Brazil: Reducing Rural Poverty Through Access to Land

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Executive Summary

The distribution of income and assets in Brazil is among the most unequal in the world, with poverty rates that greatly exceed those in other countries with similar per capita incomes. Beyond the obvious relationship between inequality and poverty, consensus has emerged that limited access to land and extreme inequality in land ownership are central factors in rural poverty in Brazil. Most of the country’s 16.5 million rural poor are landless or lack adequate land for subsistence. About 10 million of these people live in the rural northeast, where regional poverty indicators are much higher than national and regional averages.

A new approach to increase land access

Land reform can make an important contribution to rural poverty reduction, providing a cost-effective and sustainable source of income for poor families. But while land ownership with undisputed title promotes productivity growth and poverty reduction, it is not enough: on-farm investments are an essential complement. Matching grants for on-farm investments within a package of financing linked to land purchases have a greater chance of increasing income, and make beneficiary communities more attractive clients for rural financial agents.

Thus in the late-1990s the Brazilian government sought viable, complementary alternatives to traditional land redistribution mechanisms—approaches that would be fast and cost-effective, increase productive activity, expand coverage, and avoid conflict. Research indicated that government-led programs of land acquisition and beneficiary selection had an uneven record and that voluntary, market-based transactions between buyers and sellers, with family self-selection for participation, had significant potential. Moreover, economic changes in Brazil in the 1990s made land reform more economically feasible and politically palatable.

The Land Reform and Poverty Alleviation Pilot Project in northeast Brazil—popularly known as Cédula da Terra—was launched at full scale in 1998 (following two years of testing and evaluation in the State of Ceará) and ran through 2002. Poverty reduction was the project’s overarching goal from its inception. The project represented the first major expansion of the methodology established as an outgrowth of community-driven development principles and techniques pioneered in northeast Brazil under the World Bank-supported Rural Poverty Reduction Program (which has reached 7.5 million people since 1993; see the related case study).

The continued refinement and expansion of this approach under the follow-on, scaled-up Land-based Poverty Alleviation Project I—known as Crédito Fundiário—is consistent with the federal government’s recently-announced National Agrarian Reform Plan. The plan envisages the settlement of 530,000 families nationwide, including 130,000 families using the Crédito Fundiário mechanism. So far, under the Bank-supported program, some 30,000 families have settled on and received title to 835,000 hectares, with a similar number of land purchase proposals currently at various stages of processing.

The project is implemented by civil society through community associations, with participation open to local, state, and national civil society organizations and nongovernmental
organizations, including the National Confederation of Agricultural Workers (CONTAG). Associations of poor rural laborers and subsistence farmers select, negotiate, and obtain financing to purchase agricultural properties from willing sellers. Within an overall financing package for each family (equal to around $4,000 at current exchange rates), land purchases (financed by the federal government) are complemented by matching grants to finance on-farm investments (Bank-financed), plus a separate settlement grant (about $450) to tide families through their first year. Resources for technical assistance contracted by the associations are also included in the program. The program’s exploratory, groundbreaking approach required from the outset design features sufficiently flexible to permit midstream adjustments based on research findings and changing circumstances and experiences.

**Principles and outcomes**

Four principles govern the model used by the program: decentralized implementation; a community-based approach that promotes sustainability and builds social capital; access to productive investments; and ongoing piloting and evaluation. The program is establishing the foundations for local asset accumulation and economic growth in rural areas based on good governance and social capital formation. Negotiated land access involves lands otherwise excluded from traditional agrarian reform programs and brings poor rural workers to the table as full participants. The state’s role in the land transfer process has been recast as facilitator; guardian of standards, quality, and learning; provider of support and technical assistance; and catalyst to action for land purchase and settlement. Evaluations, studies, seminars, and intensive Bank supervision have provided the analytical foundations supporting scaling up this relatively cost-effective, conflict-free mechanism.

Evaluation by the University of Campinas (UNICAMP) shows that between 1998 and 2000 agricultural production on project-financed lands increased 366 percent, and between 2000 and 2003 another 204 percent, indicating markedly better use of land and an increase in family labor devoted to farm activities. Moreover, between 1998 and 2003 beneficiaries’ real income rose 75 percent. These increases occurred despite drought and less-than-anticipated credit and technical assistance availability.
Implementation Process

Rationale

The distribution of income and assets in Brazil is among the most unequal in the world; poverty rates greatly exceed other countries with similar per-capita GNP. Beyond the obvious relationship between inequality and poverty, a consensus has emerged that asset inequality hinders economic growth. Limited access to land and extreme inequality of land ownership are central factors in the rural poverty equation in Brazil. Most of the country’s 16.5 million rural poor are landless or lack adequate land for subsistence. About 10 million of those live in the rural Northeast, a region of recurrent drought, skewed income and land distribution, weak rural financial markets and deficient basic infrastructure and services. Regional poverty indicators are sharply higher than national and other-regional averages.

Studies have consistently found that under conditions of rural labor surplus, family farms in the Northeast and other regions can be more efficient and labor intensive than large farms with under- or un-utilized lands, and that skewed land distribution limits agricultural productivity and employment. Land reform can make an important contribution to a rural poverty reduction strategy, creating a cost-effective and sustainable source of income for poor families.

In the discourse surrounding development of the market-based pilots, land ownership with undisputed title was believed likely to promote productivity growth and poverty reduction more rapidly than other options such as developing land rental markets, but in itself, was not enough. Research had confirmed that on-farm investments coinciding with settlement were an essential complement to land acquisition to improve productivity and sustainability. Matching grants for on-farm investment within a package of financing linked to land purchases were believed to have a greater chance of increasing income, with the likely added benefit of making beneficiary communities, as productive landholders, more attractive potential clients for rural financial agents.

Government was looking for viable, complementary alternatives to traditional mechanisms historically used for land redistribution - mainly expropriation with compensation - which would be cost-effective, expeditious, promote increased productive activity, achieve greater coverage and avoid conflict. Research and lessons on often unsuccessful land redistribution programs in many countries underscored the Brazilian experience, suggesting that Government-led programs of land acquisition and selection of beneficiaries had an uneven record and that voluntary deals between buyers and sellers, with family self-selection for participation, had greater potential.

Land Reform and Poverty Alleviation Pilot Project (Cédula da Terra)

The new model was tested and evaluated for two years as a component of the Rural Poverty Alleviation Project in the State of Ceará (Loan 3918-BR), part of a Bank-supported program of community-driven development (CDD) projects in the Northeast which have reached some 7.5
million rural people since 1993. Rapid, low cost and non-conflictive execution under the Ceará test case, relative to other state-administered land access methods, convinced the Federal Government - with Bank support - to refine and expand the model to five Northeast states, adopting similar, proven participatory governance principles and practices. The five states were selected on the basis of severe landlessness, immediate availability of land in the market, coverage of a range of natural environments representative of the Northeast, and proven implementation capacity under the CDD projects.

As the first free-standing market-based land reform project in the Bank’s history, Cédula da Terra - in combination with the Ceará pilot - settled some 16,000 families on about 425,000 ha by Closing (end-2002), at about R$5,000 per family (land only) and R$190 per hectare (about US$1,700 and US$65 respectively, at current rates of exchange).

Four principles govern the model: decentralization, a community-based approach, access to productive investments, and piloting and evaluation. Under the methodological template, associations of poor rural laborers and subsistence farmers select, directly negotiate and obtain financing to purchase agricultural properties from willing sellers. Within an overall financing “package” per family (some R$11,200 or about US$3,825 at current rates of exchange), land purchase is complemented by a matching grant to finance on-farm investments to boost production/productivity and family income, plus a separate settlement grant of R$1,300 (about US$445) to tide families through their first year. Grant funds are disbursed directly to a beneficiary association’s bank account. Following purchase, families decide internally on division of the land and corresponding family loan repayment obligations.

**Land-based Poverty Alleviation Project I (Crédito Fundiário)**

In expanding this 5-state experience to 14 states in the Northeast and South/Southeast regions under the new Land-based Poverty Alleviation Project I (Loan 7037-BR known as Crédito Fundiário, under implementation), Government envisaged a programmatic series of operations targeting about one-quarter million families over a decade. The continued refinement and expansion of the approach is consistent with the Lula Government’s recently-announced National Agrarian Reform Plan. Led by the Ministry of Agrarian Reform, in partnership with State Technical Units, civil society bodies including the 25 million-strong National Confederation of Agricultural Workers, and the Bank, the Plan intends to settle 530,000 families under various land access methods including 130,000 families settled using the Crédito Fundiário mechanism (of which 50,000 families represent the Bank-supported project itself), by end-2006. So far, a total of 30,000 families have been settled on and received title to 835,000 hectares under the community-based program, with a similar number represented by land purchase proposals currently being processed or implemented by participating states.

**Objectives**

Poverty reduction has been the over-arching objective of this program since inception with explicit objectives evolving at each new stage. The objective of the Ceará pilot was to test demand, governance, administrative features and outcomes under a potentially risky new
approach. As the first free-standing project, Cedula da Terra’s objectives were formally defined: (i) increase the incomes of 15,000 poor rural families through improved access to land and participation in complementary, demand-driven community subprojects; (ii) raise the agricultural output of lands included in the project; and (iii) pilot test a market-based approach to land reform which, if successful, would enable Government to accelerate pace and reduce cost of its land reform actions. The follow-on Crédito Fundiário defines its core objectives as rural poverty reduction and increased income through tested, complementary activities, i.e. land and on-farm investments, using community-based and participatory mechanisms. It targets 50,000 beneficiary families in 14 states (including states in the South and Southeast), adding peri-urban rural families as eligible beneficiaries under a more flexible, “rural space” approach.

**Political Context**

The 1990s saw increasing pressure on the Brazilian Government to act rapidly to address landlessness. Traditional, Government-administered mechanisms were not meeting the challenge in coverage, cost or efficiency. Landlessness moved to the forefront of Government’s political and social agenda in response to rural unrest and calls for action from diverse and vocal grassroots organizations with growing national scope and influence.

The incentives too, had shifted. Economic changes in Brazil in the 1990s made land reform more feasible and politically palatable chiefly because economic distortions historically promoting land concentration were alleviated. Agricultural credit subsidies were cut sharply, inflation declined, and the rural land tax was modified, raising taxation on non-productive land from a minimum 4.5 percent to 20 percent. Holding land as a financial hedge became less attractive, increasing the supply of land and reducing its price, especially in the Northeast. Official calculations at the time also revealed that rules governing expropriation (including minimum expropriable size of properties) were having the effect of excluding about 40.0 million hectares potentially subject to acquisition by landless families under the project’s market-based mechanism.

In the public domain, Cédula da Terra engendered a strident debate among national-level interest groups about whether land purchase by poor rural families was an appropriate instrument for addressing a social injustice, as opposed to expropriation and subsidized land distribution. However, among State and local leaders, communities, local rural workers’ unions and other groups in the Northeast region, familiar with the root causes of chronic rural poverty, and with participatory institutional governance models already taking hold in their states under the Bank-supported community-based rural poverty projects, the new model steadily garnered political and social support, paving the way for Crédito Fundiário. More recently, even in the four participating Southern/Southeastern states, where a tradition of activism on land issues has heightened debate about the merits of the new model vs. traditional methods, demand for participation in Crédito Fundiário remains strong.
Consistency of Objectives with Poverty Strategies

Program objectives have been anchored strategically, in the Bank and Brazil, at each stage of the program. Bank Country Assistance Strategies (CAS) and Updates for Brazil since 1995 have identified poverty reduction as the central objective of Bank assistance efforts; recommended specific anti-poverty policies in a decentralized setting; cited community and market-based strategies for land re-distribution and rural infrastructure as key elements of the Bank’s rural poverty strategy; supported Government’s development strategy focused *inter alia*, on enhancing social equity; and reinforced the Bank’s commitment to areas with comparatively higher incidence of poverty and inequality, including the Northeast.

In Brazil, both Federal and State Governments have maintained the momentum, testing and expanding the mechanism based on its promising track record and consistency of objectives with more forward-looking rural poverty strategies which include reducing asset inequality, building social capital, raising production/output and creating employment. The Lula Government’s new policy initiative for poor rural youth 18-25, known as *Nossa Primeira Terra* (Our First Land) and targeting 4,000 youth in its first year, is reflected in project measures to reach that cohort. The 2004/07 CAS calls for consultations with civil society to include youth, indigenous and other groups in the development dialogue and programs.

Institutions Involved and Degree of Commitment

The evolving program has retained the institutional and administrative simplicity of its related Bank-financed, Northeast rural poverty projects. Beneficiary associations are the institutional “backbone”. The Ministry of Agrarian Reform has principal oversight, with its subsidiary the Center for Agrarian Studies (NEAD) as National Technical Unit responsible for coordination, monitoring, supervision, evaluation and reporting. State Technical Units (STU), usually reporting to State Planning Secretariats but with significant autonomy, approve community investment proposals, supervise implementation progress and quality, organize information campaigns and training, fulfill specific reporting requirements, and operate the Management Information System (MIS). Other institutions may participate under partnerships for specific purposes but not as permanent, day-to-day coordination entities as with past integrated rural development programs in this region.

Within this simplified institutional structure, commitment to the program has remained strong. *Cédula da Terra* was designed in close contact with the Minister of Agrarian Reform, who personally promoted the pilot in the Northeast. Governors of participating states endorsed the core concept and its execution, and have followed through. In 1996, Government upgraded sector institutions, designated a Federal Minister for Agrarian Reform and markedly increased the budget for land reform overall. Following project Effectiveness, new legislation such as Complementary Law No. 93 of February 1998, which increased the taxation of non-productive holdings, underscored Government’s resolve to make resources available to sustain agrarian reform activities.
State Technical Units (STU) have had stable, continuous responsibility for the program since 1996 (Ceará pilot), building expertise and a sense of responsibility for execution and outcome. The accumulated knowledge, technical capacity and institutional memory garnered by STUs from at least a decade coordinating the above-mentioned Bank-supported CDD projects (the STUs coordinate both programs), has benefited the land access program since its inception.

**Other Actors and Role**

The program is implemented by civil society, through the community associations. Participation is open to local, national and state civil society organizations and NGOs – the diverse mix of entities varies by state. Their participation, usually in support of distinct issues/specialized activities, has been evolving under both the Bank-supported land reform and rural poverty programs since the mid-1990s.

The National Confederation of Agricultural Workers (CONTAG), now a formal partner under the Loan Agreement for *Crédito Fundiário*, and other representatives of organized civil society, participate in a National Council which sets guidelines for the program. CONTAG’s role and influence is effected through its State Federations (FETAG) and at the municipal level, through the ubiquitous local rural workers’ unions (*sindicatos*). The latter have become indispensable, supporting program dissemination, community mobilization and organization, associations’ identification and negotiation of available properties, proposal preparation, program evaluation and technical assistance. Meanwhile, semi-public bodies such as SEBRAE (Brazilian Service for Support to Enterprise) conduct specialized community training, while the Church is active in community mobilization.

**Preliminary Results**

Innovative and well-funded approaches to monitoring, evaluation and information dissemination by the University of Campinas, São Paulo (UNICAMP), in collaboration with the Ministry of Agrarian Reform, the National Technical Unit (Center for Agrarian Studies/NEAD) and the Bank, have produced a significant body of research findings, lessons and data. Following an initial baseline evaluation in 1998/99, the first preliminary evaluation in 2001 surveyed an expanded sample of 2,000 families including project beneficiaries, beneficiaries of traditional (expropriation-based) agrarian reform, and a control group. Data on rural families with similar characteristics to project beneficiaries, from the National Household Survey (PNAD) and other official sources, were also compared.

Results showed land quality was satisfactory and prices markedly lower than initial expropriation prices in the Northeast. Self-selection for participation sharpened poverty targeting and commitment to the settlement process. Analysis of farm models typical of the project universe showed household agricultural productivity and project cash flows sufficient to meet land loan repayment following the three-year grace period, and potential to achieve significant long-run increases in household income. Families were commonly saving for loan repayment. Evidence suggested that the transition from initial settlement to more complex and varied productive activities could last several years as families organized housing, implemented on-farm
CASE STUDIES IN SCALING UP POVERTY REDUCTION

investments and in most cases, established basic subsistence cropping and activities, in the first instance.

Increased access to inputs including credit and technical assistance prompted the launching of more complex and lucrative productive activities, although many families saw their production and income increase even without regular access to those inputs. Semi-arid regions posed a more challenging situation, with water availability the key constraint on household productive potential and income (prompting closer attention by State Technical Units to water access conditions during the approval phase for on-farm investment proposals).

Data showed that the average annual household income of surveyed beneficiaries had already increased, and there had been a marked shift towards agricultural production and away from off-farm employment. Households with greatest income increases were those with lowest income at entry, validating inter alia, self-selection targeting.

Changes to the Original Plan

The exploratory, ground-breaking nature of this program mandated a design sufficiently flexible to permit midstream adjustments based on research findings, changing circumstances and experience. Changes included the following:

- Financial conditions on land loans under the Ceará pilot and for the first two years of Cedula da Terra were 10 years with 5 years’ grace at the long term interest rate (TJLP) plus 1 percent. The passage of Complementary Law 93 of 1998, resulted in terms being retroactively adjusted to 20 and 3 years respectively, at 6 percent, with a 50 percent rebate on the nominal interest rate for timely payment by associations located in difficult areas, e.g., semi-arid zones. The adjustment was intended to prevent two “classes” of borrowers developing, since preparation of the follow-on Crédito Fundiário with the more advantageous land loan terms, was already underway.

- To preserve the market-based mechanism as a complementary not substitute instrument, intended to find its own pace and space among Government’s options, the project from 1999 on, could not finance the purchase of lands legally subject to expropriation (i.e., lands exceeding a legally defined size).

- A more strategic, inclusive approach was devised to train newly-formed associations to increase organizational skills, social cohesion and ability to work cooperatively, based on findings that associative capacity could be weak given the diverse backgrounds of beneficiary families within a given association.

- Approval of on-farm investment proposals was streamlined to resolve bureaucratic and financial bottlenecks in all five states stemming from demand pressures for land purchase and on-farm investment processing by STUs already responsible for coordinating the Bank-supported CDD rural poverty projects. Among the solutions worked out by STUs with the Bank, funds (including the R$1,300 family settlement grant) were deposited immediately to
the association bank account following land purchase, and released upon STU approval of community requests.

- The allocation for technical assistance – contracted directly by beneficiaries - was increased to 8 percent of land cost during land purchase and subsequent production planning over the first three years, to ensure increased productivity and incomes, and avoid lack of technical assistance reducing impact and sustainability.

- Differentiated land purchase/on-farm investment financing packages were introduced to account for varying circumstances, including agro-climatic, within participating states.

- Finally, responding to early, mounting evidence that the market-based methodology was controversial among national-level civil society organizations, the Bank renewed efforts to project a more vigorous, consistent and inclusive strategy for communicating the fundamentals and objectives of the program. Among steps taken, broad-based participation in project implementation including by formerly opposed groups, was encouraged (and formalized in the case of Crédito Fundiário, see p.13) and a series of national and international seminars and workshops were mounted to listen to stakeholders’ views and adjust the program where needed.

**Changes in Scale**

Scaling up has a complex taxonomy integrating vertical and horizontal functions. In vertical terms, the program has increased numbers of targeted beneficiary families (700 to 15,000 and 50,000); numbers of participating states (an initial one increased to five and currently 14). The size of Bank loans, Government’s counterpart and budget obligations, and total project cost have accordingly increased.

Horizontally, scale-up has meant the expansion and diversification of physical/geographic and social coverage, and of program administration. The definition of beneficiaries was broadened to include peri-urban rural populations, and now targets youth aged 18–25 eligible under the previously-mentioned Nossa Primeira Terra program. Socio-political reach and commitment have expanded; the program can call on constituencies of diverse entities with capacity to support scaled-up implementation, shore up sustainability and advocate for the program.

The program has also secured the buy-in of new states and their leaders; fostered the involvement of NGOs, public service agencies, rural labor unions, technical assistance providers and financial agents; and calibrated State Technical Units’ administrative, coordination, analytical and technical capacity to greater demand under larger projects. The scope of the NTU’s evaluation and coordination activities has expanded. Politically and symbolically, the program’s inclusion in the new Federal Government’s reconfigured agrarian reform strategy signals that its status has formally shifted from pilot to mainstream, albeit maintaining its signature commitment to change and refinement when indicated by evaluation results and stakeholder consensus.
**Impact Analysis**

**Efficiency in Use of Resources**

Within the overall program evaluation strategy, UNICAMP again collected data in July 2003 from a sample of 108 property acquisition cases (18 percent of total) and 313 beneficiary families, and compared it to the same sample surveyed in 1998 just after settlement started. Additional comparisons were made to the results of the 2001 study and then to the rural population with similar characteristics to project beneficiaries, sampled from the National Household Survey (PNAD) for 1999 and 2001. Results are summarized as follows:

*Agricultural Production:* On-farm investments designed to launch and improve production were diverse but among the most commonly-requested were electricity and water supply (both essential for productive activity, as demonstrated by the Northeast CDD rural poverty projects), communal tractors and equipment, various types of small-scale agro-processing facilities, the purchase of livestock (cattle and goats), and for housing construction.

Research shows that family farms initially concentrate on the elements of basic subsistence – rice, beans, maize and manioc combined with small-scale animal/poultry raising. Once housing and basic productive activities are established, more complex, diverse and higher value activities are slowly introduced, varying by state and agro-ecological zone.

In the State of Bahia, North Coast production focuses on coconut/orange, banana, passion fruit, lemons and cashew, cattle-raising and beans, shifting to cattle-raising, cassava, beans and maize in the semi-arid zone. In the dry *sertão* region of the State of Ceará, beans, cotton, cattle and goats predominate and in the North, systems are based on cashew nut, cattle and sheep. Extensive cattle raising, cassava, banana, beans, rice, maize and extractive activities, e.g., the *babaçu* palm, typify production in Maranhão. In the agriculturally-favored *Zona da Mata* region of Pernambuco, coconut, banana, cassava, beans, maize and cattle are important elements. Yams are a lucrative crop but concerns about over-dependence and high costs of production are prompting efforts to diversify into fruits such as *goiaba* and *graviola*. In the dry *Agreste* region of this state, melons, *urucum* and cattle are typical (UNICAMP 2003).

Between 1998 and 2000 agricultural production increased some 360 percent and another 204 percent from 2000 to 2003, indicating the markedly better use of land on properties post-settlement and the fact that beneficiaries are dedicating more time/family labor to agricultural activities on-farm and less to off-farm work, breaking a traditional dependence on the latter (Table 1). These increases occurred despite drought, and the less than anticipated availability of credit and technical assistance.
Table 1. Growth by Income Source (1998-2003)

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<tbody>
<tr>
<td>Annual gross income:</td>
<td>30 percent</td>
<td>116 percent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Off-farm labor</td>
<td>-47 percent</td>
<td>-20 percent</td>
<td></td>
<td></td>
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<tr>
<td>Agric. Production</td>
<td>366 percent</td>
<td>204 percent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land rental</td>
<td>na</td>
<td>10 percent</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other sources</td>
<td>9 percent</td>
<td>72 percent</td>
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*Source: UNICAMP research data, 2003*

In their field surveys, UNICAMP observed/recorded numerous examples of innovative farming initiatives that had already progressed well beyond traditional patterns. Without exception, all of these had one common characteristic: the presence of a dynamic association and leadership which had managed to implement associative activities with two main objectives: (i) as an employment generation strategy for beneficiaries and to achieve income sufficient to make land loan payments as well as new, additional investments; and (ii) as a strategy for organizing the work of individual beneficiary families and raising their production capacity especially through mechanizing certain stages of the production cycle or for associative preparation of soils, group clearing of individual families’ land, and other forms of joint farming activity.

In general, the production of beneficiaries interviewed in 2003 was still predominantly individual but associative patterns were evolving in many communities as they consolidated and developed types of production where investments had only recently been made, such as pasture, perennial crop plantations (coffee, cacao) and cattle, which implicitly require collaboration to maximize outcomes.

*Income:* From 1998 to 2003, beneficiaries’ nominal income rose by an average 180 percent, from R$2,057 to R$5,777, equivalent to a monthly per capita income of R$122, significantly above the poverty line of R$70 currently in use by the Federal Government. Correcting these nominal income values for the increase in agricultural labor salary rates in the period, a good proxy for inflation in rural areas (indicating the opportunity cost of labor), real income increased by 75 percent between 1998 and 2003 (see Tables 2 and 3). Expressed in terms of minimum salaries (MS), average family income of program beneficiaries was equivalent to 0.7 MS in 1998 and had risen to 2.5 MS by 2003. In contrast, the average family income of the PNAD cohort of non-beneficiaries with similar characteristics experienced a decline in the period.
Table 2. Evolution of Nominal Income by Source (1998-2003)

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<tr>
<td>Annual gross income</td>
<td>2,057.8</td>
<td>2,672.3</td>
<td>5,777.4</td>
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<tr>
<td>Off-farm labor</td>
<td>930.8</td>
<td>491.1</td>
<td>394.3</td>
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<tr>
<td>Agric. production</td>
<td>266.0</td>
<td>1,238.8</td>
<td>3,766.6</td>
</tr>
<tr>
<td>Land rental</td>
<td>na</td>
<td>5.1</td>
<td>5.6</td>
</tr>
<tr>
<td>Other sources</td>
<td>860.9</td>
<td>937.2</td>
<td>1,610.8</td>
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</table>

Source: UNICAMP research data.

Composition of Income: Analysis of income composition between 1998 and 2003 showed a significant shift towards agricultural production and away from off-farm employment. In 1998, income from agricultural production on-farm was only 13 percent of the household total, by 2000 it was 45 percent and by 2003, on-farm production contributed 65 percent of total household income. Off-farm income decreased from 45 percent to 7 percent of total in the period.


<table>
<thead>
<tr>
<th>Income</th>
<th>Jan-Dec 98</th>
<th>Daily*</th>
<th>Aug 99- Jul 00</th>
<th>Daily*</th>
<th>Aug 02- Jul 03</th>
<th>Daily**</th>
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<tr>
<td>Annual gross income</td>
<td>2057.81</td>
<td>374.15</td>
<td>2,672.37</td>
<td>485.89</td>
<td>5,777.49</td>
<td>650.62</td>
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<td>Off-farm labor</td>
<td>930.82</td>
<td>169.24</td>
<td>491.13</td>
<td>89.30</td>
<td>394.37</td>
<td>44.41</td>
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<td>Agric. production</td>
<td>266.04</td>
<td>48.37</td>
<td>1,238.88</td>
<td>225.25</td>
<td>3,766.64</td>
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<td>Land rental</td>
<td>na</td>
<td>5.12</td>
<td>5.65</td>
<td>0.64</td>
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<tr>
<td>Other sources</td>
<td>860.95</td>
<td>156.54</td>
<td>937.24</td>
<td>170.41</td>
<td>1,610.83</td>
<td>181.40</td>
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* Average daily rate estimated for the period Jan 1998-July 2000, R$5.50
** Average daily rate estimated for the period Jan 1998 – July 2003, R$8.88

Source: UNICAMP research data

Monetary Income: An important indicator of production levels and market insertion, average monetary income totaled R$3,947 - 68 percent of total income – of which R$3,158 derived from agricultural production on-farm. Especially noteworthy in the rural Northeast, for a substantial number of beneficiary families monetary income alone was sufficient to put them above the poverty line. Beneficiaries are earning enough to repay their contracted land loans, as shown by the average 84 percent of all beneficiaries with grace periods elapsed and payments due, who made timely, full payment of their first land loan installment. The rest of this cohort encountered processing delays associated with retroactive adjustment of terms and conditions in their land loan contracts following passage of Complementary Law 93 (see Section 3).

Economic and Financial Impact: The economic and financial analyses of the project are based on three types of family farms implemented in the project area: semi-arid interior, Zona da Mata coastal zone with better soils and rainfall, and the Meio Norte transition zone between the
Northeast and Amazon regions. Crop yields and associated cropping patterns are taken from the 2003 UNICAMP evaluation. Economic rates of return (ERR) were 21 percent in the semi-arid zone where climatic conditions are the most challenging, 27 percent in the Meio Norte, and 55 percent in the favorable Zona da Mata. Financial rates of return were 22 percent in the semi-arid, 51 percent in the Meio Norte and 35 percent in the Zona da Mata (with initial higher cost of land). See Economic Annex for details and assumptions.

**Fiscal Impact:** According to initial project appraisal data of April 1997, the average estimated cost (nationwide) to settle a family under the traditional process of Government-administered expropriation was US$16,400, while the average estimated cost under *Cedula da Terra* was US$8,600. Using Federal Government estimates, the cost of traditional agrarian reform in the Northeast region 1995-2002 averaged US$14,430 per family. In comparison, the actual average cost per project family in the period 1998-2002 was about US$12,800 (including a credit component in both estimates). Thus the *Cedula da Terra* project alone represented an estimated total savings to Government of some US$25.0 million.

**Effectiveness**

Important indications of program effectiveness include the following:

**Targeting:** Through the self-selection targeting strategy, the project attracted families with the intended socio-economic profile. Leakage to non-poor groups was minimal and there is no evidence that scaling-up dilutes poverty targeting. Average household income at entry was about R$240 per month (about US$92), or a per capita income of well below US$1 per day. Some 32 percent of beneficiaries were illiterate while a further 47 percent had completed no more than 4th grade. Beneficiaries had lower overall asset ownership, larger household density, and poorer quality housing at the outset relative to a control group. The average age of beneficiary heads of household is 40, significantly younger than traditional land reform programs. Women are modestly represented among direct beneficiaries of land purchase, although no restrictions limit their participation. By geographic distribution, settlements are located predominantly in municipalities with very low IDH (United Nations Index of Human Development), with a high proportion <0.50. Most beneficiaries were previously tenants or sharecroppers and had some farming experience. Many participating families have had diverse life experiences including periods of migration outside their home territory to find work. Not surprisingly, there is great diversity of circumstances and characteristics between participating states. Beneficiary families might therefore best be described as “entrepreneurial poor”.

**Social Capital:** At a fundamental level, the activities associated with forming an association, identifying areas for possible purchase, negotiating with landowners, identifying property-enhancing investments, planning the agricultural use of the property, executing the on-farm investment, contracting technical assistance providers for specific purposes, acquiring goods and services, and applying for credit from financial agents, in tandem with training opportunities provided by the STU, NGOs, churches and private firms, can and do, strongly influence the social capital formation of beneficiaries, both individually and collectively. By social capital, we mean
levels of popular engagement, community participation, organized collective action and shared responsibility (Costa 2000).

The 2003 UNICAMP evaluation field surveys noted for example, that many beneficiary associations originally formed for the specific purpose of participating in the project, were now independently and democratically renovating their leadership group, a promising indicator of social capital growth (and institutional sustainability).

Public Policy: The Bank’s involvement in the land reform operations cited (and related Bank-supported Northeast rural poverty projects), has had multiplier effects on public policy evolution at the regional and Federal levels. The Bank’s consistent advocacy of decentralized, cost-effective and participatory mechanisms, tight targeting of benefits, evaluation and knowledge dissemination has influenced Federal, state and local development strategies, while raising awareness of public policy deficiencies and imperatives. It is equally important to note that the opportunity to experiment with new mechanisms and processes was provided by Brazil itself, through home-grown and radical changes in the political economy in the 1980s. The fact that at the Federal, State and local levels, there has been no significant reversal of the decentralization trend, has enabled the Bank-supported market-based land access and the Northeast CDD rural poverty reduction programs to continue scaling up both vertically and horizontally, and experimenting with innovative spin-off activities which exploit community-based governance mechanisms.

Participation has become an explicit priority of the Federal Government through the Economic and Social Development Council of the Presidency. Similarly, State and Municipal governments perceive that the organized participation and empowerment of rural civil society has compelling implications for the realism, efficiency, sustainability and accountability of sub-regional and local policy and planning, literally changing the way business is done. Private land ownership promoted by these operations is fostering more favorable conditions for regional private investment. Civil society organizations, including community associations, are using newfound capacity and improved socio-economic and political status gained from participatory land reform and rural development experiences, to directly influence local planning.

Final Outcomes – Poverty Indicators

Analytical efforts since 1997 have measured project effects on family production and incomes, consistent with project objectives. The linkage between the poverty impact of project investments and broader social indicators/MDGs are noticeable and studies are trying to measure this specific impact. It should be noted however, that total beneficiaries of the Ceará and Cédula da Terra pilots were about 16,000 families spread across five states, while the 14,000 beneficiary families so far under Crédito Fundiário encompass 14 states. Depth and coverage are too limited yet to assess impact on broader poverty measures/MDGs. However, the sharp shift towards on-farm agricultural production and improved family incomes since 1999 clearly indicate that market-based land access can play a role in achieving the MDGs for rural Brazil.
**Cedula da Terra Beneficiaries Speak**

“What’s important for us is now, we have land to pass onto our children. Now, besides the land, we also have cattle, we have milk for the children; we have pork to eat and sell. Before, we had nothing. To repay the loan, members already have some money set aside for the first payment. Since our main activity will be livestock, we’re going to pay the loan with livestock production. As we say around here, the calves belong to the bank.”

- Edilson, Community of Maria Izabel, Gravatá, State of Pernambuco

“Everything got better. Before, we lived in tents on invaded lands or in lean-tos paying rent. We only worked one or two days each week. The children were always ill. We lived in true hunger. Today, it’s been almost two years since we bought our land and everything is better. It’s like leaving hell for heaven! Now, look, we have this beautiful house; there’s work for the whole family. We’ve got a school, here in front. And we have food every day. Here, everyone is working. At night, we have a school that operates with battery light from a tractor. In the morning we have to push the tractor because the battery is weak, but it’s our tractor. The school was built by the community. The municipality is paying the teacher. Our lives have improved a lot.”

- Sra. Josinete de Jesus, Fazenda Itarirí, Conde, State of Bahia

“The land was expensive because it was already producing. It has 390 ha of pasture and another 100 ha are cleared for cultivation. Lots of water, fencing and roads. Ready to produce. Imagine if we had purchased land without improvements – poor as we are – how would we work it? Never. We’d have to sell everything, including the land, to pay off the bank. We and the representatives of the local Rural Workers’ Union checked out every inch of this land before we bought it. Our association dreamed about buying this land. We already calculated the value of the improvements to the land and we believe that, if we needed to invest in them ourselves, we’d have needed double or triple what we paid for the land.”

- Sr. José Mario Miranda, Boa Vista do Acaraí, Balsas, State of Maranhão

**Driving Factors**

**Commitment and Political Economy for Change**

Government commitment to effective land reform as an instrument of poverty reduction increased markedly during the first Cardoso Government (1995-98), with the President setting a target to resettle 280,000 families by 1998. Government upgraded sector institutions, designated a Federal Minister for Agrarian Reform (now Agrarian Development) and steadily increased the Federal land reform budget, chiefly for traditional methods (expropriation or direct purchase from landowners). Government also experimented with other complementary approaches, including public land auctions in Rio Grande do Sul, Projeto Casulo in the North and Northeast, and the Bank-supported community-based, land access pilots.

For Brazilian leaders, community-based land access employing decentralized institutional arrangements already piloted and scaled up in the Northeast, made sense. For the Bank, the Ceará pilot experience made a persuasive case for expansion to five NE states and had strong support from the Federal Government. The Governors of participating Northeast States and local civil society organizations endorsed the project concept. Critically important (noted in Section 3), were changing economic incentives in the 1990s - lower inflation, modified rural land taxes penalizing unproductive landholdings, reduced credit subsidies - which foiled land concentration and favored agrarian reform.
**Institutional Innovation**

The innovative institutional and governance regime is designed to ensure legally sound and sustainable establishment of beneficiary families on land of their choice within a reasonable period. The new approach is about participation and negotiation, establishing the foundation for asset accumulation and local economic growth in rural areas on good governance and social capital formation. The method complements rather than substitutes for, existing methods. The program features self-selection for entry, direct negotiation between the primary parties, binding rules and principles governing the acquisition of lands, transfer of funds directly to the association bank account, and incentives for sound business transactions which avoid collusion. The program targets lands not subject to expropriation and the poorest potential beneficiaries. Land purchase is financed by the Federal Government and on-farm investments by the Bank.

Beneficiary involvement in land transfer under this mechanism is proactive throughout the process while the state’s involvement is much reduced, compared to traditional land reform in Brazil. This certainly does not signal laissez faire but re-casts the state as coordinator, monitor, quality “watchdog”, services facilitator and knowledge bank. Associations come to government for specific purposes, e.g., to have land purchase prices checked against the market, to verify that title is clear, to have proposals for on-farm investments reviewed and approved, and to locate technical assistance.

The pilot and scaled-up programs have leveraged decentralized, participatory institutional mechanisms previously tested and mainstreamed under the afore-mentioned CDD programs in the rural Northeast. Institutional arrangements did not emerge spontaneously, but were distilled in the late 1980s from several decades of Brazil-specific and global learning. They responded to the issue of how to ensure the decentralized development and empowerment of poor rural people through associative action, autonomous decision-making, participation, and their ownership/control of productive assets. Political acceptability in Brazil was braced by constitutionally-mandated decentralization after 1988, and by widespread acknowledgment that centralized, unwieldy institutional models governing earlier integrated rural development programs, were mostly unsuccessful.

**Learning and Experimentation**

An explicit objective of Cédula da Terra was to test a new approach to land reform in five states selected for participation on the basis of severe landlessness and with prospects for rapid, successful execution. The scaling up objective, albeit potential, was tacitly understood by stakeholders. Significant resources were allocated to Federal project evaluation and dissemination activities to permit ex-post impact evaluation and ex-ante analysis for possible expansion.

The market-based mechanism grew out of the Bank and Federal Government’s search in the 1970s and 1980s for effective, complementary ways to address excessive land concentration in the Northeast region and more specifically, promote and accelerate land access for poor rural workers. Research, institutional development, establishing and strengthening State Land Institutes, settlement, survey preparation and land titling activities, and the
purchase/expropriation of land, were elements of this effort. In the 1990s, the more general shift to demand-driven and community-based development programs in the Northeast yielded lessons suggesting new ways to address land re-distribution.

The 1995 Brazil Poverty Assessment suggested that stabilization, falling land prices and low inflation were creating an enabling environment for fostering efficient land markets as an important anti-poverty instrument. A 1996 Bank Land Policies Paper reviewed global experience of land reform, looking at costs, efficiency and risk of conflict under administrative instruments (expropriation, land purchases and government re-distribution), and recommended experimenting with market-based mechanisms.

Testing, evaluation, knowledge dissemination and adaptation of the model are basic principles, continuously applied. Comparative evaluations (UNICAMP), national and international seminars and workshops, smaller studies of specific aspects of the pilot, study tours and case studies have enriched understanding and provided the technical, analytical and methodological foundation for scaling up. The real-time incorporation of lessons into ongoing project implementation has converted scaling up from a sharply-defined action to more of an organic extension and consolidation of features and procedures tested on the ground.

**External Catalysts**

Commitment in Brazil to land reform took a quantum leap in the 1990s, prompted by official recognition that existing mechanisms had limitations and that a burgeoning market economy might also contemplate community/market-driven agrarian reform as a complementary instrument. Efforts to reinvigorate a sluggish agrarian reform program were thus initially home-grown. The Bank’s catalytic effect was through its longstanding partnership with the Federal and Northeast State Governments, global knowledge of potential alternatives to traditional land access models, and willingness to support testing them in Brazil as an extension of an established Bank-supported program with similar principles. The Lula Government has closed this circle, integrating Crédito Fundiário formally into its recently-announced National Agrarian Reform Plan.

**Lessons Learned**

**Crucial factors in the Brazil case**

- Political, economic and social timeliness;
- Buy-in by Federal, State and local leaders, including prominent civil society organizations, confronted with chronic rural poverty, its causes and implications;
- Profound changes in the relationship between the Federal Government, states and municipalities under the new Constitution of 1988, permitting, inter alia, decentralized governance, community participation and direct transfer of resources to organized groups;
- The Bank’s role as neutral broker in a controversial sector; and
• Sound evaluation data supporting assertions about impact and potential at each critical stage of the scaling up process;

• Regional demonstration effect of the successful Bank-financed, NE community-driven rural poverty projects and opportunity to borrow/adapt their principles and practices.

**Lessons**

Evaluation of the Brazilian case suggests the following:

• The market-based mechanism, community-led, can be an agile and effective complementary method for settling landless rural families. The entire process from identification to purchase is condensed into about 90 days and is generally conflict-free.

• Self-selection for participation effectively pinpoints the rural poor and particularly, the “entrepreneurial poor”, those more likely to settle and produce successfully. A majority of beneficiaries has household incomes/characteristics consistent with the targeted group and this is not compromised by the scaling up process.

• Communities have consistently selected fair to good quality land at significant cost savings vs. traditional land reform, and without elevating land prices. Communities have generally managed the inherent trade-offs between land cost, size and on-farm investment funding within the family financing “package” provided.

• Most properties acquired are modestly-sized relative to traditional land reform projects, settling from 15-30 families. Associations of <10 families may have insufficient resources available for investment after land purchase; groups exceeding 50 families tend to have diminished bargaining power due to internal pressures and difficulties locating adequately-sized properties.

• Caution is advised in drought-prone areas. Authorities should avoid approving purchase proposals for land where irrigation does not exist or cannot be rapidly installed. The essence of sustainable settlement lies, *inter alia*, in the rapid and effective launching of initial productive activities.

• Land prices under the pilot project have been about 20 percent lower per hectare and 30 percent lower per family than present value of initial expropriation prices in the Northeast. Since expropriated owners frequently seek added compensation through the courts, the final cost of expropriated land can escalate.

• Implementation through community associations works well. Associations are quite adept, with support from groups such as the local rural workers’ unions and the Church, at mobilizing members, selecting and negotiating land for purchase, preparing on-farm productive investments and executing them. Newer associations need support to build capacity and preserve autonomy.
• Evaluation demonstrates the financial and economic viability of a majority of subprojects. Financial returns in more favorable agro-climatic zones exceed initial estimates. In semi-arid zones, financial estimates are reached where water is adequate.

• Government's political will to implement and finance sensitive new programs extending secure land ownership to large numbers of small farmers, to challenge vested interests, and to accept the state’s role as supportive not dominant, should be correctly assessed and calibrated in project design from the outset and monitored throughout implementation.

• Building and maintaining inclusive relationships with public and private stakeholders to promote understanding of the key features, benefits and risks of innovative and potentially controversial mechanisms, enhances sustainability and the environment for successful scale-up.

• Management Information Systems (MIS) are essential for monitoring implementation of programs involving numerous community groups across broad areas and, with evaluation, permit early identification of issues and continuous inclusion of improvements/adaptations.

• Ensuring that beneficiaries achieve normalized access to essential credit and technical assistance requires proactive efforts by all stakeholders with a medium to long-term perspective.

• * Information dissemination campaigns are critical not only to stimulate demand but also to ensure adequate availability of properties to meet that demand at reasonable prices.

• Settlements progress faster under strong leadership which follows activities closely, organizes association members for collective action and prudent management of financial and natural resources, permits settlers to articulate their needs democratically and facilitates their access to information and services.

• Technical units require support, autonomy and specialized skills to administer community-based land access. Using existing STUs with experience with community-based approaches to rural development has been cost-effective and prudent in the Brazil case. However, given that the role of government is reduced under this land reform model, the up front institutional arrangements/requirements for effectively launching and coordinating such programs are not as complex.

• Sustainability: Certain features/results bode well for sustainability.

• Self-nomination for participation tends to produce motivated beneficiaries, committed to the settlement and land loan repayment. The relative youth of a majority of beneficiaries surveyed by UNICAMP implies time available to establish mature production systems. About 84 percent of all Cédula da Terra beneficiaries with grace periods elapsed and payments due by end-2002, made timely first payment, a significant outcome given low levels of capitalization, formal training and management skills, and location of a significant portion of settlements in semi-arid zones beset by drought in 1999-2000. As previously stated (Section
4(a)) the remainder were delayed by processing issues and have since been making their payments in a timely manner.

- The five Cédula da Terra states are also included in Crédito Fundiário and benefiting from better-organized technical assistance, and normalized access to PRONAF-A working and investment credit following a period of fiscal tightness and technical issues. Both factors boost sustainability but represent a challenge for policy-makers, development practitioners and programs in poor and especially drought-prone, rural areas.

- While initial production systems in individual community land projects tended to represent the dominant, traditional pattern of the regions surveyed, families/communities in many cases had already introduced improved systems with good results, even with limited access to credit and technical assistance. In all such cases, UNICAMP found that a dynamic community association was the key, promoting employment-generating activities; managing profits for additional investments and land loan repayment; coordinating beneficiaries’ labor for collective land/on-farm improvements; and promoting conservative management of financial and natural resources.

- Finally, UNICAMP’s analysis of main production systems shows that investments already realized or in process, support future, sustainable production increases capable of raising families’ income streams above the poverty line, despite credit and technical assistance issues, some turnover of beneficiaries and greater initial use than originally anticipated, of farm systems requiring smaller, potentially less lucrative investments. Beneficiaries are implementing production systems which generate satisfactory income, the exception being systems in the semi-arid zone which have yet to secure water supply/irrigation.
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Annex 1. Economic Costs and Benefits - Cedula da Terra (Loan 4147-BR)

The economic and financial analyses of the project are based on three family farm types which were implemented in the project area. Under the initial project design, a fourth model – peri-urban – was also included, but was never made operational. The Semi-Arid represents farms in the interior of the Northeast (the Sertão), in particular Ceará, Pernambuco, Minas Gerais and Bahia. Agriculture in the Semi-Arid focuses on livestock (cattle as well as goats), subsistence food crops and a small area of higher value crops (Pinha, representative of all higher value products). There is minimal irrigation but access to limited quantities of water for livestock and a small area of higher value crops. The Meio-Norte typifies the beneficiaries in the State of Maranhão. This area is characterized by increased rainfall, making cultivation of some fruit crops feasible. Family farms in the coastal region of Pernambuco are represented by the Zona de Mata, which is characterized by sufficient rainfall and overall favorable climatic conditions, allowing much smaller cropped areas.

The analysis draws on actual individual crop budgets and herd data. Crop yields and associated cropping patterns are taken from a follow-up evaluation of project beneficiaries conducted in July/August 2003. The analysis is based on the following assumptions:

- A 10-year horizon is considered.
- No multiplier effects on the local economy are considered.
- No effect of the project on the market price of land is considered. This is borne out by actual project experience.

The analysis is further constructed on the following facts:

- Land repayment is over a 20-year term, with three years of grace, at 6 percent a.p.r, with a 50 percent rebate on financing charges.
- A start-up grant of R$1,300 was received by each beneficiary family upon receipt of the land.
- Complementary subproject investments are valued at the average per-family (in R$), based on actual project data and including a 10 percent family contribution (in terms of labor).
- Family labor is valued at R$6 per day, while without-project family income is taken to be R$2,070 or 90 percent of the legal minimum wage.
- Net economic benefits are calculated by: (i) subtracting from the benefit flow to families the Government cost of the program and adding incremental tax revenues and transfers to previous land owners.


**Results**

*Beneficiary Incomes:* Figures 1a and 1b depict the transformations in household income that have occurred for beneficiary families. First, over the period 1998 to 2003, families participating in the project have registered income increases of on average, 180 percent over initial levels. In 1998, at project inception, the typical beneficiary family had a total income of R$2,057. By 2000, average income had risen to R$2,672, while average income as of August 2003 had soared to R$5,777. Another way of recognizing the income increase, while correcting for inflation over the period, is to convert this nominal income into daily earnings.

**Annex Figure 1a**

In Figure 1a, for both 1998 and 2000 figures, a daily wage of R$5.50 is employed. For 2003, the daily wage is set at R$8.88. Whereas families in 1998 and 2000 averaged the equivalent of 374 and 487 daily wages annually, respectively, by 2003, this same figure had risen to 650 daily wages annually.

Ex post economic and financial rates of return were calculated for the three types of family farms (Annex Table 1). In each case, these were considered satisfactory. Economic Rates of Return (ERR) ranged from 21 percent (Semi-Arid) – where agro-climatic conditions are the most challenging among the three farm types – to about 55 percent for the more favorable Zona de Mata. Overall, the ERR for the project was 25 percent.

Lower land prices and reduced own-consumption (relative to the Semi-Arid) led to a much higher FRR in the Meio-Norte. In turn, the much higher price for land purchases in the Zona de Mata had a dampening effect on the early cash flow for these beneficiaries, which resulted in a lower FRR. However, monetary income in the Zona de Mata, far surpassing the levels in both the Semi-Arid and Meio-Norte, contributed to an ERR roughly double that of these other two regions (see Annex Table 1).
Second, the sources of beneficiary household income showed a significant shift toward own agricultural production and away from both other sources (e.g., transfers, pensions) and farm labor (Fig. 1b). Whereas in 1998, agricultural production comprised only 13 percent of total beneficiary income, by 2003, this same source of income had grown to account for nearly 65 percent.

Figures 2a-2c graphically depict two milestones for the beneficiary families, in terms of income generated from agricultural production: (i) the actual income, across the three farm types, after Year 3 of project implementation and (ii) the projected income, expected ten years after the land purchase.
Evaluation results also confirm that beneficiary families are now generating cash incomes sufficient to both satisfy debt repayment and progressively construct an increasing asset base from agricultural production on the land purchased under the project.
Overall, average annual household income rose to R$5,777 by 2003, nearly three times the household income registered in 1998. Across the three farm types, average beneficiary income from agricultural production alone had, as of year 3 of the project, risen by 45 percent in the Semi-Arid, 107 percent in the Meio-Norte and a staggering 300 percent in the Zona de Mata.
A key aspect of the sustainability of the project lies in the capacity of beneficiaries to generate sufficient cash income to both service the debt incurred for the land purchase and continue to accumulate assets for future farm improvements. Evaluation results indicate that, when all monetary household income is considered (i.e., cash income from agricultural production, off-farm employment, transfers and pensions), project beneficiaries have sufficient resources to adequately make annual debt service payments – ranging from R$300 in the Semi-Arid to R$650 in the Zona de Mata.

<table>
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<tr>
<th>STATES</th>
<th>Nº Projects</th>
<th>Area (ha)</th>
<th>Nº Families</th>
<th>Value of Property (RS)-SAT</th>
<th>Value of Investments SIC-R$</th>
<th>Total RS</th>
<th>Total RS/Fam</th>
<th>SAT/Fam R$</th>
<th>SIC/Fam R$</th>
<th>Average ha/Fam</th>
<th>Price of Land RS / ha</th>
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<td>226</td>
<td>142.901</td>
<td>3.590</td>
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<td>20.562.844</td>
<td>40.833.734</td>
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<td>5.646</td>
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<td>Pernambuco</td>
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<td>41.365</td>
<td>2.235</td>
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<td>11.698.435</td>
<td>27.618.704</td>
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<td>7.123</td>
<td>5.234</td>
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<tr>
<td>Minas Gerais</td>
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<td>38.856</td>
<td>1.651</td>
<td>7.993.805</td>
<td>12.875.121</td>
<td>20.868.926</td>
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<td>4.841</td>
<td>7.798</td>
<td>23.5</td>
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<td>182.829.901</td>
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*Note:* Latest MIS data through end-February 2004 shows a total of 30,000 beneficiary families since 1996, settled on 835,000 ha.

*Source:* Participating states.