more than 3 million migrants, mainly coming from the Sahel. This country is, after Australia, the second country on the planet in the number of immigrants per inhabitant. It has accepted three times as many immigrants per resident as the United States and Canada, and fourteen times as many as France.

Some twelve other Sub-Saharan African countries appear to have received net positive flows of migrants, although the data are not well known. The main ones are the Republic of South Africa, Zaire, Uganda, and Senegal. Ghana has ceased since the early 1960s to be a receiving country. The total number of immigrants installed since independence represents between 5 percent and 10 percent of the total population of the receiving countries. Immigrants may even be in the majority in some border regions, such as in north and south Kivu in Zaire.

Country demographic projections, prepared by the countries themselves and by international institutions, always assume zero net migration or flows tending rapidly toward zero. This is the easiest assumption to make, but it is often the least realistic, and the least courageous, not to say the most damaging, from a political point of view. Such assumptions lend support to a development strategy which, if it were followed, would create unmanageable situations.

Let us consider, for example, the long-term demographic projections prepared by the World Bank (1990 edition), which are based on migratory flows tending towards zero in the year 2000. Gabon and Rwanda are assigned future populations of 6 million and 61 million respectively, corresponding to an average density of 23 persons per square kilometer in the former, and 2,400 persons per square kilometer in the latter, or seven times the present density of Belgium! Rwanda, of course, is an essentially rural hill country, without villages, where each household lives on its own holding. These projections would lead us to assume an average future farm size of 600 square meters (0.06 hectares). Obviously there will never be 61 million people in Rwanda, nor 67 million in Niger. The reproductive behavior of households will change long before these thresholds are reached, and the African population will be redeployed across the continent.

But in this case, where will the people of Rwanda, or Niger, or Malawi be found? Which countries will take them in, and what development strategies will have to be adopted in the countries of origin and destination? What investments will be needed, and how will they be financed? What are the costs and benefits of these migratory flows? These questions cannot be avoided forever on the grounds that they are politically sensitive. Experience shows that by refusing to ask such questions, we run a major risk of making an incorrect diagnosis of the situation, making inappropriate investment choices, and more fundamentally, choosing the wrong development strategy.

Let us return to the example of Côte d'Ivoire, immigration country *par excellence*, at least until the present economic crisis. Many of the criticisms commonly
made of the development model followed for several decades now by Côte d’Ivoire are based on certain supposedly undesirable consequences of its policies of internal mobility and free immigration. But we often ignore the long-term advantages of these policies, which are the counterparts of these supposedly undesirable effects. A systematic analysis of the costs and benefits of these policies shows, in fact, that at the regional level, these policies have had and continue to have a net positive economic effect. Clearly, the social, economic, and environmental problems of the Sahel would be much worse if all the coastal countries of West Africa had closed their doors to immigration, as Ghana and Guinea have done. Let us then give serious thought to the dangers of encouraging countries like Côte d’Ivoire to slow down internal and external migration in order to re-establish their own economic equilibrium.

INTERNAL MIGRATIONS. International migrations are only one aspect of the profound changes affecting the settlement process in African countries. Generally, people are moving from the savanna into the forest, from the high plateaus to the valleys recently freed from onchocerciasis and trypanosomiasis, from isolated areas into areas better served by infrastructure, and of course, from rural areas to towns and cities. However, internal mobility varies a great deal from one country to another: quite low in Ghana, Madagascar, Malawi, Burundi, and Rwanda; high in Burkina Faso and Kenya; and extremely high in Côte d’Ivoire. It is noteworthy that the countries which have most restricted internal mobility generally show the least satisfactory economic performance. But it is just as surprising to note that these themes are so rarely treated in economic reports, nor are they taken into account in the design of stabilization and structural adjustment policies.

URBANIZATION. One of the most visible manifestations of the redistribution of the African population is the phenomenon of urbanization. Between 1930 and 1980, the urban population of Sub-Saharan Africa increased fifteen-fold, while the rural population grew by 220 percent, and the average share of urban population in each country increased from 6 percent to 30 percent. It is likely that the total urban population will quadruple once again between 1980 and 2010. While the rural population will continue to increase, Sub-Saharan Africa’s urban population will exceed 50 percent of the total sometime before 2010 (see Tables 15-1 to 15-3).

Is such an urban explosion really likely to happen? This is a complex question, but the answer is unquestionably affirmative. Let us first consider the population dynamics of settlement on a continental scale, and then consider the long-term prospects for economic growth in Sub-Saharan Africa. Sustained and sustainable growth is inconceivable without such urbanization, which must be the principal engine of economic development.

Urbanization: The Driving Force of Population Redistribution in Africa

The history of our planet shows that there can be no substantial flows of internal or international migration without a sustained urbanization process, and we have seen that
such international migrations are indispensable to the long-term equilibrium of the continent.

As in most of the settled and developed countries today, inter-regional migrations in Sub-Saharan Africa are driven by urban development, even if they result in the colonization of rural areas. In the former Belgian Congo, as in Cameroon and Côte d'Ivoire today, the farming frontier and the development of plantation agriculture followed and still follow the networks created by urban places and infrastructure links. The colonization of rural areas is often undertaken by urban agents, acting as promoters or intermediaries.

Similarly, if one excludes the population movements resulting from war and other conflicts, international migrations almost always flow from the countries with the lowest rates of urban development to the most urbanized and those with the highest rates of urban growth.

In contrast to commonly accepted ideas, the process of urbanization in Sub-Saharan Africa does not produce overgrown megalopolises draining the surrounding regions of their resources. Urban growth is relatively balanced between capital cities, secondary cities, and economically viable small towns. The number of urban centers with more than 100,000 inhabitants increased from 12 in 1930 to 32 in 1950 and 173 in 1980, and will reach 600 in the year 2010. Over the same time period, the total number of urban centers, increasing from 250 to 8,000, will have increased thirty-two times (see Table 15-4). And even if urbanization does proceed at the rapid pace indicated by this table, the total rural population will continue to increase for more than half a century (see Tables 15-5 and 15-6). Considering the present demographic and geopolitical context of Sub-Saharan Africa, the recommendations to slow the growth of capital cities and to deconcentrate some of their activities are, with few exceptions, unjustified.

Second Question: How Will These Households Live and What Will the National Economies of Sub-Saharan African Look Like Thirty Years From Now?

The preceding discussion, showing that the spatial redistribution of population is necessary from the point of view of natural resource management and environmental protection, and that urban centers are the driving force structuring settlement patterns and land use, is interesting in a long-term perspective. But African decisionmakers and their external partners cannot be satisfied with this analysis. We must also show that this population redistribution, which will ultimately be required, is economically efficient today, and is in fact a necessary condition for sustained and sustainable economic development.

We turn now to a review of a few major economic effects of population redistribution, with special attention to its principal element, the urbanization process. These effects relate to the division of labor, the emergence of a market economy, the growth of productivity and incomes in rural areas as well as in urban areas, and the
development of human resources. The effects of population dynamics on capital accumulation will be discussed in the response to the third question.

**Urbanization is a necessary condition of income growth in rural areas and of agricultural intensification.** This argument is well-known. By establishing a division of labor, creating a consumer demand for rural products such as food, fuel, construction materials, and offering new models for consumption, new products and new services, urbanization provides incentives for rural households to sell more so as to be able to buy more. By raising expectations, urbanization reduces the perceived risks of investment and thus facilitates the growth of rural production and productivity. At the same time it accelerates the monetarization of the rural economy and facilitates the circulation of cash, which then promotes resource mobilization in other forms.

Despite the losses that may be incurred at a national level in terms of net importation of food products, the correlation between food production per farmer and the ratio of total population to rural population is very clear. The demand for food created by non-food-producing consumers provides incentives for growth in food production by farmers, rather than the presence of a food surplus being the driving force behind urbanization.

A study of rural-urban exchanges shows that, in an average size country, internal trade in goods and services between urban and rural areas is at least as important as external trade, and that rural-urban trade tends to become the main source of income for the rural population. For example, in a country where the rate of urbanization is 30 percent and where the urban population is growing twice as fast as the national average, each farmer has a potential market for food products growing at 4 percent per year over the long term. There are few countries whose export markets offer such promising prospects for growth.

Agricultural intensification requires high growth in the use of inputs, which farmers can only buy if their gross cash incomes are regularly increasing. A Rwandan farmer, who can only allocate a few square meters to the cultivation of export crops, purchases just 10 percent of the inputs bought by a farmer in Côte d’Ivoire, but spends the same proportion of gross cash income. The Ivoirian farmer has access over the long term to an expanding regional market, and thus has a good chance to gain a growing cash income. In contrast, the Rwandan farmer, even if much more skilled and harder working, is likely to be increasingly less able to meet the costs of intensification, however necessary this may be in this overpopulated rural country in which it is practically impossible to increase the cultivated area.

In the long term, the engine of growth in agricultural productivity and rural incomes is, and will be ever-more, the regional-urban market. Agriculture by itself is not likely to be the engine of sound and sustainable economic growth in Sub-Saharan Africa. It would be more accurate to say that this engine is the monetarized regional demand (over and above subsistence) to which the different sectors of the economy must be mobilized to respond.
This demand-driven growth model has worked more or less well up to now, despite the effects of climate change, the insufficient infrastructure, the competition of imports and food aid, and the numerous attempts that have been made to hold it back by all sorts of restrictive measures, including constraints on personal mobility as well as constraints on trade.

Can this model continue to function at least as well as it has done in the past, if not better? On the institutional side, structural adjustment policies have, at least in principle, reduced distortions and re-established a favorable environment for economic growth. As for the technical ability of farmers to respond to demand, it is clear that considerable reserves of productivity (in terms of production per farmer) are available to African farmers. In forest areas, for example, surplus root crops and plantains are only harvested if there is a market for these crops. Finally, the physical capacity of the soils and other natural resources on the African continent can support a net agricultural production many times greater than present levels, if appropriate technologies are adopted and necessary investments made. There is no reason to be particularly worried, if the rural-urban division of labor is allowed to develop naturally and gross agricultural incomes increase as a result.

The main risks seem to be related to the dynamism of urban economies (effects of stabilization measures on household demand), and to the capacity of governments to ensure an enabling environment in both physical terms (providing effective environmental protection) and policy terms (removing constraints to personal mobility and the functioning of regional markets).

The best ways in which a country can serve its farmers are (a) to ensure that they have urban clients with purchasing power; (b) to facilitate the urban-rural division of labor and internal mobility; (c) to facilitate access to national and regional markets by providing the necessary infrastructure; and (d) to make sure that cities have something attractive to offer in exchange for their food supply, for it is the growth of felt needs (based on the urban consumption model) and the corresponding cash requirements of rural families that determines the supply of agricultural products and the growth of rural incomes.

**Urbanization is, more generally, a necessary condition for the development of a market economy.** Urbanization is also one of the engines of development for regional markets and real intra-African trade (including unregistered exchanges). These appear to be growing at 7 percent per year on the average. This is one reason why border areas often develop and become urbanized faster than the country as a whole, despite the notorious and deliberate neglect by governments of infrastructure investments in such regions.

Internal markets and regional markets in Sub-Saharan Africa are thus playing a growing role in the economy, to which not enough attention has been paid. It would certainly be illusory and dangerous to think that Africa could regain high rates of economic growth without recovering its external markets. But it would be equally
dangerous to neglect these internal markets, or to consider them as simply the result of export expansion. The development of African markets should become one of the major themes of economic policy in this decade. The dynamics of these markets depend to a great extent on the dynamics of population movement and settlement on the continent.

**URBANIZATION PROMOTES INCREASED LABOR PRODUCTIVITY AND SUSTAINS THE URBAN ECONOMY.** To understand what is taking place within the rapidly growing cities of Africa, we must take population dynamics explicitly into account by resorting to the so-called demo-economic models. These models are very useful in understanding how the continuous process of urbanization contributes to increasing the productivity of migrants. These also reveal why, except for crisis periods, the continuous arrival of these migrants who make up the majority of the urban poor, does not impoverish the urban economy, but rather the reverse.

Individuals who decide freely to leave their village, located in a rural area relatively isolated from the market, and who find themselves in the urban informal sector, soon see their income needs (including subsistence) double, and their cash requirements quadruple. To meet these expanded needs, they first draw on their savings and on those of their relatives. They may also, for a while, be able to count on community solidarity to provide free lodging, loans, and gifts made with an expectation of return. However, sooner or later, they will be obliged to increase their income and thus their productivity in order to survive, or else return to their village. A similar phenomenon occurs in connection with the "migration" of urban people between different social categories, which also corresponds to new perceptions of basic needs.

The process of urbanization thus appears to be the principle engine of growth and diversification in the need for private expenditure. The average total expenditure per person is in fact on the order of two to three times higher in urban areas than in rural areas, and cash expenditures are three or four times higher in urban areas.

Expenditures made by new migrants provide income for other urban dwellers, especially for earlier migrants. Though the propensity to import is higher in urban than rural areas, urban private expenditure basically supports the purchase of local goods and services, produced by the urban and rural economy. One person may construct and rent out an extra room to provide lodging for a recent immigrant, while another will sell food products at a price that includes urban services such as cooking. Thus, despite the important role of transfers, it is the growth in household expenditure requirements which fuels enterprise creation and increases in production and productivity, with consequent growth in the incomes of urban households.

The creation of an informal sector micro-enterprise is more likely to occur in the urban setting than in the rural one. The productivity of labor in this urban micro-enterprise is higher than in a rural micro-enterprise of similar type because the city offers a sufficiently large market, facilitates access to raw materials and services, provides a competitive environment, and because the perception of needs by urban people is more pressing. Due to the higher productivity of labor in the different branches of economic
activity and the better allocation of labor between these branches, the average value added per person is on the order of two or three times greater in urban areas than in rural areas. For countries with urbanization rates around 30 percent, urban areas generally contribute more than half of total gross domestic product (GDP). Because of the urbanization process, 70 percent to 80 percent of the annual growth in GDP of countries is normally generated in urban areas.

Three principal groups of activities account for a large share of the urban economy. The agro-alimentary complex, which largely corresponds to the function of "feeding the city," represents about 40 percent of total urban production. The complex of construction activity and public works, which corresponds to the function of "building and maintaining the city and its hinterland," accounts for 20 percent to 30 percent of urban production. Of course, the contribution of this complex depends very much on the rate of urban growth. Finally, the third complex corresponds to the function of "controlling and administering urban space and its hinterland" by urban agents, both public and private. This last complex represents about 10 percent of all urban activity.

By following transactions and cash flows through the various squares of the matrix of urban-rural social accounting for a country, one may capture the chain reaction set off by the arrival of new migrants and spread from one agent to the next throughout the economy. In particular, one may describe "the permanent path of urbanization" resulting from constant rates of rural-urban migration, and the "temporary paths" produced by abrupt changes in the rate of urban growth.

The permanent path of urbanization corresponds fairly well to the pattern of growth in Sub-Saharan African countries during the 1960s and the 1970s. This permanent path can induce, under certain conditions, a rate of economic growth that exceeds the population growth rate. But this economic growth is turbulent and should not be confused with balanced growth. On the contrary, urbanization results from a state of disequilibrium reflecting strong geographic and socioeconomic disparities, and it generates profound structural changes in the economy and social structure of a country. Classical macroeconomic models of the computable general equilibrium type (CGE) are hardly suitable to describe this sort of growth. It would be preferable to use demo-economic models which incorporate the behavior patterns of different categories of people.

The temporary paths of urbanization, which characterize periods of rapid growth or rapid decline in export earnings (for example, Nigeria or Cameroon during the period of rapid rise and fall in petroleum prices) are more difficult to describe. These temporary paths have to be analyzed in comparison to the baseline provided by the permanent path of urbanization.

Thus, the presence of poor people in cities is not in itself an alarming fact, since the cities in countries still undergoing settlement are meant to attract migrants who will be poor in a statistical sense. An African city with no poor people would be an anomaly. What is much more important than the number of poor people is the speed with which
these "new poor" are assimilated into the urban economy, and the variation of this speed of assimilation over time.

The demo-economic model shows that accelerated migration rates increase tensions and augment the costs of assimilation, and that the sustained decrease of migration rates is very costly for the urban economy. Like bicycles, cities are more stable when they are in motion, and they find it difficult to move backward. Diminished rural-urban migration brings in its wake disaster for the urban economy.

Third Question: How Can the Necessary Settlement Investments Be Financed?

Settlement of the people on the land implies investment costs that are generally treated as local expenditures, required to accommodate new people and their activities. More diffuse in the case of rural settlements, such social investments are more demanding, more complex, and more difficult to postpone in urban areas, which are already accommodating more than two-thirds of the total population growth in Sub-Saharan Africa. On average, these "local" investments amount to between US$500 and US$1,000 per person settled. They constitute one of the principal forms of capital accumulation in Sub-Saharan Africa.

In more than two-thirds of the cases, it is the private sector that builds the city and accumulates urban capital. But this private investment cannot be made efficiently unless supporting public investments of land preparation and social infrastructure are carried out in time and are appropriately managed and maintained.

The local investment needed for the growth of human settlements, in proportion to the GDP produced by these human settlements, increases as the population growth rate increases. For example, a city with a growth rate of 10 percent must invest 28 percent of its GDP to accommodate new residents and their economic and social activities. To these growth-related investment expenditures must be added the costs of rehabilitating existing infrastructure and the cost of maintaining and managing human settlements.

It is therefore perfectly clear that, with few exceptions, the growth of human settlements in Sub-Saharan African countries cannot be completely financed by savings achieved within these settlements themselves. Some net transfer of resources to these "growth poles" will be required. Only a part of these transfers may come from the rest of the country or the sub-region. Recourse to transfers from the rest of the world will be inevitable. Such net transfers will be even higher given the fact that the terms of trade are least favorable to countries that are still undergoing settlement processes. It would be unreasonable to expect that the prices of tropical products should be adjusted downwards to reflect a significant decline in the rates of internal and international migration in Sub-Saharan Africa. Since Sub-Saharan Africa will accommodate a growing proportion of total population growth on the planet, from 8 percent of the world total in 1960 to 15 percent today and 30 percent twenty years from now, we should not be
surprised to find that the share of Sub-Saharan Africa in the global pattern of resource transfers must continue to grow for several more decades.

Just as private expenditure represents income to other economic actors, public expenditures for local investment and operating costs (the well-known "recurrent costs") constitute income for other agents, at least some of whom are urban citizens. We have already seen that the functions of "building the city" and "administering and controlling the area" account for 30 percent to 40 percent of the urban economy. Thus, it is not the local investment itself that presents a problem, but the capacity to anticipate and to program these expenditures, carry them out effectively, manage the capital assets created, and provide adequate financing.

Since the needs for local investment and the corresponding needs for resource transfers are predictable and unavoidable, and since they constitute one of the engines of urban growth and consequently of rural growth, they should be evaluated objectively in advance. An effort should be made to ensure that the necessary resources will be available as needed over several generations. Planned resource transfers will also benefit the world economy through the expansion of the global market for goods and services.

Conclusion: Toward a Long-Term Development Strategy for Africa Based on Support for Settlement and Regional Development

Assuring an optimal settlement pattern, with the accompanying construction of the necessary housing and urban infrastructure networks, is the greatest challenge of our times. Today, Sub-Saharan Africa is at the midpoint of the demographic transition through which it must pass, like it or not, over the course of a century. During this time the population will multiply by ten, its share of urban population will rise from 6 percent to more than 60 percent, and most people will have moved from local subsistence to participation in the market economy.

This fundamental change is not taking place at the most propitious time in history. Many of the "traditional" local activities on which the urban economies of the developed countries were once based are today challenged by intense competition and destabilized by world markets and technological progress. Today, an international manufacturer can flood the market with shoes at prices with which no artisanal shoemaker can compete.

But Sub-Saharan Africa has no choice. It cannot choose the pace of change, imposed by population growth, nor can it choose its terms of trade with world markets. These circumstances impose a rather heavy dependence on the rest of the world, reflecting the inevitable imbalances between financial capacity and financial needs, between supply and demand for goods and services.

It is in this context of structural change linked to the search for optimal settlement patterns that development strategies must be decided. The roles of migration and
urbanization (not to speak of industrialization, which is only one manifestation of these flows) in the development and organization of markets, and in resource mobilization, need to be understood in this context.

By profiting from past experience and present studies, and with the help of their external partners, Sub-Saharan African countries should be able to sketch the broad outline of a strategy for settlement, for infrastructure investment, and for long-term economic growth. This will be one of the objectives of the National Long-Term Perspective Studies, which several countries have already started. Of course, these national studies must take into account the regional context, and particularly the phenomenon of international migration.

Côte d'Ivoire, a case which has been extensively cited, is only one of the fifteen receiving countries identified in the Long-Term Image of Africa study.¹ The fate of the twenty-five sending countries and the long-term stability of all Sub-Saharan Africa depends upon what happens in these fifteen countries. This study envisages total migratory flows of about 40 million people over the period 1980-2010, of which two-thirds must be absorbed by a relatively small number of countries, including Zaire, Cote d'Ivoire, Cameroon, and South Africa. Of course, other long-term perspectives on settlement patterns could be considered. But whatever macroeconomic assumptions are used, the zero migration hypothesis appears totally unacceptable in the long term.

Because both receiving and sending countries tend to ignore these migrations, or even in some cases try to stop them, regional and international organizations and donors have a special responsibility in this area. The process of population redistribution will necessarily be costly, in political, economic, and social terms. It will be even more costly if constrained or slowed by national policies or by the indirect effects of certain measures included in the stabilization or adjustment programs imposed by economic circumstances.

The preparation by regional organizations of their own long-term perspective studies addressing the themes of population and economic resource redistribution and regional investment requirements, could help each country take better account of the regional context in planning its own national strategy. Regional studies could also help external partners to improve the targeting of their interventions and to redefine, if necessary, their aid conditionality, in order to facilitate regional mobility. On the basis of these national and regional studies, it will be possible to sketch out an indicative program for basic infrastructure and local investments needed to promote the expansion of human settlements, and to define the role of external assistance in carrying out this vast program of support for the settlement of the continent.

Considering only the needs for public investment in basic infrastructure and local investments in Sub-Saharan Africa, the cost of such a program in the year 2000 could amount to about US$20 billion per year for national and regional infrastructure and about US$30 billion per year for local investments, or 15 percent of the total gross regional product (GRP).
The effects which can be expected from this public investment include the stimulation of private investment and the development of regional markets. These in turn would induce a long-term growth in GRP on the order of 5 percent per year, varying according to the country from half to twice as much of this regional average. As the demo-economic model shows, this growth in the GRP would correspond to a growth in value added per farmer and in rural per capita income of about 2 percent per year, and close to zero growth in the value added and per capita income of each of the social categories of urban residents. This scenario represents the minimum which must be achieved in order to maintain the necessary international and national mobility in Sub-Saharan Africa.

Considering the other necessary public investments, the level of resources which can be mobilized at the local level, and the borrowing capacity of the countries of Sub-Saharan Africa, it is clear that at least 30 percent of the financing of this investment program must be provided by net transfers from the rest of the world. As much continuity as possible over the long term, regardless of variations in commodities prices for cocoa or copper, must be provided. Such an investment program should seek to maximize effects on local economies by foreseeing the needs for new enterprises to establish and equip themselves, the effects of public expenditures on incomes and household expenditures, and the effects on the revenues and responsibilities of local governments.

Net transfers to the public sector of Sub-Saharan African countries could then be determined so as to minimize fluctuations in the rate at which these structural investments are put in place, rather than amplifying these fluctuations as appears to be the case today. In other words, the share of net external financing in public investment programs could be varied in inverse proportion to the volume of available national resources.

This development strategy, based on settlement issues, can only be devised if the countries of the region are willing to adopt a new form of indicative long-term planning. This planning must be based on economic and financial considerations, as well as demo-economic and regional growth models. These countries must also redefine the roles assigned to their regional development authorities. In short, we must reinvent the planning of regional development by adapting it to today's context.

Throughout this settlement phase, maximum efforts must be focused on the potential population-receiving countries and the regional and urban development poles. The inevitable disparities in infrastructure and levels of development between these centers and the rest of the country or the continent must be managed as well as possible without trying to eliminate them. These disparities in themselves provide incentives for changing settlement patterns, without which population growth would rapidly become unsustainable.

Because the integration of national economies is still far from being accomplished, and the costs of transport and communications are still high, Sub-Saharan African countries still in the process of settlement often appear to be made up of "Basic
Economic Entities with High Volumes of Exchange and Services. These BEEHIVES are unstable and undergoing rapid restructuring, separated by relatively stable, predominantly rural, interstitial spaces. Calling these places BEEHIVES underlines the analogy between cities which colonize and exploit their hinterland and make it productive by circulating information, and bees which buzz about the countryside, transporting pollen from flower to flower and collecting materials to make wax and honey. These BEEHIVES, which often occupy less than 10 percent of the territory, provide the origin and destination of more than 90 percent of the flows of people and freight, finance, and goods and services.

This concept of BEEHIVES may help to define the national strategies of regional development and territorial administration and to organize the programming of investments around three main themes: (a) how to increase the efficiency of internal operations in each of the BEEHIVES; (b) how to promote complementarities and exchanges between the different BEEHIVES and between these BEEHIVES and the rest of the world; and (c) how to manage the interstitial space, realizing that, in this more stable environment, the multiplier effect of policies and projects is likely to be relatively weak. In this perspective one could be tempted, when presenting traditional public investment programs organized by sectors and sub-sectors, to add if not to substitute a regional or even an urban-centered presentation, based on BEEHIVES.
Table 15-1

Urban Population (Million Inhabitants) and Share of Urban in Total Population

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
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<th></th>
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</thead>
<tbody>
<tr>
<td>URBAN POP IN SSA</td>
<td>8</td>
<td>21</td>
<td>117</td>
<td>200</td>
<td>500</td>
<td>1000</td>
</tr>
<tr>
<td>URBAN POP IN THE WORLD</td>
<td>466</td>
<td>733</td>
<td>1792</td>
<td>2295</td>
<td>3795</td>
<td>5701</td>
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<tr>
<td>SHARE OF SSA IN WORLD URBAN POP</td>
<td>0.017</td>
<td>0.029</td>
<td>0.065</td>
<td>0.087</td>
<td>0.132</td>
<td>0.175</td>
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<tr>
<td>URBAN SHARE IN SSA</td>
<td>0.062</td>
<td>0.118</td>
<td>0.301</td>
<td>0.375</td>
<td>0.532</td>
<td>0.669</td>
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<tr>
<td>URBAN SHARE IN THE WORLD</td>
<td>0.225</td>
<td>0.291</td>
<td>0.403</td>
<td>0.434</td>
<td>0.528</td>
<td>0.643</td>
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Table 15-2

Urban Population Average Growth Rates

<table>
<thead>
<tr>
<th>PERIOD</th>
<th>30-50</th>
<th>50-80</th>
<th>80-90</th>
<th>90-2010</th>
<th>2010-2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSA</td>
<td>4.94</td>
<td>5.89</td>
<td>5.51</td>
<td>4.69</td>
<td>3.53</td>
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<tr>
<td>WORLD</td>
<td>2.29</td>
<td>3.02</td>
<td>2.50</td>
<td>2.55</td>
<td>2.06</td>
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</table>

Table 15-3

Annual Increase of Urban Population (Million Inhabitants per Year)

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>IN SSA</td>
<td>0.3</td>
<td>1.1</td>
<td>7.0</td>
<td>10.6</td>
<td>21.0</td>
<td>31.0</td>
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<tr>
<td>IN THE WORLD</td>
<td>7.5</td>
<td>22.0</td>
<td>43.2</td>
<td>57.6</td>
<td>89.6</td>
<td>95.2</td>
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<tr>
<td>SHARE OF SSA IN WORLD INCREASE</td>
<td>0.037</td>
<td>0.050</td>
<td>0.163</td>
<td>0.184</td>
<td>0.234</td>
<td>0.326</td>
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Table 15-4
Number of Towns in Sub-Saharan Africa

<table>
<thead>
<tr>
<th>YEAR</th>
<th>1930</th>
<th>1950</th>
<th>1980</th>
<th>2010</th>
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<tr>
<td>&gt; 1000000 INHABITANTS</td>
<td>0</td>
<td>1</td>
<td>12</td>
<td>70</td>
</tr>
<tr>
<td>&gt; 100000 INHABITANTS</td>
<td>12</td>
<td>32</td>
<td>173</td>
<td>600</td>
</tr>
<tr>
<td>&gt; 5000 INHABITANTS</td>
<td>250</td>
<td>670</td>
<td>2900</td>
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Table 15-5
Rural Population (Millions)

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>SSA</td>
<td>122</td>
<td>157</td>
<td>272</td>
<td>334</td>
<td>456</td>
<td>495</td>
</tr>
<tr>
<td>WORLD</td>
<td>1601</td>
<td>1782</td>
<td>2658</td>
<td>2997</td>
<td>3396</td>
<td>3158</td>
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<tr>
<td>SHARE OF SSA</td>
<td>0.076</td>
<td>0.088</td>
<td>0.102</td>
<td>0.111</td>
<td>0.134</td>
<td>0.157</td>
</tr>
</tbody>
</table>

Table 15-6
Rural Population Average Growth Rates

<table>
<thead>
<tr>
<th>PERIOD</th>
<th>30-50</th>
<th>50-80</th>
<th>80-90</th>
<th>90-2010</th>
<th>2010-2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>SSA</td>
<td>1.27</td>
<td>1.85</td>
<td>2.07</td>
<td>1.57</td>
<td>0.41</td>
</tr>
<tr>
<td>WORLD</td>
<td>0.54</td>
<td>1.34</td>
<td>1.21</td>
<td>0.63</td>
<td>-0.36</td>
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</tbody>
</table>
NOTE

CHAPTER 15

ENVIRONMENT AND SETTLEMENT ISSUES IN AFRICA: TOWARD A POLICY AGENDA

Cynthia C. Cook

This chapter summarizes the issues raised in discussions during the conference, and the suggestions made by participants for addressing these issues. In conclusion, the proposed program of action recommended by conference participants to the international community is presented.

Toward a Policy Agenda

For us, this conference is both an end and a beginning. It is the end of the exploratory phase of our work on environment and settlement issues in Africa, in which we sought to identify the main issues, to initiate collaboration with Africans working on this topic, and to establish an agenda for policy research leading to action in the future. It is the beginning, we hope, of collaborative action to promote this policy agenda, both by conducting research on issues where the answers are not yet clear, and by preparing policy recommendations concerning those issues for which the evidence is already quite clear.

The various papers presented at this conference, and the discussions which followed them, highlighted a number of policy issues.

POPULATION. We have seen that the sheer numbers of people in Africa, while not presently overwhelming in relation to the productive capacity of the region’s natural resource base, could become so in the future unless strong positive actions are taken to support the second-half of the demographic transition. These actions involve the enhancement of human welfare in general and the safeguarding of maternal and child health, and the education of women, in particular, together with proactive programs of fertility management. More importantly in the short term, we have seen that population pressures on natural resources largely derive from the present spatial patterns of settlement, which in turn are driven by historical accident, by present production technologies, and by political forces. It is important, therefore, that we should add to our concern about population growth an explicit concern with the issue of population distribution.

More productive economies and a better life for an increasing number of Africans depend upon intensifying agricultural production in areas that are suitable for such expansion, reducing the pressure of cultivation on ecologically sensitive and economically less-productive areas (for farming) such as tropical forests and rangelands, and promoting
Involuntary Resettlement in Africa

economic exchanges between rural and urban areas through support for the development of more-balanced settlement patterns. This raises a number of issues relating to the appropriate role of government in providing incentives and an enabling policy environment to facilitate the development of such balanced settlement patterns.

POVERTY. Our concern with the effects of project-related involuntary resettlement stems from a basic concern that development projects should do no harm; that they should not leave people worse off than they were before; and that particular care should be taken to ensure that people who are already among the less-advantaged part of the population should not be further disadvantaged by development projects. Discussion at the conference confirmed that this concern is widespread and applies not only to the victims of development itself, but also to the victims of poverty, violence, and environmental degradation wherever these are found in Africa. Governments may have good intentions, but current policies have accomplished relatively little in the area of poverty alleviation for displaced people. Conference participants called for the Bank to lead the donor community in drafting and discussing a Charter of Human Rights for Displaced People in Africa, based on the principles embodied in the Bank's resettlement policy.

POLITICAL will. Conference participants frequently noted that government rhetoric expressing concern for displaced people is often not matched by the institutional and financial commitment needed to carry out programs that have been designed to protect and enhance their welfare. The problem is partly one of visibility. People who are already on the margin of society are less likely than others to be organized, to be able to draw on local resources, and to be able to protect their interests through the normal political channels. We have seen that in some of the cases discussed, affected people were able to express their concerns and influence the design of programs that eventually left them better off than before. In other cases, however, governments failed to follow through on promises or adhered rigidly to legal requirements often inherited from a colonial system. It was also pointed out that frequent changes in government policy can send confusing signals and paralyze ongoing programs.

POPULAR PARTICIPATION. A recurrent theme throughout the conference presentations and discussions was the importance of involving people in defining their own problems and finding appropriate solutions. This concern was not just a philosophical one, although the historical context of increasingly open political dialogue in Africa certainly provided a favorable environment for this discussion. Rather, the concern was practical, in the sense that much of what needs to be done has to be done by the people for themselves, because governments cannot be expected to do everything. Several participants referred to the need to make more use of "market" solutions, rather than to rely on monolithic government interventions to solve problems. It is noteworthy that effective popular participation was a hallmark of those experiences which proved to be successful, while a lack of local control over decisionmaking often resulted in failure.

The two themes of popular participation and political will are closely linked within a general framework covered by the concept of "good governance." Conference
discussions stressed the significant roles of availability of information and freedom of speech in enabling meaningful local participation in decisionmaking. Participants frequently referred to the concept of a civil society as one in which popular participation in decisionmaking would be not only possible but necessary.

Finally, we have seen that participation by the affected people in designing and carrying out resettlement programs — with spontaneous settlement as the extreme case — is a critical condition for sustainability. Participation builds the self-confidence and the skills needed for the successful transfer of responsibility from government to local communities. Even in the case of spontaneous settlement, participation issues arise, as host communities and other resource users have to be integrated in the decisionmaking process in order for sustainable patterns of natural resource management to be maintained.

**Land Tenure.** Another recurrent theme in the presentations was the importance of understanding local land tenure issues in the light of customary rules and traditional use patterns as well as of legal and administrative requirements. This theme is as important in urban areas as in rural areas. Lack of attention to land tenure issues has been one of the principal factors causing difficulties and delays in the implementation of resettlement programs. These issues also arise in connection with the demarcation of protected areas and the establishment of rules concerning human activity in such areas.

The conference reached a consensus that land tenure issues are not yet well understood, and that this area should have priority for future research aimed at producing appropriate policy recommendations. Present policies and proposals for change that flow from theoretical models of economic behavior do not always seem to fit well with African realities on the ground. While tenure issues have to be addressed in order for settlement and natural resource management policies and programs to be pursued on a sound basis, there is no single prescription that fits every situation. A great deal of additional research is needed to find the appropriate solution in each case.

**Institutional Capacity.** Even with an appropriate policy framework and adequate planning and provision of resources, resettlement programs sometimes fail to achieve their objectives because of institutional issues that arise during implementation. Given that the fundamental objective of settlement and resettlement should be sustainable development of the beneficiary population, conference participants stressed the need for an interdisciplinary approach in planning. Such an approach would involve economists, sociologists, and ecologists, as well as engineers and physical planners. Planning for sustainable development also implies a holistic intersectoral approach, anticipating needs not only for physical infrastructure and productive resources, but also for attention to health care and educational and cultural requirements.

While we saw clearly the need for improved coordination between the lead agencies whose projects displace people and the other sectoral agencies whose skills and resources are needed for resettlement programs, the conference placed less emphasis on the roles and responsibilities of state bureaucracies, and more on the potential of local
Involuntary Resettlement in Africa

authorities, community organizations, and traditional decisionmaking structures outside of government to resolve conflicts and mobilize local resources. Rather than creating new institutions or units, participants urged greater reliance on existing market mechanisms and the private sector, including the self-help capacity of the people involved.

Social and Environmental Impacts. A number of participants mentioned the need for, and the potential utility of, environmental assessment processes as ways of identifying implementation problems in advance and planning for their solution. Important issues were raised concerning the scale of such impact assessments in time and in space, both social and geographic. More attention needs to be paid to long-term impacts, population groups other than those immediately affected, and secondary impacts of resettlement activities on the physical environment. Several presentations pointed out unanticipated positive consequences of projects that could have been captured for the benefit of the local population, such as tourism and fishery benefits. A number of case studies also highlighted problems introduced by the "boom town" effects of projects involving major construction, with attendant social disruption, health and sanitation problems, and increased pressure on natural resources.

In line with the identified need to better predict and prepare for the social and environmental consequences of projects, participants also stressed the need to monitor these consequences on a continuous basis during program implementation and to evaluate them at regular intervals. This would include long-term effects that might need to be measured long after project activities come to a formal close. It would be important for program beneficiaries and others affected by the project to play an active part in such monitoring and evaluation activities. Concerns were raised about the adequacy and availability of donor financing for such monitoring and evaluation activities, as well as for the financing of environmental mitigation measures or remedial actions that might turn out to be needed.

Recommended Action Program

The conference made four major recommendations for future action:

1. Establishing a network of African and non-African professionals and institutions concerned with environment and settlement issues in Africa.

2. Developing draft policy instruments for discussion with government officials.

3. Developing a program of research to fill key knowledge gaps, to be carried out by African institutions or individuals.

4. Planning and carrying out a second conference, oriented to policy issues and targeted at high-level decisionmakers.
ESTABLISHING A NETWORK. Participants at the conference felt that the exchange of experience among often isolated academics and practitioners was particularly valuable and should be continued on a regular basis. Makerere Institute of Social Research, which already has a well-established record in settlement studies and in policy work more generally, has agreed in principle to serve as the base for such a network. There is a need, however, to explore the nature of other networks with similar purposes which may exist in Africa, and to design this part of the program so that it complements, rather than duplicates, existing efforts. In this sense the active participation of the United Nations Center for Human Settlements in Nairobi in the conference and in the future network will be particularly helpful.

The focal point for the network would establish a bibliographic data base and reference collection of documents concerning environment and settlement issues in Africa. It would build up a list of contacts in the relevant African ministries, academic institutions, and nongovernmental organizations (NGOs), and would circulate information to them regularly in the form of a newsletter. It would coordinate and oversee the implementation of the proposed cooperative research program, involving several African institutions and individuals, and would disseminate the results of this program. Finally, the focal point would assist in the organization and execution of the high-level policy conference, which would be planned to take place in 1995.

DEVELOPING POLICY INSTRUMENTS. Conference participants had two important recommendations in this regard. First, they urged the Bank to strengthen its dialogue with other donors and governments concerning the Bank's policy and guidelines on involuntary resettlement. The participants strongly endorsed the goals, objectives, and methods proposed in these Bank policy documents, expressing the wish that they could become more widely known and accepted. The second recommendation called for the Bank to prepare a draft policy document, suitable for discussion with governments, incorporating the principles adopted by the Bank for dealing with involuntary resettlement. It was suggested that this might take the form of a Charter or Covenant to Protect the Rights of Displaced Peoples (Charte pour la Sauvegarde des Populations Déplacées).

In addition, participants strongly endorsed the Bank's policies on environmental assessment and local participation, as tools to ensure more responsible and responsive project planning and implementation by governments. They encouraged the Bank to take a leading role in disseminating these policies within the donor community and in assisting African governments to develop the new capacities needed for their successful implementation.

CONTINUING RESEARCH. Participants identified certain key issues on which additional research could shed important light. These involved, principally:

1. Economic linkages between population growth, migration and settlement patterns, resource endowments, and prospects for sustainable development.
2. Land tenure systems and their effects on settlement and land use patterns in Africa.

3. Institutional issues, with a particular focus on infrastructure, markets, and the private sector, including the role of NGOs.

4. Monitoring and evaluation, including targeted *ex post* studies of the environmental impacts of settlement in ecologically sensitive areas.

A detailed research program would need to be developed in each of these areas, taking into account the many specific suggestions that were provided by participants. It is likely that such a research program would arouse active support and collaboration from interested institutions outside Africa, some of whom were represented at the conference. However, participants agreed that the focus should be on using research resources to build analytic capacity within African institutions and among African researchers as a first priority.

**PREPARING A POLICY CONFERENCE.** The work on policy instruments, as well as the proposed research and studies, would contribute to the preparation of a high-level policy conference to be held in 1995.

The Bank was asked to support this action program and to seek and coordinate other donor financing to ensure its successful execution.

**Conclusion**

Project-related involuntary resettlement is only part of the broader issues of environment and settlement that will determine Africa’s development prospects in the future. Lessons learned from the experience with involuntary resettlement can, however, help to guide future government policies for dealing with these broader issues. The first African Conference on Environment and Settlement provided a clear mandate for the participants to pursue this work together, relying on the strength of international cooperation, the goodwill of governments, and the active participation of people everywhere to make this program a success.
CONFERENCE AGENDA

Monday, October 7

**Morning**

Opening Session

9:00-9:15 Welcome
Dr. Dan Mudoola, Director
Makerere University Institute of Social Research

9:15-9:30 Opening Remarks
Francois Falloux, World Bank

9:30-10:30 Opening Speech
Mrs. J.A. Ocaya-Lakidi, Deputy Permanent Secretary
Ministry of Energy, Minerals, and Environment, Uganda

10:30-11:00 Coffee Break

11:00-12:00 Keynote Address
Michael Cernea, World Bank

12:00-12:30 Discussion

**Afternoon**

National and International Settlement Policies

2:00-3:00 Bank Policies and Experience in Africa
Cynthia Cook, World Bank

3:00-3:15 Discussion

3:30-4:00 Coffee Break

4:00-5:00 National Settlement Policies: African Perspectives

Chaired by E. A. K. Kalitsi, Chief Executive
Ghana Electricity Corporation

Guinea: Bandian Kourouma, Directeur National de l’Urbanisme
Uganda: The Hon. David Pulkol, Deputy Minister of Education
Mozambique: Francisco Pereira, Ministry of Construction and Water
5:00-5:30 Discussion
7:00 Reception sponsored by World Bank

**Tuesday, October 8**

Field trip to Uganda Sugar Corporation, Owen Falls Dam, and Bujagali Falls (site of potential future hydropower development)

**Wednesday, October 9**

**Morning** *Involuntary Resettlement in Rural Areas*

Chaired by Dr. Boubacar Sy, Office d’Exploitation des Ressources Hydrauliques du Haut Niger, Bamako, Mali

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>9:00-11:00</td>
<td>Panel Presentation: Four Case Studies and Discussion</td>
</tr>
</tbody>
</table>

Senegal: Mamadou Mactar Sylla, Cellule Apres-Barrage

Kenya: Edward Mburugu, University of Nairobi

Lesotho: Mavuso Tshalala, Lesotho Highlands Development Authority

Uganda: Mark Marquardt, Makerere University

11:00-11:30 Coffee Break

11:30-12:30 Discussion: Policy Issues in Rural Resettlement

**Afternoon** *Involuntary Resettlement in Urban Areas*

Chaired by Naison Mutizwa-Mangiza, United Nations Centre for Human Settlements

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<tr>
<th>Time</th>
<th>Activity</th>
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<td>2:00-4:00</td>
<td>Panel Presentation: Two Case Studies and Discussion</td>
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Cameroon: Roger Manga, Directeur, MAETUR-ARAN, Douala

Uganda: Margaret Kiryoka, Makerere Institute of Social Research

4:00-4:30 Coffee Break

4:30-5:30 Discussion: Policy Issues in Urban Resettlement
Tuesday, October 18

Morning

Long-Term Impacts of Resettlement

Kafue Research Station, Zambia

Chaired by C. Odili Ododo, Dean of Environmental Studies

9:00-9:30

The Kafue Dam Experience - Christopher Magenda, Lake Kafue University, Zambia

9:30-10:00

The Akosombo Dam Experience - Martha Nampando, University of Science and Technology, Ghana

10:00-10:30

The Namibian Dam Experience - Kommy Dodoo, Ghana

10:30-11:00

Coffee Break

11:00-12:30

Discussion

Afternoon

Handing Sponsoring Session

Chaired by Francois Palloux, World Bank

2:00-3:00

Institute for Development Anthropology Institute for Development Anthropology

Land Settlement Study - Thayer Scudder and Delia McMillan

3:00-3:30

Discussion

Jean-Marie Cour, World Bank

4:00-5:00

Population Growth and Migration: Long-Term Perspectives for Africa

5:00-5:30

Discussion

Jean-Marie Cour, World Bank

5:30-6:00

Annex 1
Friday, October 11

Morning

Closing Session

Chaired by Dr. Dan Mudoola, Director
Makerere Institute of Social Research

9:00-10:00 Conference Summary
Dr. Gunnar Sørhe, University of Bergen, Norway

10:00-10:30 Response from Participants

10:30-11:00 Coffee Break

11:00-11:30 Closing Remarks
Francois Falloux, World Bank

11:30-12:00 Closing Speech
Professor Senteza Kajubi, Vice-Chancellor
Makerere University
PARTICIPANTS

Mr. Victor Adu-Aryee  
Volta River Authority  
P. O. Box M-77  
Accra, Ghana

Mr. Rodrigues Banze  
Ministry of Construction and Water  
Maputo, Mozambique

Mr. Fred Buatsi  
Director, National Oncho Secretariat  
Ministry of Finance and Economic Planning  
Accra, Ghana

Mr. E. A. K. Kalitsi  
Volta River Authority  
P. O. Box M-77  
Accra, Ghana

Mr. John Kimani  
Rural Development Service Limited  
P. O. Box 53947  
Nairobi, Kenya

Mr. Bandian Kourouma  
Directeur National de l'Urbanisme  
Ministère de l'Urbanisme et de l'Habitat  
B. P. 846, Conakry, Guinea

Ms. Teresa Maria Amalia Langa  
Coordenadora do Projeto de Reabilitação de Edifícios (APIE)  
Maputo, Mozambique

Dr. Christopher Magadza, Director  
Lake Kariba Research Station  
P. O. Box 48  
Kariba, Zimbabwe

M. Roger Manga  
Directeur, MAETUR-ARAN  
B. P. 3248  
Douala, Cameroun
Involuntary Resettlement in Africa

M. Jacques Manyinga  
Cellule Spéciale de Développement Urbain (CSDU)  
Ministère de l'Urbanisme et de l'Habitat  
B. P. 4798, Yaoundé, Cameroun

Mr. Deogratia Mbesherbusa  
Technical Director, SINELAC  
B. P. 176  
Cyangugu, Rwanda

M. Faustin-Maxine Mbringa-Takama  
Géographe, Université de Bangui  
Bangui, République Centrafricaine

Professor Edward Mburugu  
Chair, Department of Sociology  
University of Nairobi  
Nairobi, Kenya

Dr. Della McMillan  
Center for African Studies  
470 Griner Hall, University of Florida  
Gainesville, Florida 32611

Mr. John Milimo  
Director, Rural Development Studies Bureau  
University of Zambia  
Lusaka, Zambia

Mr. Naison Mutizwa-Mangiza  
Human Settlements Officer  
Research and Development Division  
U. N. Center for Human Settlements (HABITAT)  
Nairobi, Kenya

Mr. Edgar Vasco Muxlhanga  
Direção de Construção e Urbanização  
City of Maputo, Mozambique

M. Leopold Nana  
Chargé de la Réinstallation - Kompienga  
ONEATEV (ex-AVV)  
Ouagadougou, Burkina Faso
Mr. Policarpo Napica  
National Director of Water  
Maputo, Mozambique

Mr. Gaspard Niragira, Directeur  
Imbo Irrigation Project  
B. P. 1850  
Bujumbura, Burundi

Dr. Charles P. Odidi Okidi  
Dean of Environmental Studies  
Moi University  
Eldoret, Kenya

Mr. Barthelemy Otchoun  
Conseiller Technique a l’Environnement  
Ministère de Développement Rural  
Cotonou, Benin

Mr. Francisco Pereira  
Ministry of Construction and Water  
Maputo, Mozambique

Dr. Thayer Scudder  
Room 228-77  
California Institute of Technology  
Pasadena, California 91125

M. Komivi Dodzi Sokpor  
Sociologue Démographe  
Direction Générale de la Condition Feminine  
Lome, Togo

Professor Gunnar M. Sørbs  
University of Bergen  
Stromgt. 54, N-5007  
Bergen, Norway

Dr. Boubacar Sy  
c/o OERHN  
B. P. 003  
Bamako, Mali
Involuntary Resettlement in Africa

M. Macat Sylla
Cellule Après-Barrage
46 Rue Carnot
Dakar, Senegal

Professor Martha Tamakloe
Faculty of Architecture and Planning
University of Science and Technology
Kumasi, Ghana

Mr. M. Tshabalala
Sociologist, Environment Division
Lesotho Highlands Development Authority
Maseru 100, Lesotho

World Bank Participants

Francois Falloux
Senior Environmental Adviser
Environment Division, Africa Region

Cynthia Cook
Senior Sociologist
Environment Division, Africa Region

Michael Cernea
Sociology and Social Policy Adviser
Environment Department

Jean-Marie Cour
Principal Planner
Infrastructure Division, Africa Region

Bereket Teferi
Staff Assistant
Environment Division, Africa Region

Ugandan Participants

Dr. Dan Mudoola
Director
Makerere Institute of Social Research
Dr. Mark Marquardt
Makerere Institute of Social Research

Dr. Tukahirwa
Director
Makerere Institute of Environment and Natural Resources

Hon. David Pulkol
Deputy Minister of Education

Mr. Kisamba-Mugerwa
Senior Research Fellow
Makerere Institute of Social Research

Ms. M. Kiryokya
Sociologist
Physical Planning Department, Ministry of Housing and Urban Development

Mr. Tumusiime Mutebelle
Permanent Secretary, Ministry of Planning

Invited Participants Unable to Attend

Dr. J. S. O. Ayeni
Director, Kainji Lake Research Institute
PMB 666, New Bussa
Kwara State, Nigeria

Mr. Sandile B. Ceko
Ministry of Natural Resources
Mbabane, Swaziland

M. Philippe Ngapou
Directeur Adjoint, Mission M'Bali
ENERCA, B.P. 880
Bangui, République Centrafricaine

Mr. Juvenal Nkusi
Director, Urban Institutions Project
Kigali, Rwanda

Mr. Andre Ntagerura
Minister of Public Works
Kigali, Rwanda
Mr. W. J. Odhiambo  
Director, Water and Sewer Department  
Nairobi City Commission  
Nairobi, Kenya
OPENING SPEECH

The Honorable Henry Kajura
Minister of Water, Energy, Minerals and Environmental Protection

Delivered by Mrs. J. A. Ocaya-Lakidi
Acting Permanent Secretary and Secretary for Environmental Protection, Uganda

Ladies and gentlemen,

This conference comes at an opportune time, when African countries are striving to improve the living conditions of their people without compromising the limited natural resources on which they depend now and for the future.

As the theme of today's conference states, "Environment and Settlement" are issues of major importance which require thorough deliberations. I am indeed hopeful that this august assembly will adequately address the issues at hand, for the future of our countries may well depend on the results of your discussions.

The problems of environment and settlement in Africa are well-known. There is a rapid upward population growth, which is increasingly putting pressure on limited resources such as agricultural land. Wherever people settle they must utilize the local resources. The problem becomes serious when utilization of these resources is coupled with poor management practices found in many African countries. Thus environmental degradation, population growth, and settlement cannot be divorced from each other.

Human settlements, in simple terms, refer to places where people live and work. They are important areas for economic and social activities. Human settlements in most African countries are short of the necessary facilities associated with a good human environment, for example, clean drinking water, drainage and adequate sanitation, lighting, ventilation, space, and protection from pollution. Worse still, many settlements are built of materials that are not sufficiently protected from a number of environmental hazards like rain and fire. Other essential needs which are lacking include sufficient and easily accessible roads, schools, health centers, financial institutions, and commercial and recreational services.

The record of African settlements and their impact on the environment is not impressive. Settlement patterns always affect the way resources are shared and hence used. In the arid areas of Africa, for example, where nucleated settlement patterns occur, land has become dangerously degraded due to over-concentration of people in a small area. Associated with this is the periodic migration from one nucleus to another, creating patches of degraded environment which in the long run leads to a systematic desertification process.

On the evenly settled parts of Africa where fertile soils have attracted high population densities, systematic environmental degradation has also occurred. Since
the majority of African peoples depends directly on land through agriculture and related activities, land fragmentation has also become a major problem. Land has been split into small, non-viable plots to accommodate a growing number of families. This type of settlement has inevitably led to overcultivation, overgrazing, and hence environmental degradation. As families become even bigger, the population of a given area increases, leading to poverty and the so-called environmental refugees.

Another form of settlement which has been tried in Africa has been the planned settlement schemes. Reasonable successes have been scored in this field in terms of increased crop production and settlement of displaced peoples. Regrettably, however, environmental degradation has been a setback because many of these schemes were set up either in river valleys or in swamp lands. The concentration of people on these marginal lands has had a number of repercussions, including siltation of rivers or reduction in water flow, lowering of the water table, destruction of sensitive plant species, and sedimentation of lakes leading to a reduction in their biological potential.

The urban situation, on the other hand, presents an even gloomier picture. In many parts of Africa today, haphazard urban settlements have emerged. This has created a near-crisis in some areas. The lack of planned disposal for sewerage and solid waste from such large concentrations of people is an important issue which I am very confident you will address. On many occasions these wastes have been disposed of without proper treatment, which has led to the poisoning of lakes, rivers, and wetlands that have always been used as the traditional disposal sites. Many wild plant and animal species that live within these zones either have perished or are near extinction.

The challenges ahead of us are immense. In rural areas, the scattered nature of the settlements makes provision of utilities very expensive, which naturally the local population cannot afford. Many of our governments would have wished to provide these amenities to make the rural areas better places to live in, but they are always incapacitated by lack of funds, or sometimes lack of government budgetary allocation of funds. Furthermore, urban settlements will remain a big challenge to African governments as long as the majority of urban dwellers continue to live in shanties without amenities such as piped water, and continue to use firewood and charcoal as the cheapest source of energy.

Land tenure is another important issue that has affected settlements, particularly here in Uganda, and more so in the urban areas. The urban poor find it difficult to improve the quality of their housing because of the lack of guaranteed security of tenure.

The task of this conference, therefore, is to identify what knowledge has been lacking, what policies should be put in place, or policy changes should be made, in order to improve our settlement patterns so that they will be in harmony with our environment. The challenge before the participants present here is to identify means of planning effective settlement and resettlement schemes that can be effective means of promoting sustainable management of our natural resources.
Ladies and gentlemen, the challenge is immense, but can be achieved. I now take this opportunity to declare this African Conference on Environment and Settlement open. I wish you very successful deliberations.
CLOSING SPEECH

Professor Senteza-Kajubi
Vice-Chancellor of Makerere University, Uganda

Officials of the World Bank, participants, ladies and gentlemen,

I regret that I was only able to attend the opening session of this conference. Given a free choice, I would have wished to sit in to share ideas with you on the very pertinent policy-oriented theme of this African Conference, on Environment and Settlement. However, I have been briefed on the highlights of your deliberations by Makerere Institute of Social Research colleagues.

You will agree with me that towards the end of the twentieth century, issues have emerged that were never the concern of academics and policymakers at the beginning of this century. Among such issues are the ones you have dealt with in this conference. The emergence of these issues results from the effects of technological changes and man-made or natural calamities. Here in Uganda, until quite recently, environment and settlement were not defined as issues. Some thirty years ago, the population of Uganda was not more than 6 million. We lulled ourselves into thinking that there was enough space for all. Now, development and the population explosion are demonstrating that there is not enough space for all. Hence the use of space has to be planned. We have been talking of our fresh waters in lakes and rivers, our green hills and valleys -but alas, this is no longer the case, as you may have seen. We are so much preoccupied with industrialization and urbanization that it has taken some time to focus on industrial pollution. A walk or a drive around our urban areas has its own story to tell.

These concerns are not only confined to Uganda but are important throughout the so-called Third, Second, and even First Worlds. I am thus particularly glad that the World Bank saw fit to sponsor this conference which scholars and policymakers have attended. In some quarters, not very well informed, the World Bank may be seen as an impersonal bureaucratic institution rigidly concerned with the implementation of development projects. But over the years there has been drawn to my attention a growing body of literature from the World Bank concerned with the negative consequences of their developmental initiatives.

This dialogue between scholars, policymakers, and international agencies is a very healthy sign for development. At home here, the concept "Ivory Tower," used pejoratively in respect of Makerere University, is becoming anachronistic. The present National Resistance Movement government has taken care to involve scholars in policy formulation through research and consultation. This also appears to be the trend among international agencies such as the World Bank and other donor agencies. In my office, nearly every day some officials, both local and international, seek my advice on who among my colleagues can take up a policy-oriented consultancy. Let me assure you that we are organizing ourselves to meet this positive challenge. We have come to recognize,
in the light of our past experience, that knowledge pursued for its own sake is useless unless it serves humanity. Omukama Kyebambe of Toro recognized this some seventy years ago when he told a colonial governor, "A man is not educated to oppress his fellow man, but to administer justice as much as possible."

Another feature I have noted with delight about this conference is that it has not been arranged vertically, but horizontally. In other words, African academics and high policymakers have not gone to Europe or America to listen to our colleague experts, but academics and policymakers from Africa, Europe, America, and the World Bank have met in Africa to listen to each other and to exchange ideas.

But a word of caution. The last thirty years have been years of conferences and seminars. The critical success of a seminar or conference lies in ensuring that there are properly defined targets to which the results of your deliberations are communicated for positive consideration and action. I believe that the quality of your papers and deliberations is such that they will certainly find their way into high quality journals, or there may be enough resources to defray the cost of bound copies. But please note that policymakers and politicians are so busy that they may not have time to go to Makerere library or another library to look up your works, nor are they likely to have time to read up neatly bound volumes. You will need to find a way of communicating your findings in a properly economic and intelligible way to the critical consumers of knowledge. Try to find a way of ensuring that government and international officials can take advantage of this resource and incorporate it into their policy formulation process.

I would also like to suggest that conferences of this nature should not be post-mortems. If they are, the damage will already have been done. In other words, a conference should not necessarily be held after a dam has overflooded. The temptations by policymakers to close avenues for discussion of a project being planned are sometimes high.

On behalf of the government of Uganda and the university, I should like to take this opportunity to thank the World Bank for sponsoring this conference and choosing Uganda as its venue. I believe we have moved a long way from the early 1980s when Uganda was a pariah of the international community. That you chose Uganda as the conference venue is reassuring to us. Specifically I would like to thank Mrs. Cynthia Cook, her colleagues from Washington, D.C., and the Resident Representative of the World Bank for facilitating the organizational aspects of this conference. I would like also to thank the Director of the Makerere Institute for Social Research, and the Research Secretary, Mr. Patrick Mulindwa, for their efforts to ensure that the conference was a success. For the participants, I hope you had a meaningful stay here, and I wish you all the best on your way home.

I now declare this conference closed.
BIBLIOGRAPHY


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RECENT WORLD BANK TECHNICAL PAPERS (continued)

No. 193  Braatz, Conserving Biological Diversity: A Strategy for Protected Areas in the Asia-Pacific Region
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No. 217  Antholt, Getting Ready for the Twenty-First Century: Technical Change and Institutional Modernization in Agriculture
No. 218  Mohan, editor, Bibliography of Publications: Technical Department, Africa Region, July 1987 to December 1992
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No. 221  Srivastava, Tamboli, English, Lal, and Stewart, Conserving Soil Moisture and Fertility in the Warm Seasonally Dry Tropics
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No. 223  Piotrow, Treiman, Rimon, Yun, and Lozare, Strategies for Family Planning Promotion
No. 224  Midgley, Urban Transport in Asia: An Operational Agenda for the 1990s
No. 225  Dia, A Governance Approach to Civil Service Reform in Sub-Saharan Africa
No. 226  Bindlish, Evenson, and Gbetibouo, Evaluation of T&V-Based Extension in Burkina Faso