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# Contents

Foreword .....	ix
Acknowledgments .....	xiii
About the Authors .....	xv
Acronyms, Abbreviations, and Glossary.....	xvii
Chapter One: How Brazil Moved Towards Community-Driven Development (CDD) in the Rural Northeast .....	1
Meeting Development Challenges in the Northeast: A Brief History.2	
Tackling Rural Poverty in the Northeast: Drought Mitigation and Agricultural Productivity Programs .....	3
The Advent of Integrated Rural Development .....	6
POLONORDESTE (1975–1984).....	8
Results of POLONORDESTE .....	9
Windows of Opportunity and a New Direction for Northeast Rural Development .....	13
The Northeast Rural Development Program (NRDP).....	14
Piloting CDD for the First Time: The APCR Experiment.....	15
Results of the NRDP and APCR.....	17
Cut the Losses and Quit, or Learn and Grow?.....	19
A Bold Decision to Mainstream CDD.....	19
Reform Greeted with Skepticism .....	19
Chapter Two: Scaling up Community-Driven Development .....	23
Phase One: The Reformulated Northeast Rural Development Program (R-NRDP).....	23
Positive Results Build Support for CDD .....	25

Phase Two: The Rural Poverty Alleviation Program (RPAP) .....	28
Phase Three: The Rural Poverty Reduction Program (RPRP).....	32
Continuing to Build on Lessons Learned .....	33
Fine-Tuning And Scaling-Up.....	36
Tackling the Question of Land Reform Using a CDD Strategy .....	37
Cédula da Terra and Crédito Fundiário .....	39
Latest Developments .....	43
 Chapter Three: How the CDD Program in Northeast Brazil Actually Works.....	 47
Basic Principles and “Rules of the Game” .....	48
Three Program Delivery Schemes.....	50
State Community Support Mechanism (PAC) .....	50
Municipal Community Support Fund Mechanism (FUMAC) .....	51
Municipal Community Support Fund Pilot Mechanism (FUMAC-P) .....	52
Roles of the Key Actors .....	53
Community Associations .....	53
Municipal Councils .....	54
State Technical Units .....	55
Local Governments.....	55
NGOs and Other Civil Society Organizations .....	57
The World Bank .....	57
Setting the Stage for Implementation .....	58
The Information Campaign .....	58
The Operational Manual.....	58
Forming Community Associations.....	59
Opening Community Association Bank Accounts.....	59
The Subproject Cycle.....	60
Selection and Eligibility of Community Subprojects .....	60
Eligibility and Approval of Subproject Proposals.....	61
Transfer of Funds for Implementation to Beneficiaries.....	63
Counterpart Contributions.....	64
Procuring Goods and Services.....	64
Building Support at the Local Government Level.....	65
Keeping Financial Records.....	66
Operations and Maintenance.....	66
Program and Project Supervision, Monitoring, and Evaluation ..	67
 Chapter Four: Evaluating Results of the CDD Program in Northeast Brazil (1993-2005) .....	 71
A Brief Review of the CDD Program .....	72

Program Outputs and Impacts.....	75
Bringing Essential Small-scale Infrastructure to Rural Areas.....	75
Delivering Services at Lower Costs .....	77
Really Reaching the Rural Poor.....	78
Encouraging Inclusion .....	79
Beneficiary Satisfaction with the Quality of Subprojects .....	83
Subproject Sustainability .....	84
Impact on Income and Physical Capital Accumulation .....	91
Other Improvements in the Quality of Life.....	94
Social Capital Creation and Improved Local Governance.....	96
Chapter Five: Conclusions and Looking Forward.....	101
Can This Work in Other Countries? .....	104
Elements of Success .....	104
Looking to the Future.....	106
Further Scaling Up.....	109
Questions for Future Research.....	109
Concluding Thoughts .....	110
Bibliography.....	113
Appendix A. Methodology of the Quasi-experimental Impact Study	121
Appendix B. Statistical Results from the Quasi-experimental Impact Study .....	145
Appendix C. Selected Studies of the Brazil CDD Program .....	149

## Tables

Table 1.1 Overview of Bank support for agriculture and rural development in Brazil as of 1985.....	13
Table 1.2 Northeast Rural Development Program (US\$million) .....	14
Table 2.1 Rural Poverty Alleviation Program (US\$ million) .....	29
Table 2.2 Rural Poverty Reduction Program (US\$ million) .....	33
Table 4.1 Aggregate Results of the Northeast Brazil CDD Program (1993-2005) .....	76
Table 4.2 Household and Community Characteristics in 2002 and 2005 (percent).....	80
Table 4.3 Subprojects Benefiting Indigenous Populations .....	82
Table 4.4 Subprojects Benefiting Quilombolas.....	83

Table 4.5 Some Results of the Physical Performance Reviews (EDFs) .	84
Table 4.6 Asset Accumulation by RPAP Beneficiaries .....	93
Table A 1 Classification of the studies reviewed .....	132
Table A 2 Household, community and municipal characteristics .....	135
Table B 1 Quasi-experimental study: Program impact on access to electricity and water .....	145
Table B 2 Estimate time trend in formation of social capital.....	146
Table B 3 Measurement of Program impacts .....	146
Table B 4 Measurement of Program impacts on inputs of social capital .	146
Table B 5 Measurement of Program impacts on outputs of social capital .....	147
Table B 6 Quasi-experimental study: impact of the Program on change in net-worth assets per capita: 2002–05 .....	147
Table B 7 Quasi-experimental study: impact of the Program on infant mortality, 2002–05 .....	148
Table B 8 Quasi-experimental study: impact of the Program on the incidence of sicknesses, change between 2002 and 2005 .....	148

## Boxes

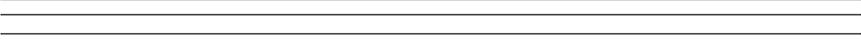
Box 1.1 International Influences on Brazil’s Community Driven Development Pilot .....	16
Box 1.2 The Importance of “Ownership” .....	18
Box 2.1 Further improvements in CDD program design—the RPRP ....	34
Box 3.1 The basic “rules of the game” .....	49
Box 3.2 Afogados da Ingazeira, A Model FUMAC Municipal Council ..	56
Box 3.3 Main components of the MIS.....	67
Box 4.1 Creating Linkages with Global Markets under the Northeast CDD Program .....	89
Box 5.1 Finding water—and respect—after generations .....	106

## Figures

Figure 3.1 Delivery Mechanisms of the Northeast Brazil CDD Program .....	50
--	----

Figure 3.2 Institutional Arrangements, Roles, and Sequencing under the PAC Mechanism.....	50
Figure 3.3 Institutional Arrangements, Roles and Sequencing under the FUMAC Mechanism.....	52
Figure 3.4 Institutional Arrangements, Roles and Sequencing under the FUMAC-P Mechanism .....	53
Figure 3.5 The Northeast Brazil CDD Program Subproject Cycle.....	61





## Foreword

The last decade has been a very good one for Brazil. Economic growth has been steady, policies sensible and consistent, and focusing on both overall growth and improvements in the lives of the poor. Once known primarily as one of the world's most unequal countries, Brazil is now serving as a model for combining growth with equity. Over the last decade, while income of the top 10% has grown at less than 1% per annum, the income of the poorest 10% has grown at a “Chinese-like” average of 8% per year.

The focus on inclusive growth depends on several, complementary approaches. Inflation once was devastating for the poor; now the poor benefit greatly from stable and low inflation. Conditional cash transfer programs have also played an important role.

This book tells the story of one – evolving – strand of this rich portfolio of approaches taken by the Federal and State governments in Brazil. In this case, the approach focuses on the basic human needs and, increasingly, the economic aspirations, of poor people in the arid northeast of the country.

There is a long history of programs attempting to reduce poverty in the Northeast. The World Bank has been a partner for the Government over the last thirty years. The latest phase of this partnership began with a deep analysis and assessment of the successes (few) and failures (many) of programs which were supported by the Bank and executed through the Federal Government's “Superintendency for the Northeast” (SUDENE). Drawing on the experience of other countries (and particularly the “Solidaridad” program of President Salinas' Mexico, the Government of

Brazil (and the World Bank) decided that it was time for a radical change. The new approach was based on a few core beliefs. First, poor people were better equipped than politicians or civil servants to decide what was most important for their well-being. Second, a substantial number of interventions needed actions beyond the individual or household level, and required community involvement. Third, the essence of accountability is control of resources, and thus local communities should have control of external resources.

This book tells the story of 15 years of experience of the two main Bank-supported programs—the Rural Poverty Reduction Program (known in Brazil as PCPR) and the complementary land reform project, Crédito Fundiário (which covers all the states assisted by the PCPR and uses the same participatory institutional arrangements for its implementation).

The PCPR and Crédito Fundiário programs are operating on a very large scale and with significant impacts. The PCPR projects have directly benefited approximately 11 million people, by assisting communities meet the basic infrastructure needs which they have deemed most important (primarily electricity and domestic water supply). The projects have also developed a governance structure through associations and their aggregation at the municipal level, which greatly improves accountability, reduces corruption, and gives coherence and continuity to public policies and provides an institutional platform whereby a variety of national and state programs—which are not part of the PCPR—can be much more effective in reaching local people.

The Crédito Fundiário program acts in a complementary but distinct sphere, namely that of land reform. In Brazil there are, broadly speaking, two models for redistributive land reform, both official programs of the Ministry of Agrarian Development (MDA). The first, led by the federal land reform agency (INCRA), focuses on compulsory expropriation of farms, which are often the target of seizure and occupation by the “landless movement” (MST). The second, led by MDA itself through partnerships with States—and with the active participation of the National Confederation of Agricultural Workers (CONTAG) representing 4,000 rural unions with a membership of more than 20 million workers—adopts a quite different approach. Self-selected groups of landless people identify un- or under-used farms which they wish to acquire. The Crédito Fundiário program assists them with long-term, low-interest loans, technical assistance and matching grants (along the PCPR model). The Crédito Fundiário program supported by the World Bank has settled over a quarter of a million people and distributed over one million hectares of farmland since 1998. In late 2008, the Brazilian government incorporated the

operational procedures of this project into its own legislative framework, thereby ensuring the longer-term sustainability of this innovative approach to improving access to land by the rural poor.

This book, co-authored by Luis Coirolo, who led the Bank engagement with these projects until 2006, tells the story of these programs, of the methodology and successes and remaining challenges.

The process of development is a dialectic one, in which success at one endeavor gives rise to a new set of challenges. As coverage of basic water and electricity services has become high in the Northeast, the demands of communities have evolved. Now the great demand is for economic opportunity. “We want to add value” is the cry heard from all communities and echoed by the (mostly young, modern and dynamic Governors of the Northeast).

This book also describes the initial efforts at using the human capital built by local communities as a basis for sustainable economic development of the communities. While some of the basic community-focused approach can and must continue, the creation of economic opportunity is a different and much more complex challenge. While community water supplies and electricity services are, to a large degree, similar everywhere in the Northeast, the development of economic opportunities is a far more heterogeneous and complex task.

Here, too, the programs have taken a radically different course. Rather than the traditional, paternalistic “we will buy some of the traditional handicrafts which you produce” approach, the programs start from the other end. They engage with major potential buyers of the products (such as supermarkets) and ask “what products do you want that these communities might produce, and what specifications do you need?” While the products are varied, what is universal is the need for quality, scale and predictability. Which gives rise to the central question of how to marry the (many, but limited) resources of the communities to this demand. While answers are highly varied, a dominant pattern is emerging, of private “anchor enterprises” which can work with communities, helping on the demand identification, technology choice, credit and marketing questions. This book describes initial experiences – many remarkably promising – with this approach. And it describes a new and fertile incipient partnership between the public (IBRD) and private (IFC) arms of the World Bank Group in addressing these issues.

Finally, the message of this book is one of hope and optimism. While low inflation and cash transfer programs have had an enormously positive impact on Brazil’s poor, sustaining these gains and making new advances is clearly dependent on economic integration of poor people. The book

describes a strong consensus—among poor people themselves, the private sector, the State and Federal Governments and the World Bank – that this is the challenge. And the book suggests that, at this early stage in this new era, the outlines of approaches which work economically and politically are beginning to emerge.

John Briscoe  
Country Director for Brazil (2005-2008)  
The World Bank

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tioned above to make the Program an example of “best practice” in rural development.

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## Acronyms, Abbreviations, and Glossary

AACC	Rio Grande do Norte Association for Support to Rural Communities ( <i>Associação de Apoio às Comunidades do Campo do Rio Grande do Norte</i> )
AG	Additional evolution of social capital after the implementation of the community subproject
AFI	Impact on social capital due to the formation of the program community association
AOP	Annual Operating Plan
APCR	<i>Support to Small Rural Communities (Apoio às Pequenas Comunidades Rurais)</i>
ASPEC	Association for Research and Scientific Studies in Management ( <i>Associação de Pesquisa e Estudos Científicos em Administração</i> )
CAR	Development and Regional Action Company ( <i>Companhia de Desenvolvimento e Ação Regional</i> )
CDD	Community-Driven Development
CODEVASF	San Francisco Valley Development Company ( <i>Companhia de Desenvolvimento do Vale do São Francisco</i> )
CONTAG	National Confederation of Agricultural Workers ( <i>Confederação Nacional dos Trabalhadores na Agricultura</i> )

DNOCS	National Department of Works to Combat Drought ( <i>Departamento Nacional de Obras Contra as Secas</i> )
EDF	Physical Performance Review ( <i>Estudo de Desempenho Físico</i> )
ERR	Economic Rate of Return
FAC	Community Support Fund ( <i>Fundo de Apoio Comunitário</i> )
FATRES	Foundation for Support to Rural Workers in the Sisal Region ( <i>Fundação de Apoio ao Trabalhador Rural da Região do Sisal</i> )
FECAMP	Campinas Economic Foundation ( <i>Fundação Economia de Campinas</i> )
FETAG	State Federation of Agricultural Workers ( <i>Federação de Trabalhadores na Agricultura</i> )
FETARN	Rio Grande Agricultural Workers Federation ( <i>Federação dos Trabalhadores na Agricultura do Rio Grande do Norte</i> )
FLACSO	Latin American Social Sciences School ( <i>Faculdade Latino-Americana de Ciências Sociais</i> )
FUMAC	Municipal Community Support Fund ( <i>Fundo Municipal de Apoio Comunitário</i> )
FUMAC-P	Pilot Municipal Community Fund ( <i>Fundo Municipal Comunitário-Piloto</i> )
FUNASA	National Health Foundation ( <i>Fundação Nacional de Saúde</i> )
HDI	Human Development Index
IC	Indigenous community
IICA	Inter-American Institute for Cooperation in Agriculture ( <i>Instituto Inter-americano de Ciências Agrícolas</i> )
INTERCOOP	Interdisciplinary Technical Services Cooperative ( <i>Cooperativa Interdisciplinar de Serviços Técnicos</i> )
IPI	Institutional Performance Index
LRI	Long-term total impact of the Program
MC	Municipal Council ( <i>Conselho Municipal</i> )
MDA	Ministry of Agrarian Development ( <i>Ministério do Desenvolvimento Agrário</i> )
MHDI	Municipal Human Development Index
MIS	Management Information System

NGO	Non-governmental organization
NRDP	Northeast Rural Development Program
O&M	Operation and maintenance
OED	World Bank Operations Evaluation Department (currently IEG, Independent Evaluation Group)
OPI	Operational Performance Index
PAC	Community Support Program ( <i>Programa de Apoio Comunitário</i> )
PI	Direct impact on social capital from the implementation of the community subproject
PIC	Community Association Subproject Implementation Committee
PNAD	National Household Survey ( <i>Pesquisa Nacional por Amostra de Domicílios</i> )
POLONORDESTE	Development Program for Integrated Areas in the Northeast
PRONAF	National Program for Strengthening Family Agriculture ( <i>Programa Nacional de Fortalecimento da Agricultura Familiar</i> )
PSC	Community Association Subproject Supervision Committee
PSM	Propensity score matching
PSR	Project Status Report
QAG	World Bank Quality Assurance Group
RTU	Regional Technical Unit
R-NRDP	Reformulated Northeast Rural Development Program
RPAP	Rural Poverty Alleviation Program
RPRP	Rural Poverty Reduction Program
SEBRAE	Brazilian Service for Support to Micro and Small Enterprise ( <i>Serviço Brasileiro de Apoio às Micro e Pequenas Empresas</i> )
SERTANEJO	Special Program to Support Development of the Semi-Arid Northeast ( <i>Programa Especial de Apoio ao Desenvolvimento do Região Semi-Arida do Nordeste</i> )
STI	Short-term impact of the Program
STU	State Technical Unit
SUDENE	Superintendency for Development of the Northeast ( <i>Superintendência de Desenvolvimento do Nordeste</i> )

TA                      Technical assistance  
TU                      Technical Unit  
UNICAMP              University of Campinas, São Paulo (*Universidade  
Estadual de Campinas, São Paulo*)

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# Chapter One

## How Brazil Moved Towards Community-Driven Development (CDD) in the Rural Northeast

Brazil is a large country with abundant natural resources, but historically it has contained large pockets of poverty. In the mid-1970s, Brazil was one of the largest economies in the world, yet it was encumbered by international debt, and its wealth was distributed more unevenly than other countries with similar per-capita income. Poverty in Brazil was concentrated in the Northeast region, comprising nine states and part of a tenth.<sup>1</sup> Once one of the richest regions of the country, the Northeast fell into a vicious cycle of poverty after Brazil's comparative advantage shifted from the sugar produced in the Northeast to the coffee produced in the South of the country. The time was the early 19<sup>th</sup> century and a string of poor policy initiatives entrenched the poverty from which the Northeast is still struggling to overcome.

The Northeast's 1.6 million square kilometers of land is just 16 percent of Brazil's total land area, but it is roughly the size of Germany, Italy, Spain, and France combined. The 48 million people living in this region make up 27 percent of Brazil's total population; but 60 percent of the country's poor, including about 70 percent of its rural poor live there (IBGE 2000)<sup>2</sup>. Forty percent live on just US\$1 per day (World Bank 2003b). Close to half of the Northeast's rural population lives in the interior, semi-arid zone (*sertão*) with poor soils and severe, cyclical, and often protracted drought. The rest live in humid coastal areas

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1 Maranhão, Piauí, Ceará, Rio Grande do Norte, Paraíba, Pernambuco, Alagoas, Sergipe, Bahia and part of Minas Gerais.

2 Latest published demographic census

with better soils and in the drought-prone transitional zone between the coast and the *sertão*.

Profound poverty and inequality have persisted, even though the Northeast region has generally grown as well as, or at times faster than, the rest of the country. In 1970–80 and 1980–90, the Northeast economy grew by 8.8 percent and 3.5 percent per annum, respectively, while the Brazilian economy overall grew by 8.6 percent and 1.5 percent during those same periods. In 1990–2004, economic growth in the Northeast about matched the rate in the rest of the country. The gap between the Northeast and the rest of the country is not closing (CEPLAN 2005).

From 1964 to the mid-1980s, Brazil was under military rule, with highly-centralized program planning, financing, and implementation. The Federal government appointed State governors during most of this period. The States and their agencies had limited control over major development programs, and local governments had little to no control. A politically conservative absentee-landlord elite—who owned most of the land, supported the military-led central government, controlled state and local governments, and were opposed to participatory governance—dominated formal and informal decision-making processes. Therefore, these elite groups captured most of the benefits from government investment programs, including those intended to help the poor.

## Meeting Development Challenges in the Northeast: A Brief History

The strategies to reduce rural poverty in Northeast Brazil over many years reflected the dominant trends in thinking within the development community. After the global food crisis of the 1960s, development agencies focused on increasing agricultural productivity and achieving food security by applying Green Revolution technologies. This substantially improved agricultural production and national food security, but was less effective at improving socioeconomic conditions for the rural poor.

In 1973, World Bank President called on member countries to focus on the plight of these rural poor and to adopt more comprehensive assistance strategies:

*“ . . . absolute poverty: a condition of life so degraded by disease, illiteracy, malnutrition and squalor as to deny its victims basic human necessities; a condition of life so common as to be the lot of some 40% of the peoples of the developing countries.”*

—Robert S. McNamara, Nairobi, 1973

However, after a succession of “integrated rural development projects” (IRD) launched in the 1970s and 1980s proved difficult to manage and produced only limited impacts, most countries shifted to more focused, sectoral interventions to avoid the complexities and transaction costs of the comprehensive multi-component IRD schemes. While the details of many of the rural poverty reduction programs supported by national governments and the international community over the past 2-3 decades have varied, as a general rule most planning and execution has been by, and through, public sector agencies. Also as a general rule, results have fallen short of expectations in most regions of the world.

Despite increasing attention by these poverty reduction programs to decentralization and consultation with rural beneficiaries, governments have tended to remain firmly in the drivers’ seat. However, there has been a small subset of programs which followed a strikingly different path – reversing traditional roles, empowering rural communities to lead all processes, from priority setting, to execution, operations and maintenance of investments in infrastructure, services and productive activities from which they are supposed to benefit. In these programs, governments perform supporting functions and the role of public agencies is sharply reduced, as communities deal directly with the private providers of technical assistance, contractors and service providers to carry out their projects. Brazil was among the first to pilot and then mainstream such a “community-driven development” (CDD) approach to tackling rural poverty, on a large scale throughout its Northeast region, in partnership with the World Bank. The results have greatly surpassed those of all prior rural poverty schemes tried in the country. This chapter summarizes the antecedents to Brazil’s Northeast rural CDD program, and the circumstances which led to its adoption and rapid scaling up over the past 15 years.

### *Tackling Rural Poverty in the Northeast: Drought Mitigation and Agricultural Productivity Programs*

Although the Northeast region had drawn Brazilian policymakers’ occasional attention during the 19<sup>th</sup> and early 20<sup>th</sup> centuries, especially during periods of severe drought, most development activities have taken place during the last 50 years, following the devastating drought of 1958. Recurrent drought has always been the region’s most serious challenge for agricultural production and rural development and was the focal point of the government’s initial efforts to find a sustainable solution. In 1959, the Federal government established the Superintendency for the Development

of the Northeast (SUDENE), directly linked to the Office of the President,<sup>3</sup> to coordinate all development activities in the region. During the 1960s, a multi-pronged strategy emerged and this would have a decisive influence on development efforts for the next several decades.

This strategy called for transformation of the coastal agricultural economy of the Northeast, away from plantation-based commodities with weak international markets (e.g., sugar and cacao) and towards intensive production of higher value foods and fruits to supply rapidly growing urban centers. It also envisaged development of the humid hinterland of Maranhão and parts of the Amazon Basin, to absorb excess labor from the semi-arid Northeast. Reflecting widely shared views in Latin America at the time, that the path to growth required a shift from primary commodity production to some form of industrialization, the strategy for the Northeast also involved incentives to encourage development of manufacturing in the region (CEPLAN 2005).

Finally, Brazilian planners recognized that a significant share of poor rural families would not be able to migrate to other regions, and they were anxious to keep them from descending in large numbers on the main cities in the Northeast itself. Among other things, this meant dealing with the tremendous financial and human costs of the Northeast's chronic droughts. Large irrigation systems and dams were constructed, support was given for specific crops, agro-industry was promoted, and research efforts were initiated to develop more drought resistant agricultural varieties. Some of these programs are briefly described below, as well as their results in terms of reaching the rural poor.

**Emergency Drought Relief Program (EDRP).** The EDRP sought to assist drought victims, provide farmers with help to prepare for future calamities, and generally to reduce out-migration and social disruption associated with droughts, through a program of credit, transfers, food and seed distribution. The program had mixed success, with most of the credit going to medium and large producers. Overall smallholders received a disproportionately small share of drought funds and had less opportunity to increase their resistance to future droughts. In fact, many small farmers were not eligible for aid because they lacked the proper land titles (World Bank 1983).

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3 In 1965, SUDENE became subordinated to the Special Ministry for the Coordination of Regional Agencies, later (1967) to the Ministry of the Interior, and currently to the Minister of Regional Development. .

**Large-scale Irrigation Programs.** These programs were designed to store large volumes of water in the semi-arid zone of the Northeast, with a view to strengthening drought resistance through irrigation and thereby increasing employment, incomes and agricultural output. Two regional development agencies implemented the programs, which targeted vulnerable farmers and the rural population generally in drought-prone areas. The programs included irrigation infrastructure, resettlement, public works to protect against both droughts and floods; and other assistance activities to respond to public disasters. Program results were again disappointing in terms of trying to solve the issue of poverty by settling poor farmers in these large irrigation schemes. The average cost was high—US\$13,000 per hectare including land cost, farm improvements, and community infrastructure, but excluding central installations. Few small farmers' incomes increased, and many fell into debt. Poor soils, lack of management capacity and organized marketing impeded the successful development of high-value crops on irrigated land. Some 30 percent of farmers lost crops due to salinization. Finally, the social costs to local populations in the vicinity of the main schemes were unacceptably high -- in the *sertão* more than 18,000 people were displaced to settle 3,000—and those who did benefit were often dissatisfied with project management. At the same time, it is important to note that some of these investments did lay the foundation for the extraordinary development several decades later in areas such as Petrolina/Juazeiro and elsewhere in and near the San Francisco river valley.

**Special Support Program for Development of the Semi-Arid Northeast (Sertanejo).** Sertanejo sought to transform the rural economy of the *sertão* by increasing productivity and drought-resistance in the agricultural sector. The program targeted landless rural producers, small and medium-sized owner-operators, and landowners with more than 500 hectares whose projects received prior approval. The strategy revolved around “nuclei” of one or more municipalities within a radius of about 30 kilometers around a municipal seat of micro-regional importance. The program financed infrastructure and agricultural services to promote new farming practices. Again, results fell short of goals due to credit constraints and weak technical and administrative support. While 94 percent of Sertanejo's target population *were* smallholders with less than 100 hectares, only 56 percent of those assisted by the program came from this group and, despite original intentions, landless producers were not able to benefit from most program activities.

**Water Resource Use Program (PROHIDRO).** PROHIDRO strove to increase water availability for human and animal consumption, support irrigation and strengthen agricultural production. It also targeted small and medium-sized producers with investments in water storage infrastructure, credit for private water supply infrastructure, increased water supply to communities and rural properties, and schemes to regulate water flow in Northeast rivers. Many of PROHIDRO's actions simply continued traditional approaches to water storage and achieved few results in terms of strengthening the drought resistance of the poorer farmers.

**Semi-arid Tropics Research Program (STRP).** This program was carried out under the auspices of Brazil's national agricultural research corporation, EMBRAPA. The objective was to investigate methods of agricultural production and resource conservation in the *sertão* that could protect small farmers against drought. It financed research in agriculture and livestock development, natural resources, industry, housing and sanitation, alternative energy sources, disease, and malnutrition. STRP also researched alternative energy sources such as charcoal-gas fired engines and pumps. The World Bank has supported EMBRAPA for over three decades, since its establishment in 1973. This included financing for the STRP, both through loans for EMBRAPA's national research program and for several POLONORDESTE projects (see p. 7). While EMBRAPA has been quite successful in terms of technology generation and its impact on commercial agriculture, it was less effective in getting these technologies to poor farmers. Even in cases where research produced adequate technologies for small farmers to use, neither the national nor State public extension systems were effective in their diffusion.

In summary, these and other special programs launched by the Brazilian government in the 1970s and early 1980s, in selected cases with World Bank support but mainly without, had some results (very important in the case of EMBRAPA) in terms of increasing agricultural production, but their impact at that time on poverty reduction in rural areas of the Northeast was quite limited.

### *The Advent of Integrated Rural Development*

In the 1970s, in line with international trends in thinking about rural development, the Brazilian government began to direct some of its efforts away from a fairly narrow focus on reducing the effects of droughts, toward more

integrated rural development programs (IRD).<sup>4</sup> Robert S. McNamara's 1973 Annual Meetings address to the Board of Governors in Nairobi, Kenya (cited above), had called for a shift in focus toward poverty alleviation. Off-farm and non-farm work opportunities had to be simultaneously created to broaden the base of rural development. Basic living conditions – health, education, clean water and other essential infrastructure were also needed. Projects were sometimes based on a single agricultural product and accompanied by services that received a much smaller part of project funds—e.g., tea in Kenya, cotton in Mali, or coffee in Papua New Guinea. They could also include broader approaches with more balanced lending across sectors—e.g., the Lilongwe Land Development Program in Malawi, and three World Bank–financed rural development projects in Sri Lanka (OED 1987; van Zyl, Sonn, and Costa 2000). This latter approach also included two major World Bank –financed IRD programs in Latin America: PIDER in Mexico, which attempted from the start to operate on a large scale across states, and POLONORDESTE in Brazil, which adopted a more targeted approach of working in specific micro-regions ('polos').

The World Bank began to work on rural development issues in Northeast Brazil in 1974, when it opened an office in Recife, capital of the State of Pernambuco, initially to support a research effort to understand the agricultural economy and rural poverty of the area (Kutcher and Scandizzo 1981), and then to be directly involved in preparation and supervision of operations in the rural sector. Over the years, the Bank's involvement in the Northeast has followed a continual pattern of conducting studies and piloting new approaches, evaluating and analyzing the results, and incorporating lessons learned in ongoing activities and the design of future projects.

It was during this period that the Bank and Brazilian government officials discussed preparing projects designed specifically to benefit low-income segments of the population. Several missions and studies followed to develop projects that would raise the productivity of small farmers (World Bank 1975a; OED 1987). One study (World Bank 1975a) examined the factors that made similar programs effective, and it recommended an approach that would influence future Bank investment in the region for nearly a decade.

- productive inputs and services share complementarities and all the necessary elements must be present simultaneously and in the appropriate proportions in order to raise productivity.

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4 Between 1975 and 1986, IRD programs made up 40 percent of the World Bank's rural development portfolio and typically contained similar components emphasizing increased agricultural productivity as the basis for raising rural incomes (OED 1987).

- productive inputs and services are specific to small farmers who “tend to face economic, social, institutional and political conditions which are generally different from those facing larger producers.

Furthermore, the study stressed that conditions varied among States and sub-regions of the Northeast and, thus, to be effective, development interventions would have to be adapted to these specific conditions” (World Bank 1975a: 2).

With World Bank participation and financial support, the Development Program for Integrated Areas in the Northeast (POLONORDESTE) was launched. While the government and the Bank continued to implement some sector-specific projects, POLONORDESTE became the primary vehicle for improving productivity and living standards of small farmers in the Northeast region (World Bank 1983).

### *POLONORDESTE (1975-1984)*

POLONORDESTE was a typical IRD program. It supported integrated programs in 43 micro-regions (‘polos’) throughout the Northeast, ten of which the World Bank financed. The Government selected micro-regions where it considered the development potential was strongest, however the government did not want to concentrate only on such areas because it considered that doing so would lead to exclusion of many of the poorest parts of the region. POLONORDESTE projects included numerous components coordinated by an inter-ministerial commission at the Federal level. It involved activities by Federal ministries and agencies, SUDENE, the Northeast State governments and the State-level representatives of Federal agencies, and State technical units.

In line with the principles of IRD, POLONORDESTE sought to “promote the development and modernization of agricultural and livestock activities in priority areas of the Northeast through a system of growth poles. Specific measures to be simultaneously implemented in these priority areas included: feeder roads, rural electrification, seeds and seedlings, land tenure, small-scale non-farm enterprises, mechanization services, storage, agricultural research and extension, rural credit, health and sanitation, education, water supply, marketing, among others” (World Bank 1983: 38).

POLONORDESTE’s objectives evolved in part due to the experience acquired during program implementation and in a climate of expanding public awareness and concern about social issues, as well as, the beginning political liberalization of the time. For example, in 1981 POLONORDESTE’s target beneficiary group was formally expanded to

include both landless groups (rural laborers, squatters, tenant-farmers, sharecroppers) and small farmers. At the same time, concerns were growing about the limitations involved in applying a geographically focused growth pole strategy to promote rural development in a region beset by wide spread poverty, a fragile natural resource base, periodic climate problems, and a skewed land tenure structure. An important factor undermining not only POLONORDESTE but also other development initiatives in the Northeast was the weak macroeconomic environment accompanied by very high levels of inflation, which complicated investment planning and often resulted in severe shortfalls and irregularity in budgetary outlays. Since the World Bank operates by reimbursing government expenditures, disbursements from its own loans also fell well behind schedule.

### *Results of POLONORDESTE*

As with IRD projects all over the world, *POLONORDESTE experienced difficulties in managing a complex decision-making and implementation structure because of the multiplicity of actors involved.* In the case of Brazil, this was further complicated by the sheer size of the country, the nature of the Federal-State structure in place at the time, the extent of *centralized control under a military regime*, and the aforementioned *severe macroeconomic problems* it faced. In 1983 the World Bank carried out an evaluation of POLONORDESTE, with the following main findings (World Bank 1983).

**Erratic Funding.** Federal officials made *resource decisions using complicated mechanisms to allocate and transfer funds.* Moreover, there was no clear relationship between the funding available at the beginning of a fiscal year and the five-year planning documents which had been prepared by the executing agencies and the technical units. *Excessive delays and absolute shortages of counterpart funding* were severely impeding implementation.

**Top-Down Implementation.** *Multi-level agencies often had overlapping functions* and government line agencies were perceived as inefficient, technically incompetent, understaffed, and philosophically conservative. *Program planning and management followed a top-down approach* to identify and attend to the needs of the rural poor. Although POLONORDESTE opened an important space for State level participation, there was *relatively little involvement of beneficiaries in decision-making or program execution.* Preparation teams for the World Bank-financed projects did travel extensively to the micro-regions and con-

sult beneficiaries and local authorities – a fact which would later prove extremely important, as the number of committed younger State and Federal technicians who gained exposure to conditions on the ground in the rural Northeast grew. However, at the time, even though there had been some consultation in advance, *beneficiaries' preferences were often ignored in the final program design.*

According to a World Bank Operations Evaluation Department (OED) retrospective review undertaken about a decade later, many [integrated] development projects lacked ownership and commitment on the part of governments, and more importantly, on the part of the beneficiaries. In addition, key actors did not understand the incentive structures, resisted change, and lacked suitable implementation strategies for the kinds of reforms being pursued. OED also concluded that the Bank did not analyze “rural people’s commitment to a project’s goal” (OED 1993: 4).

**Complexity.** *Difficulties in coordination precluded true program integration* given that line agencies at three or four administrative levels executed different parts of the program. There were just *too many components*, spreading resources thin and making implementation unwieldy. Moreover, because the POLONORDESTE projects were implemented by federal and state line agencies—reporting to federal and state political leaders who had their own agendas and agencies which did not necessarily give priority to the program or its target population. The technical units were frequently obliged to coordinate activities over which they had little control. While some technical units had considerable informal authority, they could not impose a particular strategy or set of project activities on the executing agencies. They did not have direct control over project resources or the power to suspend disbursements to agencies that were not complying with the agreed work program or strategy. This limited the ability to implement project components effectively and efficiently. Finally, the centralized approach to planning could not easily take into consideration the specific conditions and needs of beneficiaries in widely dispersed and remote rural areas.

**Weak Monitoring and Evaluation.** *The multiple participating agencies required different types of monitoring data*, making it difficult to agree on a single reporting format. In addition, monitoring indicators were oriented toward measuring financial and physical progress rather than service delivery to beneficiaries and their adoption of appropriate techniques. The monitoring system was generally seen as a vehicle for providing regional

and federal authorities with data from the project units and executing agencies, rather than as an input into routine, line-management decision making or as an evaluation tool. Finally, *there was no common system for evaluating the program.*

**Constraints on Targeting and Replicability.** Most program benefits went to roughly 66,000 out of approximately three million poor rural families in the Northeast—a small proportion. At a *high unit cost* of about US\$7,000 per beneficiary family, the 1983 World Bank study concluded that *large-scale replication would be virtually impossible.* The strategy of working only in specific micro-regions and the large number of components and resulting complex administrative structure limited the projects' ability to reach more beneficiaries. At the same time, *resources could not be focused to a specific target group* within a micro-region, because all residents of an area tended to benefit from physical infrastructure and institutional strengthening components. The program financed salaries, operating costs, equipment, and buildings for the line agencies involved in the program. As such, program evaluations concluded that *no more than 20 to 40 percent of program resources actually reached the beneficiaries.* Both government officials and Bank staff involved with the program at the time reported that even this 20 to 40 percent that did get through often financed investments that poor, rural communities did not consider a top priority.

**Difficult Enabling Environment.** Land access and usage and water availability were long-standing constraints that also affected the POLONORDESTE program. Land components were hard to design and implement in a weak institutional environment and a political context in which such efforts were traditionally resisted. Moreover, it was “extremely difficult to provide agricultural services and asset- and income-building assistance to the landless, one of the major target groups of the program. Efforts to provide land regularization services were expensive and slow, and land purchase credit was generally unavailable. The Piauí project included a component to finance land purchase and redistribution, and brought representatives of the rural workers' union into project execution, but further large-scale efforts would be needed to improve the access to land for the rural poor (World Bank 1983).

**Recommendations for Change.** The interim evaluation of POLONORDESTE recommended improvements in program design and implementation, some of which would later be incorporated into a next

generation of projects starting in 1985 under the follow-on Northeast Rural Development Program (NRDP).

- ***Simplify the overall program design.*** The report suggested simplifying the program's objectives, components, and operating and funding procedures, keeping only what was strictly needed to achieve the program objectives of raising farmers' productivity and income and focusing on areas with good agricultural potential. In other words, the recommendation was to maintain the focus on the more productive areas in the Northeast, and to revert to a more limited focus on agricultural interventions.
- ***Work with beneficiaries.*** The report also proposed improving coordination by having field staff meet more frequently with community groups to identify and help resolve local development problems.
- ***Decentralization.*** Decentralizing decision-making authority to regional and state levels was recommended while giving states some flexibility to transfer funds among components. Alternatively, POLONORDESTE revolving funds could be established in each state to provide liquidity at the level of project execution.
- ***De-link the land issue.*** The report also recommended addressing the land issue separately and "decisively and on a large-scale" (World Bank 1983: 67).
- ***Coordination.*** Where multi-state policy issues or institution-building goals existed, the report suggested blending a sector-specific approach with an integrated approach, with each project assuring complementarity with a sectoral project, thereby requiring less intensive Bank supervision.

By March 1985, the Bank had financed 30 loans (Table 1.1), totaling US\$1.8 billion, for agricultural and rural development in Brazil. Not all of these were focused on the Northeast, and in some cases they did not involve the region at all.

**Table 1.1 Overview of World Bank Support for Agriculture and Rural Development in Brazil as of 1985**

<i>Number of Loans</i>	<i>Purpose of Loan</i>	<i>Total Lending Amount US\$ million</i>
1	Agricultural credit and export	303.0
1	Supplemental financing	30.5
3	Agro-industry	519.2
2	Livestock development	60.5
1	Grain storage	18.2
2	Agricultural research	100
1	Agricultural extension	100
19	Settlement, irrigation and rural development	672.1

Note: Thirteen of the projects were located in the Northeast, two in Minas Gerais, and four in the North and Northwest

Source: World Bank 1985c

The various projects had mixed success in expanding Brazil's research and extension capacities, redistributing land, and producing land titles (generally for pre-existing small plots and mini-fundia),<sup>5</sup> putting in place some important large scale water storage and irrigation infrastructure, creating conditions for the development of agro-industries, and providing credit for agricultural development (particularly for large producers). They generally had only limited impact, however, on improving living standards for small farmers and the rural poor in the Northeast region.

## **Windows of Opportunity and a New Direction for Northeast Rural Development**

As the World Bank and Brazilian Government were reviewing the results of their joint agriculture and rural development efforts, the political and social circumstances in Brazil were creating new opportunities. In 1985, Brazil returned to democracy, inaugurating its first popularly elected president in over 20 years. A new Constitution in 1988, continued with three levels of government, but made the Brazilian Federation one of the most decentralized systems in the world (Bomfim & Shah 1994, in van Zyl, Sonn & Costa 2000). It was at this time that the Bank-financed Northeast Rural Development Program (NRDP) was launched as the successor to POLONORDESTE.

<sup>5</sup> Plots of land so small as to be economically unviable for a family farm.

### *The Northeast Rural Development Program (NRDP)*

Under the Northeast Rural Development Program (NRDP), the World Bank approved 10 loans to the Federal Government of Brazil, totaling US\$826.7 million. One loan was made for each state in the Northeast and to Minas Gerais for work estimated at a total cost of nearly US\$1.2 billion (Table 1.2). The projects constituted what was to be the first phase of a 15-year effort to attend to the needs of some 600,000 small farm families.

Like POLONORDESTE, NRDP focused on increasing agricultural production and productivity and generating employment opportunities for low-income small farmers in the Northeast region. It also sought to increase the states' ability to provide small farmers with agricultural services and to promote water resource development through a variety of activities designed to reduce small farmers' vulnerability to recurrent droughts.

**Table 1.2 Northeast Rural Development Program (US\$ million)**

<i>Project</i>	<i>Actual project cost</i>	<i>Loan amount</i>
Alagoas	42.1	42.0
Bahia	198.5	171.0
Ceará	156.5	122.0
Maranhão	149.4	84.0
Minas Gerais	82.9	55.0
Paraíba	96.0	60.0
Pernambuco	123.7	92.0
Piauí	89.7	78.0
Rio Grande do Norte	97.4	61.4
Sergipe	113.8	61.3
<b>Total</b>	<b>1,150.0</b>	<b>826.7</b>

Sources: World Bank Project Implementation Completion Reports.

Unlike POLONORDESTE, the NRDP adopted a statewide, rather than micro-regional approach, in an effort to scale up significantly the reach of the program to a level that would be commensurate with the scope of the problem of rural poverty in the region.

Also unlike POLONORDESTE projects, which often contained between 10 and 15 components, the NRDP had seven. The first six components could be considered “business as usual” in rural development:

water resources development, agricultural credit, agricultural extension, marketing services, agricultural research and seed production, and project management. The seventh component involved an innovative scheme to engage small rural communities directly in resolving their own development problems.

### *Piloting CDD for the First Time: The APCR Experiment*

This seventh component, the Support to Small Communities pilot project, known by its Portuguese name *Apoio às Comunidades Rurais* (APCR) was patterned on successful experiences with community driven development (CDD) in a variety of countries around the world and broke new ground in Brazil. APCR encouraged small farmers to organize and participate in development activities; financed small rural investments in production, processing and rural infrastructure. The CDD methodology used in APCR departed from traditional approaches in Brazil because it began to involve beneficiaries in decision-making and project implementation by transferring resources directly to their community associations.

The CDD approach adopted under the NRDP was part of a natural progression of development thinking within the World Bank, other development agencies, and governments, based on experiences in the 1970s and 1980s (see Box 1.1). Bank staff and government counterparts were eager to see if CDD might also work in Brazil, and agreed to pilot it as the seventh (APCR) component of the NRDP.

Following the principles of CDD, the APCR pilot in Northeast Brazil fostered the formation of community associations that would be responsible for preparing and executing priority community subproject investments<sup>6</sup>. It financed investments in three areas: mobilization and organization of producers and communities (i.e., institution building); productive subprojects (e.g., agriculture, animal husbandry, agro-processing, and handicrafts); and investments for small-scale infrastructure to benefit the community at large. Community development agents encouraged people to organize and helped community associations (CAs) develop subproject proposals. The subprojects were reviewed and approved at state level and then funds for implementation either were transferred directly to the bank account of a legally constituted CA or channeled through the municipality if the CA was not registered. In both cases, the CA was responsible for implementation, operation and maintenance of investments (van Zyl, Sonn, & Costa 2000; World Bank NRDP project documents).

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<sup>6</sup> These investments will be referred to as subprojects in the rest of the book.

### Box 1.1 International Influences on Brazil's Community Driven Development Pilot

World Bank activities in other countries as well as experiences by other agencies throughout the world – both positive and negative - influenced the thinking behind the APCR pilot.

- **Comilla (Bangladesh)** was one of a series of pilot programs implemented during the 1960s to strengthen local authorities who program designers believed to be better able to secure effective participation than central government officials. Comilla's achievements included raising the incomes of small farmers in a large area and providing models for improved local organization and administration (at modest costs and with a small professional staff). Programs growing out of Comilla included a public works program and village cooperative credit system that emphasized self-help.
- **Integrated Program for Rural Development – PIDER (Mexico)** supplied a wealth of lessons, but the primary one pertained to the method of identifying and acting on beneficiary priorities: project and government personnel identified projects, with the only insight into community priorities derived from a survey, rather than direct community participation. This approach had resulted in slow implementation and frequent mismatches between subproject investments and community priorities. Lessons from PIDER also highlighted the need for a strong monitoring and evaluation system that would facilitate reporting, provide management information, and garner community support by feeding back development information (Cernea 1979).
- **Lilongwe Land Development – LLDP (Malawi)** started in 1967 with a goal of large-scale rural transformation over 13 years. It financed physical and productive infrastructure and landholding consolidation and facilitated community and village organizations for local participation in decision making and planning. Its implementation unit was separate from the traditional ministry and department, and the program provided incentives to motivate its staff and invested generously in staff training.
- **Local Development Associations (Yemen)**. In 1981, the World Bank produced a study of Local Development Associations (LDAs) in a Yemeni movement that had started in 1963 using a decentralized participatory approach to rural development. The investments focused largely on infrastructure, but a review of project documents appears to indicate that the LDAs expanded their activities into marketing and income generation. Communities identified their needs and worked through elected village representatives. Villages presented plans to an LDA board, which submitted them to the LDA general assembly. Beneficiaries contributed to project financing, but village associations appear to have controlled the money (World Bank 1981).
- **Aga Khan Rural Support Programme – AKRSP**. Around 1983, AKRSP initiated a program in Northern Pakistan to help rural populations and to test a new model for rural development. At the request of AKRSP, the Bank's Operations Evaluation Department (OED) evaluated progress in the program, providing the Bank with valuable information and lessons. The AKRSP program shared the goals of most World Bank projects; however, it was implemented through village organizations. Moreover, AKSRP's initial focus on institutional development was the major point of divergence from most Bank programs at that time, which generally focused on increasing crop production and investing in technical needs. Despite the focus on institutions, the 1991 OED review of AKRSP, found that production had not increased as originally forecast.

*Source:* Background note by Melissa Williams (World Bank) September 2005.

## *Results of the NRDP and APCR*

**More Difficulties under the NRDP.** From the beginning, overall NRDP implementation lagged way behind schedule, and barely US\$300 million of the original US\$826.7 million had been disbursed by end-1991. As they had during the POLONORDESTE years, Brazil's continuing economic problems led to chronic delays in counterpart funding and widespread ineffectiveness of the public institutions responsible for implementing the program.

At the same time, significant changes in the political landscape brought about by the 1988 Constitution were resulting in increasing decentralization of decision-making power and fiscal resources from the Federal government to the States and localities. Unfortunately, the NRDP had been designed before these changes, and therefore program resources and administrative and financial decision-making power remained heavily centralized at the federal level. Although greater beneficiary engagement was intended to be an important feature of the NRDP, executing agencies were often reluctant to involve communities in the planning and implementation process (with the exception of the APCR component). Consequently, as with previous programs, resources were often invested in activities the communities did not consider to be priorities, and neither the States nor the beneficiaries felt much sense of ownership or obligation to maintain the investments (Box 1.2).

OED reached the same conclusion—albeit a few years later. Their 1993 evaluation concluded that [P]articipation in a development project implies that members of the community to be affected *initiate* changes, not that they merely accept, or do not object to, changes offered to them by outside agencies (World Bank 1993: 8 italics added). This meant moving beyond the management-focused approach of sharing information and consulting with communities to an approach that would build capacity and empower communities for development (Paul 1987). OED stressed that true participation meant that communities would prioritize development investments, rather than simply react to options provided by the Government or the Bank.

**APCR – One Bright Light.** In contrast to the six main components of the NRDP, the APCR was quite successful. Under the leadership of state project teams, with an average of 36 community agents and supervisory personnel, the APCR financed community subprojects using matching grants of up to US\$10,000<sup>7</sup> to Community Associations (CAs) in towns

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<sup>7</sup> Initially the grants were for up to US\$5,000, but the amount was increased in 1990.

### Box 1.2 The Importance of “Ownership”

*One Bank Task Manager recalled learning that a water supply system had disappeared only 24 hours after it had been installed. On arrival, the inspection team noticed that the system had been situated in the center of the community within plain sight of every house. These houses were simple and open—some did not have even doors—so a water supply system would be hard to steal without someone noticing. When asked how such a theft could happen, one woman replied, “These thieves don’t steal things that belong to the community.” Her matter-of-fact answer reinforced the conclusion that the program’s top-down development strategy was not working. For beneficiaries to assume responsibility for maintaining the investments, they would need to feel a sense of ownership over investments they had helped select and execute.*

*Source: Raimundo Caminha, Interview, September 2005*

or villages with fewer than 5,000 inhabitants. The APCR model in Brazil put control (and the money to back it up) in the hands of the poor. This catalyzed change in the power relationship between poor communities, local authorities, and other elites. APCR innovated by allowing the communities to determine their own priorities, rather than choosing from a set of investment options offered to them. With the exception of a small negative list of activities that Bank rules would not permit (i.e., arms, tobacco, alcohol, churches), communities were free to choose what investments they thought they needed most.

From 1985 to 1993, roughly US\$84 million was disbursed by the World Bank for the APCR component alone, out of total project disbursement of only US\$300 million for the entire NRDP. The pilot financed 12,470 subprojects (close to the original project estimate), benefiting some 374,100 families in about 8,900 communities in more than 605 municipalities. Subprojects cost US\$8,500 on average, and the average cost per beneficiary family was only about US\$283 (van Zyl, Sonn, & Costa 2000; Barbosa 2000). By 1993 about 60 percent of aggregate loan allocations for the APCR and the related water supply component had been disbursed, and another 30 percent committed for community-approved subprojects. This compared with disbursement rates of only 5 percent to 42 percent for all the other components, except for project administration (World Bank 1993b).

## Cut the Losses and Quit, or Learn and Grow?

Based on the mediocre overall performance of the NRDP, a mid-term evaluation by the World Bank and the Brazilian government in 1993 recommended a drastic reformulation of the program to improve the effectiveness and sustainability of project investments. The main problems were familiar:

- too much money being absorbed by overhead (salaries and operation expenditures of executing agencies);
- what money did reach small farmers was invested in activities that they did not always consider priorities; nor did farmers feel involved in the process;
- bureaucratic procedures, together with delays in the release of counterpart funds by the federal government, often made the projects' Annual Operating Plans obsolete before implementation had begun; and
- since states did not participate in counterpart funding they had a limited sense of project ownership and little opportunity to provide their own financing to offset the gap caused by severe fiscal crisis of the Federal government (World Bank 1993a: 1).

### *A Bold Decision to Mainstream CDD*

The Brazilian Government and the Bank had to decide whether to overhaul the NRDP or simply cancel all remaining funds. The slow pace of NRDP implementation and disbursement of loan funds, the chronic lack of counterpart funds, and the sparse results on the ground concerned Bank management. Similarly, the Federal government was dissatisfied with the program's lack of results, and State governors were frustrated that the bureaucracy swallowed up most of the program's resources while only small amounts reached the intended beneficiaries in any meaningful way. However, in light of the positive early results from the APCR pilot and successful experiences with community-driven development in other countries, some Bank staff and Brazilian officials felt the best way to move forward would be to build on this success and restructure the entire NRDP program along the CDD principles of the APCR.

### *Reform Greeted with Skepticism*

When discussions began about reformulating the NRDP into a fully community-driven development program, many within the Brazilian

Government and the World Bank were skeptical that poor, often illiterate, rural people could actively assume responsibility for development sub-projects. Decades of paternalism had spawned a culture of dependency in the rural Northeast, and they thought poor communities might lack confidence and the technical capacity to participate in their own development. Within public agencies, many officials wanted to retain control over development resources, especially in a constrained budgetary setting.

Even nongovernmental organizations (NGOs) working with the rural poor initially opposed the reformulation. They demonstrated outside the World Bank office in the SUDENE building in Recife. The demonstrators claimed they “knew best” how to identify and attend to the needs of poor rural communities, and that local politicians and other elites would control the CDD program unless NGOs acted as intermediaries between the government and the Community Associations. Unlike in a number of other countries, however, in Northeast Brazil it was decided that, rather than the government hiring NGOs to assist communities *a priori*, there would be broad dissemination of information to all stakeholders about the program, but then the responsibility for contracting NGOs would rest firmly with the CAs. This placed the onus on NGOs to convince communities of the value of their services.

According to the then-superintendent of SUDENE, Cassio Cunha Lima (2005),<sup>8</sup> “the most ardent opposition came from technicians and bureaucrats working in the government line agencies responsible for program implementation, including SUDENE”. Prior to that time, funding for development programs in the Northeast passed from the federal government through SUDENE and to line agencies in the Federal government and in the States. Most of these resources were absorbed along the way by SUDENE and other implementing agencies to finance overhead. Loss of these resources therefore represented a serious threat to these agencies, generating significant resistance by their staff.

To address valid concerns that poor rural communities in the Northeast had no experience with subproject implementation or resource management, Bank staff supporting the reformulation proposed incorporating some features in the redesign of the NRDP to make CDD possible within the capacity constraints of rural Brazil. These included simplified operational procedures, technical assistance, and continuous support to community associations throughout the implementation process.

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<sup>8</sup> Cassio Cunha Lima, Governor of the state of Paraíba at the time of preparation of this book.

Despite the resistance, there were really few choices regarding NRDP. Brazilian government officials agreed that the APCR had achieved good results on the ground and were interested in trying the CDD approach. To encourage consensus during this dramatic reformulation process, the Bank invited the Northeast state governors and federal government representatives to Mexico to visit the Solidaridad project, which had many of the same characteristics as the APCR pilot. This visit provided a chance to see CDD working on a broader scale and to discuss with Mexican federal and state officials, Solidaridad administrators, and community leaders the benefits and drawbacks of the approach.

Impressed with what they had seen in Mexico, upon their return Brazilian officials and World Bank staff agreed to a dramatic reformulation of the NRDP to eliminate top-down project components and transform the entire program along CDD principles. They would provide matching grants to CAs to carry out small-scale investment subprojects selected by them.. Community Associations would also contribute part of the investment cost, implement them with resources transferred directly to their bank accounts, and operate and maintain the investments. The APCR component's

*[T]he complete reorientation of the program. Minimizing the bureaucratic processing of resources that hindered implementation and bringing something absolutely innovative—I'd say fantastic, extraordinary—the chance for communities to follow their own destinies, to choose their priorities, administer resources, assemble in Councils . . . to earn and assume their civic rights.*

— Cassio Cunha Lima, October 2005

“bottom-up” approach would be mainstreamed, the State governments would be more directly engaged in setting strategy, overseeing implementation and financing the program, and the implementation responsibilities of public agencies would be significantly reduced.



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## Chapter Two

### Scaling up Community-Driven Development

Beginning with the reformulation of the NRDP, the Brazilian government and the World Bank began a period of continuous learning by doing for operational effectiveness that has lasted over a decade. This chapter describes the evolution and scaling up of rural poverty reduction efforts in Northeast Brazil using CDD principles, in three phases during 1993 to 2005. Phase One consisted of the reformulation of the Northeast Rural Development Program (R-NRDP) into a Community Driven Development Program in 1993. Phase Two: The Rural Poverty Alleviation Program (RPAP) started with direct loans to the Northeast states in 1995/96, and Phase Three: The Rural Poverty Reduction Program (RPRP, known in Brazil as PCPR) began in 2000/01. This chapter also describes Brazil's experience in using the CDD approach to address other long-standing problems, such as land reform, and recent developments since 2005.

#### **Phase One: The Reformulated Northeast Rural Development Program (R-NRDP)**

The Federal government in office when work began on reformulation of the NRDP placed a high priority on social action programs designed to reduce poverty in Brazil. The government was preparing a macroeconomic adjustment program to resolve Brazil's serious fiscal and economic problems and to lay the foundation for medium- and long-term economic

growth and development. At the same time, it wanted to protect the poorest people from the short-term effects of its economic adjustment efforts.

The Federal government, therefore, asked Northeast States and the World Bank to reformulate the NRDP quickly. It agreed to support decentralization of Program management and financing responsibility (national counterpart) to the States, consistent with the 1988 Constitution. Both Federal and State authorities wanted to center the Program more firmly on the beneficiary communities by giving them responsibility for the identification, preparation, cost sharing (labor, materials, or cash), and implementation of project activities, with suitable technical support. In recognition of the fact that the Northeast States were taking over financial responsibility for the program from the Federal government, the World Bank increased the level of its cost-sharing (World Bank 1993a).

All NRDP components were discontinued except APCR and 93 percent of the remaining loan funds were channeled directly to finance community subprojects, (compared to only 20 to 40 percent of resources that effectively reached beneficiaries in previous programs). An additional four percent of the funds financed technical assistance and only three percent was allocated to cover program operational costs. These were revolutionary changes. The Bank opted for a development model that required new thinking on program operating rules, financial management, procurement, and supervision. The Brazilian Federal and State officials relinquished significant control, and acknowledged the ability of the rural poor to set their own priorities, make decisions about and participate in their own development.

Besides being based on CDD principles, the Reformulated Northeast Rural Development Program (R-NRDP) focused more sharply on alleviating poverty by opening it to all members of targeted poor rural communities rather than only small farmers who already owned some productive assets. Program objectives were reframed to provide the rural poor with access to basic social and economic infrastructure and employment- and income-generating opportunities; support rural community groups in identifying, planning, and implementing their own subproject investments; and involve

*Each State has the autonomy to decide upon the best way to implement its project. Of course the Brazilian government and the Bank agree on some basic rules that are common across all States, and in conjunction with the States establish the project's objectives, key indicators and outputs. But, each State gets to decide how to go about achieving this.*

—Fatima Amazonas, Task Manager,  
World Bank, October 2005

State governments more directly in decision-making and counterpart financing of the Program.

R-NRDP's design was simple and straightforward. A small number of principles guided the new approach that formed the foundation of future generations of community-driven rural development programs in Brazil. These principles addressed some of shortcomings of past integrated rural development programs by establishing simple rules over complex systems, decentralizing decision-making from the federal capital to the state and local levels, promoting partnership between local authorities and communities, and empowering communities by directly providing them with investment funds for their development.

With greater decentralization came greater responsibility for the States, which had to provide all public counterpart funding for the World Bank loans, although the Federal government remained the official borrower. The Program no longer financed the salaries of personnel for project administration or in public executing agencies, a decision that encountered strong opposition in SUDENE and other agencies that had depended on project funds to pay for part of their regular operations. Each State had to conduct a broad publicity campaign through radio and other means at the beginning of project implementation, reviewed prior to execution. Staff in the State technical units also had to enforce the "rules of the game" (see Chapter 3) in the subproject approval process and monitor and supervise project performance.

### *Positive Results Build Support for CDD*

The R-NRDP was quite successful achieving its objectives, mainly because the modified design and implementation strategy fit the evolving political, economic, and social context of Brazil at the time. Several field investigations, surveys, and studies assessed the impact of the Program and reported positive results. Van Zyl, Sonn and Costa (2000: 14) conducted a comprehensive review of the studies, and concluded that R-NRDP promoted community organization and empowerment, increased transparency, and demonstrated that rural communities could influence the allocation of resources at the municipal level to alleviate poverty.

*The generally satisfactory performance of the R-NRDP and its favorable impact on the lives and incomes of beneficiaries showed that, after several decades of experience with rural development efforts in the Northeast, targeted programs could successfully and effectively reach the rural poor.*

—van Zyl, Sonn, & Costa 2000: 14

**Administrative Efficiency.** The R-NRDP disbursed 93 percent of all project funds to targeted beneficiaries, compared with only 44 percent or less under the NRDP when public agencies had executed the projects.

**Pace of Implementation.** Community Associations submitted 46,500 subproject proposals in all 10 States after reformulation, of which they implemented some 17,860. Demand greatly outstripped supply, and R-NRDP resources were exhausted in just over three years. Since the subprojects were small and their implementation decentralized, they were easy to carry out in a short time. From late 1993 to end-1996, some US\$338.6 million was disbursed under the R-NRDP compared with US\$302.1 million during the entire implementation period of the original NRDP, which ran from 1985 to late 1993. An important contributing factor was the overwhelming political support for the R-NRDP, which led to more timely and adequate provision of counterpart funding by the States (van Zyl, Sonn, & Costa 2000).

**Targeting.** R-NRDP provided significant benefits to poor rural communities while better targeting the poorest segments of the population. Participatory subproject selection made it more difficult for better-off town and village residents to access project benefits. Moreover, the most popular subprojects included public goods to which more affluent community members already had access—56.1 percent focused on infrastructure such as electrification and water supply. This is not to suggest that there were no cases of local elites exercising influence on subproject selection, and some studies of the late 1980s and early 1990s point to this issue. However, the incidence of such pressures dropped off significantly under the R-NRDP and would continue to decrease steadily under the second and third phases described below. Throughout the R-NRDP, about 890,000 families benefited from at least one subproject in rural areas across the Northeast, and that number rises to 1.2 million when repeaters—families that benefited from both R-NRDP and APCR—are included. Living conditions in participating communities improved, particularly in terms of access to basic infrastructure and improved health (van Zyl, Sonn, & Costa 2000).

The same study also found that investments funded by the Program “were of good or satisfactory technical quality, and were less costly than projects of similar type and quality when executed by public agencies—e.g., municipal, State, and Federal” (van Zyl, Sonn, & Costa 2000: 102). The approach of having CAs contract subproject implementation to private firms also resulted in shorter implementation periods. Moreover,

since CAs were responsible for supervising subproject implementation, they demanded high-quality and timely work and refused to pay until they were satisfied with results (van Zyl, Sonn, & Costa 2000).

**Economic returns.** The same study estimated that the simple purchasing of materials used in the R-NRDP subprojects generated US\$18.4 million in yearly tax revenues. Successful productive subprojects also generated additional tax revenues from increased production, especially those that focused on more dynamic sub-sectors and had good linkages to markets. In these cases, decentralized, client-oriented agricultural extension services were very important for spreading new technologies. The R-NRDP investments also generated significant cost savings for municipal governments. As one example, during the period analyzed in the 2000 van Zyl, Sonn & Costa study, the rural water supply subprojects saved municipal governments an estimated US\$7 -15 million a year in costs previously associated with having to deliver water by truck to rural communities.

**Unintended Benefits.** Although not designed specifically to achieve structural changes in Northeast agriculture, the R-NRDP proved valuable for assisting many landless families who had not been reached by other programs, including the original NRDP. Furthermore, land reform beneficiaries also became active clients of the R-NRDP, because it gave them opportunities to obtain basic investments other than the land provided by the Federal government's land reform program (van Zyl, Sonn, & Costa 2000).

**The FUMAC Experience.** Not content with simply scaling up the APCR experience, the R-NRDP also included a pilot for even greater decentralization of decision-making from the State level to the project municipal councils. This was known by its Portuguese acronym of FUMAC (*Fundo de Apoio Comunitario*), and impact evaluations concluded it should definitely be scaled up. In municipalities with R-NRDP Municipal Councils (MCs) which piloted FUMAC, the “*clientelismo*” or paternalism traditionally associated with development efforts in the Northeast was giving way even more quickly than in other R-NRDP municipalities to genuinely participatory and transparent decision making. The open public meetings of the FUMAC model enhanced “social control” over project investments, there was greater awareness of the program and more active community participation under FUMAC, and in some cases mayors were beginning to use the MCs also to make decisions on non-project investments (van Zyl, Sonn, & Costa 2000).

**Virtuous Cycle.** As positive results materialized, state and local politicians not only *did not oppose* R-NRDP Program interventions, but they *collaborated* in moving projects forward. A virtuous cycle developed: by providing essential infrastructure and social services to poor rural communities, the Program enhanced the perceived effectiveness of States and municipalities in the Northeast, and this in turn helped to build political support for the Program (Cunha Lima, Interview, October 2005). State and local officials found that they could reach more beneficiaries—and constituents—with scarce resources more quickly than had been possible under previous development programs.

This growing political support became an important asset for the R-NRDP, which translated into a wide variety of helpful actions. State and local officials pressed the State technical units to accelerate sub-project processing. In Sergipe and Minas Gerais the State governments strongly encouraged public electricity companies to help with counterpart funding to expand the reach of the Program more quickly. At the local level, some mayors contributed municipal funds directly to cover counterpart funding, especially in relatively poorer States with more serious fiscal problems, such as Maranhão and Piauí. Others helped with project-related costs by financing some technical assistance needs, supporting the operation of MCs, and negotiating with wealthier members of rural communities to help financially with subprojects. (van Zyl, Sonn, & Costa 2000).

Building on the success of the R-NRDP, the Northeast States decided to follow it up by taking out their own loans (with the guaranteed of the Federal Government) from the World Bank to further scale up this CDD-based Program. Beginning in 1995, all the Northeast States prepared projects along the lines of the approach used in the R-NRDP, with small variations among them and with continuous improvements based on Program implementation experience and lessons learned.

## **Phase Two: The Rural Poverty Alleviation Program (RPAP)**

The Brazilian administration that came to office in January 1995 designated the Northeast region a priority area for public development programs. The positive impact of the R-NRDP and the overwhelming demand for investments in poor, rural communities led the state governments to seek further financing from the World Bank to expand the Program. The resulting Rural Poverty Alleviation Program (RPAP), which began in 1995,

financed eight loans to the States of Maranhão, Piauí, Ceará, Rio Grande do Norte, Paraíba, Pernambuco, Bahia, and Sergipe (Table 2.1).<sup>9</sup>

**Table 2.1 Rural Poverty Alleviation Program (US\$ million)**

<i>Project</i>	<i>Total project cost</i>	<i>Loan amount</i>
Bahia	158.0	105.0
Ceará	97.9	70.0
Maranhão	106.7	80.0
Paraíba	79.8	60.0
Pernambuco	46.75	39.0
Piauí	37.6	30.0
Rio Grande do Norte	31.3	24.0
Sergipe	57.4	36.0
<b>Total</b>	<b>615.45</b>	<b>444.0</b>

*Source:* World Bank

While following the same principles as the R-NRDP, the RPAP differed in several ways. First, the World Bank lent directly to the State governments with the Federal Treasury guaranteeing the loans. This move sought to reinforce the principle of decentralization and increase the incentives for well designed and relevant projects; strengthen Program management; increase accountability; and improve sustainability.

The RPAP also extended the highly successful FUMAC pilot into many more municipalities in each participating State and established clearer rules for the composition and operation of FUMAC Councils'. A system of operational incentives for good performance and penalties for straying from project guidelines—e.g., misappropriating resources, mis-targeting of project benefits, faulty subproject design, insufficient community participation, or lack of proper operation and maintenance—raised the level of transparency and accountability in the Program. To help the MCs resist political influence and to strengthen participation and transparency, RPAP increased representation of community associations and local civil society to at least 80 percent of all voting members on the Councils. Strong supervision, monitoring and ex-post auditing reinforced these arrangements.

In the spirit of experimentation that permeated the Program, RPAP introduced a new pilot mechanism, the Pilot Municipal Community Fund

<sup>9</sup> Although the states of Alagoas and Minas Gerais also prepared proposals to obtain State loans for this generation of CDD projects, neither was able to obtain the guarantee of the Federal government due to fiscal problems.

(*Fundo Municipal de Apoio Comunitario – Piloto*. FUMAC-P), in which selected MCs would set priorities, approve subproject proposals, and finance them within an indicative annual budget envelope delegated by the State technical unit. Budget allocations were based on Annual Operating Plans prepared by the participating FUMAC-P councils and approved by the State technical units.

The selection criteria for FUMAC-P pilot municipalities included: exemplary performance of MCs under the R-NRDP and favorable environments for participatory work—e.g., extensive community organization, municipal officials open to participatory decision making. To be selected for participation in the FUMAC-P pilot, it was also necessary to demonstrate capacity to manage financial resources—e.g., where community associations were already managing small businesses on an individual or group basis and had members who could also serve on FUMAC-P Councils.

**Targeting.** The RPAP also strengthened targeting arrangements, based on poverty-related criteria at the municipal, community, and beneficiary levels. This targeting occurred at four levels:

- among municipalities by poverty level and other municipal characteristics;
- within municipalities by targeting specific rural settlements, communities and particularly vulnerable groups by project MCs;
- self-targeting when poor beneficiaries self-select themselves into CAs; and
- project-based selection, as CAs tend to select types of projects to which the better off already had access.

**Standardizing Subproject Design.** For simplicity and efficiency in subproject preparation, evaluation and supervision, and to facilitate procurement of goods and minimize design deficiencies, the RPAP Operational Manual established standard engineering designs, technical and financial parameters, and cost indicators for the most frequently requested subprojects—e.g., water supply, rural electricity, latrines and cisterns.

**Simple, Basic Rules.** The Operational Manuals also included a small number of easily understood basic rules which would be enforced throughout the Program. For example, environmental assessment criteria were set and routinely monitored during subproject supervision. Evidence had to be provided regarding sustainability and maintenance capacity of

the community association. Finally, RPAP continued to emphasize the use of only a short negative list of investments which the Program would *not* finance, leaving the greatest possible freedom to communities to propose interventions they considered priorities for their own specific situations.

**Technical Assistance.** RPAP introduced a premium worth up to eight percent of subproject costs to finance technical assistance for community associations and MCs. An extremely important feature was that the community associations were responsible for contracting the technical assistance themselves. This differentiated the RPAP from many CDD programs elsewhere, under which NGOs or other intermediaries manage such technical assistance. This technical assistance feature improved the quality of RPAP subproject proposals and implementation, enabled the poorest areas to participate more actively, fostered community capacity and empowerment, and strengthened communities' capacity to provide appropriate operations and maintenance. It also encouraged the involvement of the most competent non-governmental organizations (NGOs), local development agencies, and technical assistance providers because they had to demonstrate their usefulness to the satisfaction of the community associations, which had the money to pay. Finally, it helped Municipal Councils to improve their planning, management, and financial capacity.

**Productive Investments.** The goal of sustainability demanded that productive subprojects financed by the RPAP be subject to rigorous selection, preparation, technical assistance, and supervision. Eligible subprojects had to provide services for a large number of community members, regulate their collective use within strict operational guidelines, and ensure proper operation and maintenance by charging both association members and nonmembers adequate user fees. RPAP also limited such investments to a one-time grant per community association, intended to serve as seed capital in cases where the CAs were simply not yet on the radar screens of credit institutions. Even with these provisions, experience would show that the productive investments were more problematic than other categories of subprojects. The most successful experiences were those where the investments were fairly simple and the output could be marketed locally and those involving more dynamic sub-sectors) In cases where products needed to be marketed outside the local community, only those subprojects for which specific efforts were made to link the rural communities to such markets tended to succeed, as has also been the case in the later stages of the program.

**Supervision.** The State technical units increased the rigor of their subproject supervision and sometimes hired NGOs for external assistance. Supervision took place both *during and after* the execution phase, and this contributed subproject sustainability. The States' monitoring and evaluation systems expanded to include a wider range of project impact indicators and performance benchmarks. This improved subproject assessment, and provided feedback to sharpen targeting, raised efficiency, and proved to be an effective management and planning tool for technical units.

As the RPAP neared completion, in the year 2000, the governors of all ten Northeast States, representing five different political parties, wrote a joint letter to the President of Brazil, identifying the RPAP as an essential Program for fighting rural poverty. They requested Federal guarantees for additional loans from the World Bank to expand further this CDD Program. The Federal government responded positively and agreed that borrowing should be done in two stages, calibrated to each State's indebtedness capacity and to demonstration of successful results.

### **Phase Three: The Rural Poverty Reduction Program (RPRP/PCPR)**

The lessons learned while implementing the RPAP provided a solid foundation for designing the follow-up Rural Poverty Reduction Program (RPRP, or PCPR as it is known in Brazil), under which the Northeast States would borrow in two stages, as agreed with the Federal government. First stage projects have been implemented in Bahia, Ceará, Pernambuco, Piauí, Rio Grande do Norte and Sergipe. The States of Maranhao and Minas Gerais are implementing first stage projects, and Paraiba is beginning implementation of its first stage project. Loans for second stage projects have been approved for Bahia, Ceará, Pernambuco Piauí; Rio Grande do Norte and Sergipe (Table 2.2).

**Table 2.2 Rural Poverty Reduction Program (US\$ million)**

<i>Stage I</i>			<i>Stage II</i>		
<i>State/Project</i>	<i>Estimated project cost</i>	<i>Loan amount</i>	<i>State/Project</i>	<i>Estimated project cost</i>	<i>Loan amount</i>
Bahia <sup>1/</sup>	75.0	54.4	Bahia	75.0	54.4
Ceará	50.0	37.5	Ceará	50.0	37.5
Maranhão	41.4	30.0			
Minas Gerais	48.3	35.0			
Paraíba	27.9	20.9			
Pernambuco	40.0	30.1	Pernambuco	40.0	30.1
Piauí	30.0	22.5	Piauí	30.0	22.5
Rio Grande do Norte	30.0	22.5	Rio Grande do Norte	30.0	22.5
Sergipe	28.0	20.8	Sergipe	28.0	20.8
<i>Subtotal</i>	<i>370.6</i>	<i>273.7</i>	<i>Subtotal</i>	<i>253.0</i>	<i>187.8</i>
<b>Total Project Cost(Stages I and II)</b>	<b>623.6</b>				
<b>Total Loan Amount</b>	<b>461.5</b>				

1/ An additional financing operation of \$30m is also about to be negotiated for the State of Bahia.

Sources: World Bank.

### *Continuing to Build on Lessons Learned*

Consistent with the evolution of the CDD Program since its inception under the NRDP/APCR in the mid-1980s, the design of the RPRP projects incorporated lessons learned to that point in order to further improve and scale-up their impact (Box 2.1). The most significant improvements were: (i) a stronger emphasis on building social capital and enhancing public governance at the local level, and (ii) closer local integration between the RPRP and other programs by strengthening the capacity and expanding the reach of the project Municipal Councils. In large States, technical units also opened regional offices to enhance decentralization of decision-making,

### **Box 2.1 Further Improvements in CDD Program Design - the RPRP**

- Fostering closer local-level integration of development policies, programs and projects by helping Municipal Councils extend their role in mobilizing non-project funds, priority setting, and decision making on resource allocation of other state and federal programs
- Using the UN Human Development Index as an input to decision-making on the allocation of project funds among municipalities, and as information for Municipal Councils to consider in selecting among subproject investment proposals
- Encouraging Municipal Councils to “graduate” communities that reach a certain level of development
- Helping to forge linkages to formal credit institutions for community associations that satisfactorily complete productive subprojects
- Revising and strengthening of program management information system (MIS) with real-time on-line monitoring of the full project cycle with UT linked to local/regional offices.
- Undertaking more comprehensive impact evaluation
- Improving transparency by maintaining web sites with open access to project information and implementation progress
- In large states, establishing regional offices of state technical units to facilitate interaction with beneficiaries and improve supervision

Source: Brazil project team.

facilitate their interaction with MCs and beneficiaries, and to improve supervision.

**The Role of MCs.** Over the course of the RPAP, an increasing number of Municipal Councils proactively leveraged funding from other sources and helped decide how to use non-project funds. The RPRP encouraged this by providing MCs with training and technical assistance to expand their input into broader local planning, improve the integration of policies and programs, and intensify the impact of public resources targeted to poverty reduction. The projects also expanded the MCs’ capacity and supervisory responsibilities, furnishing them with supervision training. Many of them have computers and information technology. Finally, technical advisers were recruited to support the MCs in their analysis of CA proposals and in supervision of the subprojects which the MCs had approved.

**Targeting.** The RPRP projects improved targeting by using the United Nations Human Development Index (HDI)<sup>10</sup> as a guide at the municipal level. The projects allocated a minimum level of funding to each poor rural municipality in each State, and provided additional funds to the poorest and neediest areas with the lowest HDI scores. MCs were encouraged to consider HDI indicators in their decision-making about priorities. RPRP also made efforts to increase the meaningful involvement of civil society—e.g., NGOs and other civil and church groups—in helping to increase the flow of information, mobilizing the poorest groups, and supporting community training activities. Subsequent impact evaluation would show that many MCs decided themselves to prioritize CAs which had not yet received any subprojects, before approving a second investment for the same group, and this also helped to enhance targeting by continually extending the RPRP towards poorer areas (Binswanger et al, 2006).

**Graduation.** To reach as many beneficiaries as possible, the RPRP initially aimed to “graduate” communities once they became sufficiently developed to continue without further support. However, neither the State technical units nor the MCs could easily determine a “minimal acceptable level” of core public services (water, sanitation, electrification, etc.) to use as a criterion for making such decisions. The operational rules of the RPRP therefore did not press for graduation as far as such basic infrastructure and services was concerned, but did maintain a rule of not financing more than one productive sub-project for any individual CA.

**Productive Investments and Links to Formal Credit.** RPRP continued to provide CAs with one-time investment matching grants to finance productive subprojects when they lacked access to formal credit, after which MCs graduated them from such support. At the same time, the RPRP made a major effort to link communities graduating from productive projects to sources of formal credit. Representatives of the Bank of the Northeast, Bank of Brazil and other credit institutions began participating in MC meetings in the different states, and now a large number of community groups have moved from the matching grants to credit.

**Monitoring and Evaluation.** The RPRP introduced an enhanced management information system (MIS) with real-time, on-line monitoring of the full sub-project cycle. It also developed an evaluation framework for measuring

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<sup>10</sup> HDI measures at the municipal level basic human achievements in life expectancy at birth, knowledge (measured by the adult literacy rate), and living standards (measured by GDP per capita) UNDP (2001).

impact through independently-executed repeater surveys of beneficiaries and control group panels, with a view to strengthening the capacity to assess the program's poverty alleviation impact and identify needs for course corrections. In practice the implementation of control group panels proved to be more challenging than originally anticipated.

**Transparency of Information.** Finally, to increase transparency, the State technical units designed project web sites allowing open access to information on project activities, finances and implementation progress.

### *Fine-Tuning and Scaling-Up*

At present, the RPRP operates through a vast number of MCs across the Northeast, and the majority of States are either implementing second stage projects or are in the process of contracting Bank financing to do so. The State of Bahia had already committed almost all of project financing in the first 18 months since project approval -- an indication of the formidable implementation capacity which has been developed under this CDD program.

As with earlier CDD generations, design of the latest RPRP projects reflect lessons learned through fine-tuning of some features—with the overall objective of scaling up impact.

**Emphasizing Human Development.** The most recent RPRP projects not only take HDI indicators into consideration, but set explicit targets for moving participating municipalities and communities up the HDI scale. The strategy for achieving this calls for efficient execution of the RPRP projects themselves, but also – and perhaps more importantly – for using the skills, social capital, and experience of the MCs and CAs *also* to improve the relevance, efficiency, sustainability, targeting, and outcomes of non-project state and federal investments in participating States.

**Social Inclusion.** The RPRP has already been quite successful in assisting traditionally marginalized groups, but the second stage projects will redouble efforts to do so by encouraging financing for social inclusion subprojects to broaden participation households belonging to such groups. More than proportional allocation of funds in favor of the poorest municipalities also helped in improving targeting.

**Linking Small Farmers to Markets.** During the latest stages of the RPRP emphasis has been given by the communities themselves and by the state governments to productive, income generation sub-projects and to linking

these communities or clusters of communities to national and international markets. Experiences conducted since 2003, are being scaled up, as discussed in the final section of this chapter, on Latest Developments.

**Environmental Considerations.** The RPRP has been deepening attention to environmental protection and conservation, through training for MCs, CAs and technical staff to strengthen their capacity to understand and address environmental issues and ensure greater sustainability at the local level. RPRP is also introducing a new category of investment—environmental subprojects—and will facilitate access to environmental expertise to develop such activities. Finally, the RPRP is piloting regional development subprojects that involve several municipalities and MCs in a coordinated effort to address common environmental challenges.

## **Tackling the Question of Land Reform Using a CDD Strategy**

Brazil has one of the most unequal distributions of land assets in the world (World Bank 2003b). Limited access and extreme inequality of land ownership has traditionally been among the central factors in the rural poverty equation in Brazil, particularly for the 16.8 million people in the rural Northeast. Consequently, land reform remains an important consideration for any rural poverty reduction strategy to create a cost-effective, sustainable source of income for poor families.

Beginning in 1960s, consecutive Brazilian governments have tried a variety of strategies to deal with the land issue, including both small components in larger development programs and large-scale stand-alone land reform programs. In the Northeast, programs such as *Sertanejo* and POLONORDESTE supported some land titling, land purchase and redistribution activities. The World Bank also financed a more comprehensive Northeast Land Titling Project, and the Brazilian government funded larger scale land reform programs which generally emphasized expropriation and resettlement. None of these efforts made a significant impact on the magnitude of the land problem. In general they all suffered from some of the issues that plagued other development efforts, including heavy centralization of decision-making, slow execution by weak public institutions, and periods of great macroeconomic instability during which program financing was both irregular and inadequate. In addition, given their objectives, they were often seen as ‘zero-sum’ games between winners and losers, with the players frequently resorting to violence and/or pursuing

lengthy challenges through the judicial system that delayed results and usually increased final costs.

During the 1990s, rural unrest and calls to action by civil society put increasing pressure on the Brazilian government to intensify its focus on land reform. Coincidentally, economic stabilization efforts of the time made land reform more feasible, chiefly because they eased the economic distortions that had historically promoted land concentration. For example, the government sharply cut agricultural credit subsidies, and raised the rural tax on non-productive land from a minimum 4.5 percent to 20 percent. Combined with declining inflation, these reforms made it less attractive to hold land as a financial hedge. This increased the potential supply of land and reduced its price, especially in the Northeast.

In 1995, the Federal government committed to effective land reform as an instrument for reducing poverty and set a target for resettling 280,000 families by 1998. The President appointed a federal Minister for Agrarian Reform (now known as Agrarian Development) and the federal land reform budget increased steadily. As mentioned above, past attempts at land redistribution—mainly expropriation with compensation—had had a mixed record. The government therefore looked also for viable, cost-effective alternatives to complement its traditional land reform schemes, with the goal of accelerating results and minimizing conflict.

Seizing the opportunity provided by the increasingly successful CDD experience in the Northeast, the Brazilian government and the World Bank agreed to test a new methodology in a pilot land reform component in the State of Ceará's RPAP project. The pilot was so successful that they soon decided to refine and expand the model to five other Northeast States through a new Bank-financed Land Reform and Poverty Alleviation Pilot Project, known by its Brazilian name *Cédula da Terra*<sup>11</sup> The five States were chosen 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 RPAP. Once again the results were both quick and impressive, and Federal government expanded the scheme to encompass nine Northeast States, three States in the South and two in the Southwest region, under the Land-Based Poverty Alleviation Project I, known as *Crédito Fundiário*.<sup>12</sup>

Today *Crédito Fundiário* forms part of the National Agrarian Reform Plan of the Brazilian Government (2002–present), coordinated by the Ministry of Agrarian Development in partnership with the participating states and the

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11 The five States were: Maranhão, Ceará, Pernambuco, Bahia and Minas Gerais.

12 South: Paraná, Santa Catarina and Rio Grande do Sul, Southwest: Minas Gerais and Espírito Santo

National Confederation of Agricultural Workers (CONTAG, representing 25 million rural workers), major civil society organizations and the World Bank. Under the Plan, 530,000 families, including 50,000 *Crédito Fundiário* families, were to be settled.

### *Cédula da Terra and Crédito Fundiário*

*Cédula da Terra* was the first free-standing community-based land reform project in World Bank history. By the time the project closed in late 2002, it had settled some 16,000 families on about 425,000 hectares (including results of the Ceará pilot). The cost per family (for land only) was only about US\$1,700. and per hectare about US\$65. *Cédula da Terra* sought to test demand, governance, administrative features, and outcomes under an innovative approach to poverty reduction through land reform based on CDD principles.. The follow-on *Crédito Fundiário* also continued with the objective of reducing rural poverty and increasing incomes, this time through now-tested community-based participatory mechanisms.

### Guiding Principles

The core principles of the *Crédito Fundiário* model are: (i) decentralization, (ii) community-based decision-making, (iii) voluntary transactions between willing sellers and buyers, (iv) civil society participation to ensure transparency and (v) timely support for complementary investments to enhance the productivity of purchased lands. The methodology features associations of poor rural laborers and subsistence farmers, who select, directly negotiate, and obtain financing to buy agricultural properties from willing sellers. Each family receives an amount of between R\$12,000 and R\$18,000<sup>13</sup>, depending on the region, with a loan for land purchase complemented by a matching grant to pay for initial on-farm investments (on infrastructure, social and productive sub-projects) to boost production/productivity. Essentially, the total amount of assistance per beneficiary family is roughly the same in any one region; however, beneficiaries can decide to

*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, January 2003

<sup>13</sup> The exchange rate at the time of appraisal was US\$1.00 to R\$2.93

spend more money on more expensive land of better quality, or which already has fixed assets in place, and spend less on complementary investments, or vice versa. Families also receive a separate settlement grant of R\$1,300<sup>14</sup> to tide them over their first year on the farm. Grant funds are disbursed directly to a beneficiary association's bank account. After purchase, families decide internally on division of the land and corresponding family loan repayment obligations.

### **Institutions**

*Crédito Fundiário* uses CAs similar to – but not necessarily the same as – those operating under the RPRP. The Federal Ministry of Agrarian Development exercises oversight through its national technical unit, which is responsible for supervising the State technical units. The State technical units review and approve subproject proposals, supervise implementation progress and quality, organize information campaigns, training, fulfill specific reporting requirements and operate the Management Information System (MIS). The National Confederation of Agricultural Workers (CONTAG) 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-level federations (FETAGs) and at the municipal level through the local rural workers' unions (*sindicatos*). The latter have become indispensable partners, supporting program dissemination, community mobilization and organization, efforts by CAs to identify and negotiate the purchase of available properties, preparation of proposals to *Crédito Fundiário* for financial support, program evaluation and technical assistance. Meanwhile, semi-public bodies such as SEBRAE (Brazilian Service for Support to Micro and Small Enterprise) also conduct specialized community training, and various churches and about 180 NGOs are active in community mobilization.

### **Preliminary Results**

Well-funded approaches to monitoring, evaluation, and information dissemination have already produced a large body of research findings on the Cédula da Terra and *Crédito Fundiário* programs. Preliminary results have shown that land quality was satisfactory and purchase prices were much lower than the prices paid for traditional land expropriation in the Northeast (the latter prices are often even higher by the time the expropriation process is concluded, as owners often successfully pursue stronger compensation through the court system). Self-selection for participation

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<sup>14</sup> In 1998 the average family participating in the project earned R\$2,057 annually (73 percent of the minimum salary).

has sharpened poverty targeting and commitment to the settlement process.

A study in 2003 by the University of Campinas (UNICAMP) found that gross income had risen by 181 percent over the period from 1998, when families had first settled, to 2003.<sup>15</sup> Monthly per capita incomes equaled R\$122, well above the R\$70 poverty line used by the Brazilian government at that time. When families initially settled the properties, 16 percent of their income came from agriculture and livestock activities. By 2003, the percentage had increased to 65 percent. Family farms initially concentrated on basic subsistence—rice, beans, maize and manioc combined with small-scale animal/poultry raising. Once housing and these basic productive activities were established, more complex, diverse and higher-value activities were slowly introduced, varying by state and agro-ecological zone.

Furthermore, analysis showed sufficient agricultural productivity and household cash flows to manage loan repayments after the three-year grace period, as well as the potential to achieve significant increases in household income over the long run. Most families save to a common fund to repay the loan, and repayment rates have been exceptionally good.

Finally, social capital has increased as residents formed CAs, identified land to buy, negotiated with owners, planned and executed on-farm investments, and applied for credit. The UNICAMP evaluation found that “many beneficiary associations originally formed for the purpose of participating in the project were now independently and democratically renovating their leadership group, a promising indicator of social capital growth (and institutional stability)” (Roumani, 2004b:10)

*Before, we lived in tents on [other people's] lands or in lean-tos paying rent. We only worked one or two days a 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,*

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15 University of Campinas, São Paulo (Buainain & Fonseca 2003), in collaboration with the Ministry of Agrarian Reform, the National Technical Unit (Center for Agrarian Studies/NEAD), and the World Bank. 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 were also compared on rural families with similar characteristics to project beneficiaries, from the National Household Survey (PNAD) and other official sources.

*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 pays the teacher. Our lives have improved a lot.*

—Sra. Josinete de Jesus, Fazenda Itariri, Conde, State of Bahia, January 2003

Further evaluations of the program by the *Escola Superior de Agricultura Luiz de Queiroz (ESALQ)* between 2003 and 2005 provided information on improvements in incomes and social welfare of beneficiary families. Based on field data collected in 2003 in 9 of the 14 participating states and about 70% of all sub-projects implemented until then, the study concluded that the project was reaching the intended beneficiary population. Average family income at the time was R\$138/month, school attainment was low and a high proportion of beneficiaries were illiterate. ESALQ returned to a representative sample of the same projects in 2005 to study project impact on beneficiaries' lives, with the following results: (a) average family incomes had risen 145%; (b) the number of families with access to technical assistance had increased from 3% to 65%; (c) the proportion of beneficiaries able to make improvements in their property so as to actually live on site had risen from 8% to 66%; (d) housing quality had evolved significantly (the number of brick homes increased from 48% to 99.5%); and (e) production had increased from 37% to 82%, and processing of agricultural products from 20% to 59%. The ESALQ report concluded that in the aggregate, actions under the project had enabled families to improve incomes, generate new productive activities, and access other social programs in education, health and culture.

As with the Brazil Northeast RPRP, *Crédito Fundiário's* flexibility has permitted adjustments based on research findings, changing circumstances, and evolving experience. The program has been scaled-up over time, both in terms of the number of beneficiaries, participating States, and the volume of financing from the World Bank and the Brazilian government.

To date, some 52,000 families or around 260,000 people have been settled by *Cédula da Terra and Crédito Fundiário*. Proposals for an additional 12,200 families are ready to be sent to banks and 23,000 additional requests are at varying level of processing by the technical units of the 14 states involved in the program. In late 2008, the Brazilian government incorporated the operational principles of *Crédito Fundiário* into its own legislative framework, thereby ensuring the longer-term sustainability of this innovative approach to improving access to land by the rural poor.

As in the case of the Rural Poverty Reduction Program, representatives of many countries (including Malawi, Zimbabwe, South Africa,

Guatemala, Honduras, Bolivia, Paraguay, Cambodia, Panama and El Salvador) have visited this access to land program using a CDD approach, to identify lessons and experiences from Brazil that may be applied in their countries, and some of these have already proceeded to implement similar programs.

## Latest Developments

Several important developments have been taking place in the last few years, which deserve special mention. During 2006-2008, the RPRP program financed some 4,000 additional sub-projects for about 3,300 community associations and benefiting a further 200,000 families (or about 860,000 people). Observable trends include: (a) a shift in the profile of sub-project types prioritized by the community associations. The incidence of productive sub-projects focusing on increasing incomes and employment rose from an average of 20% during 1993-2005 to 35% in 2006-2008. Equally important has been (b) the emphasis on forging linkages between small producers and national supermarket chains and markets in Europe and the US; and (c) the increasing use of the program's participatory institutional mechanisms (community associations and Municipal Councils) for the delivery of other state and federal programs, thereby scaling-up the impact of the program beyond the Bank-financed projects.

The large number of organized community associations and the social capital created during the implementation of the CDD program since 1993; the data available in the program's Management Information System regarding community organizations, location, composition, type of production, the significant improvements in local infrastructure supported by the program, and the capacity of the technical units to support organization of clusters of community associations with similar production activities, are now allowing program beneficiaries to access opportunities created by the globalization process. The interest of private enterprises and some multinational companies in being associated with programs that help to reduce poverty or improve the environment, or both, is also helping to support this new trend.

Both in the European Union and the US there is a growing demand for quality products from developing countries which specifically help to reduce poverty and are environmentally sustainable. In the EU alone, this demand is estimated to have increased by some 25% p.a. during the last ten years. The Fair Trade initiative with its 2,700 stores in Europe and annual sales of about US\$900 million has also contributed. In the case of

Brazil, national supermarket chains operated by multinational companies (Carrefour, Wal-Mart, Casino Group) have demonstrated interest in purchasing products from small farmers.

Realizing this potential certainly involves overcoming certain challenges, such as the need to ensure adequate volumes and quality, appropriate sanitary conditions in the production process, access to proper certification and to financial services (pre-export financing), among others. However, the fact that more than 1,000 community associations are already exporting to European and U.S. markets, and a similar number of communities are selling to national supermarket chains, clearly indicates that organized clusters of small farmer community associations can benefit from the globalization phenomenon. During recent visits, representatives of European and U.S. importers, while recognizing difficulties which need to be addressed, have been extremely impressed with what has been achieved under the RPRP/PCPR in terms of both the degree of organization and the very large number of small producer community groups which have been formed and established a track record of participatory decision-making, management of financial resources and implementation of investment activities. The absence of such conditions has often limited efforts to link small farmers with markets in other countries.

Some of the approaches which have proven successful in linking small producers in the Northeast to markets have included:

- Direct exports by clusters of communities – examples over the past two years include exports of cashew nuts (both organic and regular) to Switzerland, Italy and other European countries, exports of honey to the U.S.; sales of handicrafts to both Europe and the U.S. (e.g., Renaissance fabric/lace for fashion markets in New York); and other products involving some 7,500 families and about US\$15million of exports.
- Contracts between clusters of communities and supermarkets chains -- examples include sales of milk, yogurt and cheese to Wal-Mart; goat milk, cheese and yogurt to Carrefour and some regional supermarkets chains (Rede Mais); vegetables and fruits to the Pão de Açúcar chain (Casino Group from France); and handicrafts to Sao Paulo department stores involving 1,500 families which have had their annual incomes increased by an average of US\$ 1,800 per family.
- Partnerships with “anchor” enterprises -- examples include the export of papaya to the U.S. and Europe by a packing plant owned by a large private enterprise (which provides technical support, classifies, cleans, packages and exports) in partnership with 300 families of small

farmers who produce papaya under irrigation; and bio-diesel production by an enterprise which owns its own pressing plant to produce bio-diesel for national consumption in partnership with 1,800 families of small farmers who cultivate *mamona* seeds (castor oil plant).

- The World Bank and IFC are also exploring opportunities to combine IFC's agribusiness expertise with the Bank's rural development experience in the Northeast in order to strengthen small producer linkages with national and international markets. One such initiative involves a private firm producing organic cocoa, which wishes to increase production by forming a company with other large producers and chocolatiers from Europe and the US. In the vicinity there are 31 community associations under the World Bank financed *Crédito Fundiário* (land reform) program, presently cultivating 3,250 has of cacao. The objective will be to combine the demand for additional cacao, which could be met by small farmers, with the technical support by the company to raise the quality of the cacao they produce, thereby accessing international markets at higher prices.

Another important development during the past few years has been the use of the RPRP's participatory institutional mechanisms by other Federal and state programs (by entering into agreements with the RPRP Technical Units to coordinate activities, applying the same rules of the game in terms of the role of community associations, municipal councils, and direct transfer of resources to communities). This has led to financing by those Federal and states programs of about US\$5 -10 for each US\$ 1 of World Bank financing – thereby scaling up significantly the impact of the RPRP. Examples of Federal and State agencies working in partnership with the RPRP include: *FUNASA* (National Foundation for Sanitation Improvements), the Ministry of Social Development; the *Caixa Economica Federal* (Federal Savings Bank), and the Ministry of Agrarian Development. As a direct result of these partnerships, the incidence of social sub-projects (sanitation, housing improvements, etc) has risen from 5% in 1993-2005, to 22% during the period 2006-2008.



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## Chapter Three

### How the CDD Program in Northeast Brazil Actually Works

Through a constant process of learning by doing, the CDD Program in Northeast Brazil has continuously evolved since the first pilot program in 1985 under the Northeast Rural Development Program (NRDP). Several key principles have remained the same throughout the entire history of the Program; however, the Program has taken on a life of its own moving beyond community services to local development, regional planning, and linking with national and international markets. This chapter walks through Brazil's CDD process step-by-step to illustrate how Program design contributes to the success and innovative nature of a project.

*The Rural Poverty Reduction Program is an integrated partnership between the World Bank, the Federal government as guarantor, individual State governments, municipalities and civil society. . . . Communities define their priorities, accompany execution and provide counterpart contributions, particularly in terms of their labor. This guarantees a real change—money that actually gets to the communities and has an impact.*

**—Wellington Dias, Governor of the State of Piauí, March 2006**

The discussion covers how the project mechanisms evolved overtime, not with each subsequent mechanism replacing the former, but adding to the options for implementation from which states can choose.

As the process unfolds, the characteristics of openness, simplicity, and flexibility become apparent. These have proven critical to the success of the program.

## Basic Principles and “Rules of the Game”

A few basic operating principles guide the CDD Program in Northeast Brazil:

- *Decentralization.* Decision-making is decentralized to organized community associations (CAs) which act through representative, participatory municipal councils (MCs). This increases ownership of the process and outcomes by all actors, and helps ensure that Program activities actually match the needs which beneficiaries have determined, leading to stronger overall results on the ground.
- *Beneficiary Management of Resources.* Funds for implementation of approved subprojects are transferred directly from a project special account at state level to the CAs’ bank accounts. This reinforces decentralization, reduces transaction time and costs, and ensures that all funds intended to support subprojects reach the intended beneficiaries.
- *Community Active Participation.* Beneficiaries take the lead in setting their own priorities, and participate actively (not just consultation) through their CAs in all phases of planning, cost sharing, execution, operations, and maintenance of investments. This fosters beneficiary ownership of the development process and its outcomes, while building their capacity to solve future problems through cooperative action.
- *Partnership with Local Authorities and Civil Society.* Local authorities and civil society participate actively in the Program. This fosters an environment in which citizen participation gradually becomes the rule of civil discourse rather than the exception to it.
- *Transparency.* Decisions are made in an open, transparent manner, at every level and at each stage in the process of the Program. Information about the Program is disseminated widely and is easily accessible. This increases trust in the system and helps ensure that funds are use appropriately.
- *Simplicity and Clarity.* Simple, explicit and verifiable poverty-targeting mechanisms are used. This helps ensure that the Program actually reaches the rural poor and that funds are not captured by elite groups. Program operating rules are simple and clear so that beneficiaries can readily understand and manage them.

These basic operating principles have been translated into a set of “*rules of the game*” (Box 3.1) to be followed by everyone—and enforced. Both Brazilian government and Bank staff consider that commitment to these rules of the game is the indispensable cornerstone and key to the success of the CDD Program in the Northeast. The rules aim to ensure that all potential beneficiaries in rural areas learn about the Program, that appropriate groups are targeted, subproject investments truly represent beneficiaries’ priorities, CAs and MCs use transparent and participatory processes for subproject selection and approval, nobody diverts Program resources, and CAs implement and maintain investments in the most efficient and cost-effective way.

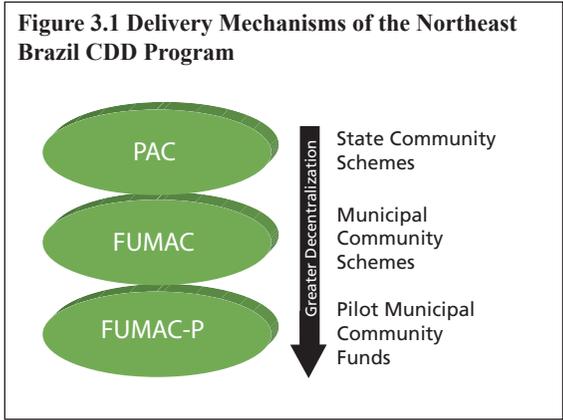
### **Box 3.1 The Basic “Rules of the Game”**

- Each State Technical Unit (STU) must design and implement an information campaign in a way that reaches even the poorest and most excluded rural people.
- The STU must prepare an Operational Manual which will govern all phases of the project process, and it must be complete but simple enough to be usable by all Program participants.
- During the subproject selection and prioritization process, municipal council (MC) representatives (or STU staff in the case of Programa de Apoio Comunitario- PAC) must verify:
  - that the community association (CA) is part of the Program’s target group
  - that a subproject is indeed a true priority of the community as a whole and that all members of the association participated in the decision-making process
  - that the CA has identified and knows how to contact potential providers of services and goods for subproject implementation, and
  - that the CA has agreed upon a plan for subproject operation and maintenance.
- In FUMAC (*Fundo Municipal de Apoio Comunitario*) and FUMAC-P (*Fundo Municipal Comunitario-Piloto*) the STU in each state must monitor the MC decision-making process to ensure that the majority of votes to prioritize subprojects are from actual or potential beneficiaries, and that there is no undue influence on the process.
- Once the STU has reviewed on technical grounds and approved a proposal forwarded by the MC, funds are released directly to the CA bank account which has been opened specifically for this purpose.

### Three Program Delivery Mechanisms

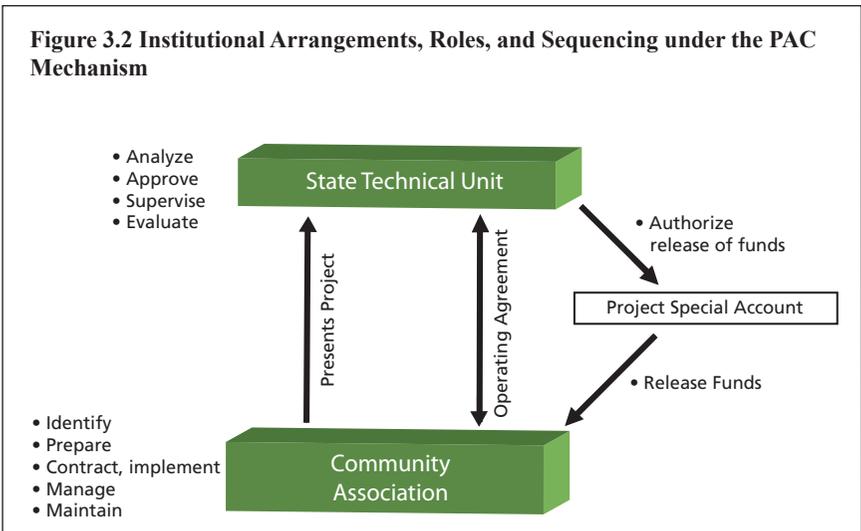
As described in the previous chapter, the Northeast Brazil CDD Program has not employed static mechanisms throughout its life. Rather, it has experimented with different institutional arrangements for decision-making and financing. Three basic options have been developed over time (Figure 3.1).

Starting with the oldest State Community Support mechanism described below, each subsequent mechanism permits a greater degree of decentralization to the municipal level. The capacity level and proven willingness to follow the rules of the game determines which mechanism a particular municipality uses.



#### State Community Support Mechanism (PAC)

Under both the APCR and successor R-NRDP, each State used the State Community Support mechanism (*Programa de Apoio Comunitário, PAC*), illustrated in Figure 3.2. Under PAC, once a CA identifies its investment priority, it prepares and submits a proposal to the State Technical Unit



(STU) for preliminary analysis and approval. The STU performs these tasks on a first-come, first-served basis and according to the following criteria:

- eligibility of the community,
- type and size of the investment,
- evidence of majority support for the subproject among CA members, and
- compliance with technical and cost criteria.

Upon subproject approval, the STU and CA sign a project implementation agreement (*convênio*) and the STU authorizes the release of funds, through a project special account, to the CA's bank account. The CA implements the subproject managing the local shopping process for goods and services, monitoring contractors' progress and the quality of their work, paying contractors and suppliers, keeping financial records, and operating and maintaining the final product. The STU and Bank staff perform periodic supervision and fulfill World Bank reporting requirements.

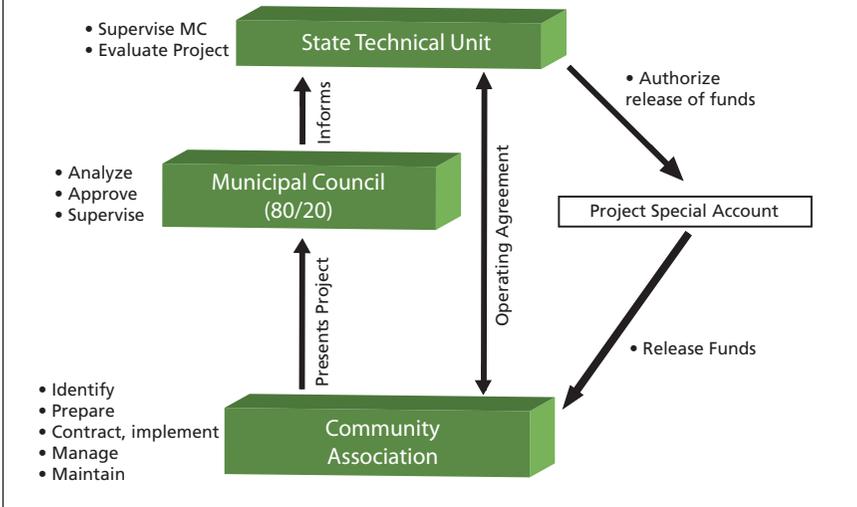
### *Municipal Community Support Fund Mechanism (FUMAC)*

The R-NRDP also piloted a mechanism called the Municipal Community Support Fund (*Fundo Municipal de Apoio Comunitário, FUMAC*). FUMAC was initially implemented in five municipalities in each State, but was subsequently scaled up to include all participating municipalities where conditions were judged to be conducive to successful implementation of this mechanism. FUMAC better integrates Program activities with other municipal investments and improves accountability and transparency through greater local participation in the decision-making process (Figure 3.3). Under the FUMAC mechanism, councils (MCs) are formed at the municipal level, by CAs, municipal authorities, civil society and other stakeholders. CAs submit their subproject proposals to the MC for discussion in open town meetings. Representatives of project beneficiaries hold 80 percent of the voting power in the MC. Using the same selection criteria as the PAC mechanism, the MCs decide on subproject allocations by majority vote (rather than the STU deciding on a first come-first served basis, as under

*One thing we admire about this program is the autonomy of the Municipal Council. This Council is actually a great partner of ours, because Council decisions don't have the stigma of being something ordered or determined by the mayor.*

—Elísio Brito de M. Galvão, Mayor, São João do Sabugi, State of Rio Grande do Norte, Interview October 2005

**Figure 3.3 Institutional Arrangements, Roles and Sequencing under the FUMAC Mechanism**

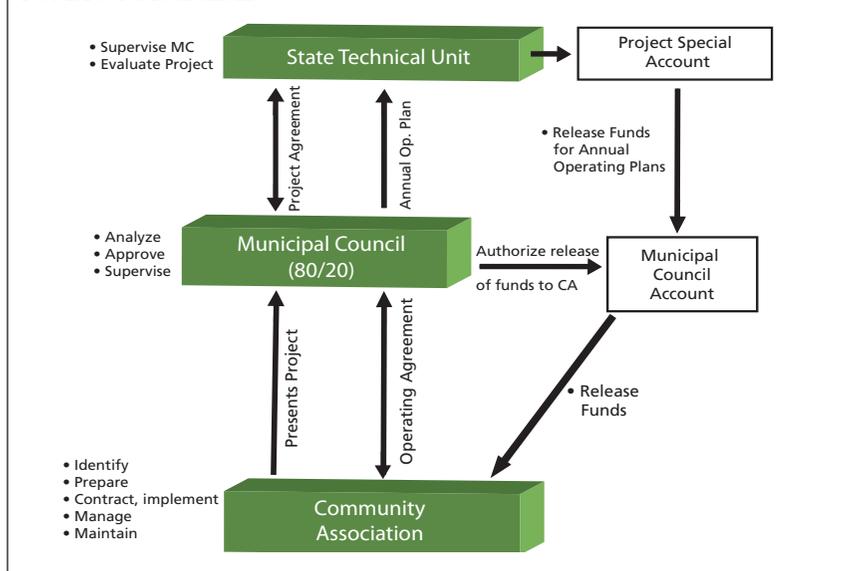


the PAC). Once an MC approves a subproject, the STU and the CA sign a *convênio*, and the STU authorizes the transfer of funds directly into the CA's bank account. Under FUMAC, the STU supervises the functioning of the MCs, in addition to supervising and evaluating subproject implementation. At this time, the FUMAC mechanism is being used in some 95 percent of all Northeast municipalities participating in the Program.

### *Municipal Community Support Fund Pilot Mechanism (FUMAC-P)*

The most recent and most decentralized option used in the Northeast Brazil CDD Program is the Municipal Community Support Fund Pilot mechanism (*Fundo Municipal de Apoio Comunitário- Piloto, FUMAC-P*). This mechanism enhances the role of the MCs by adding funds management to their responsibilities. Instead of funds passing from the STU to the CA after subproject approval, the STU first provides an indicative budget for each MC, the MC prepares an annual operating plan based on that budget, the STU and MC sign a *convênio* based on the MC's annual operating plan, and then the STU transfers funds an annual operating budget to the MC. CAs submit subproject proposals to the MC for open debate and voting. Once cleared, the MC and CA sign another *convênio*, and the MC transfers funds directly to the CA's bank account. The CA implements the subproject and maintains the investment, as under the other two mechanisms. Under FUMAC-P, the MC (rather than the STU) super-

**Figure 3.4 Institutional Arrangements, Roles and Sequencing under the FUMAC-P Mechanism**



vises the subprojects; the STU retains responsibility for overall Program evaluation.

## Roles of the Key Actors

The main actors involved in Program implementation under these three mechanisms are the CAs, the participatory project MCs and the project STUs. This section describes the characteristics of each actor under the Program, as well as the role of the World Bank staff who supervise implementation on behalf of the external cofinancier.

### *Community Associations*

The Program defines a community association (CA) as a self-selected group of people who have identified common needs. A CA does not necessarily coincide with a town or village, but rather is formed based on group priorities. For instance, 50 families located at one end of a village may create a CA to build a water supply system, while 30 families at the other end of the village might establish another CA to invest in a small rice processing facility or to access electricity. The freedom residents have to identify their own priorities mitigates the risk of “elite capture” of Program resources. Poor rural households, including minority groups, usually have very different needs from those of more affluent ones. If the

CAs were geographically based in the sense that they had to represent the entire community, poorer members and others who tend to be excluded from decision-making at the local level might face greater difficulty in having their voices heard and priorities selected. However, under the Northeast CDD Program, these households groups can form their own CAs and submit proposals which they consider reflect their priorities. In the case of productive projects, this freedom also allows people to band together with others they feel would be their best partners for a particular enterprise. This fundamental difference -- between community associations that are based on geographic concepts and the Northeast Brazil voluntary CAs which are based instead on common interests -- distinguishes the Brazilian Program from many CDD schemes elsewhere. This is essential to understanding the structure and functioning of the Brazilian Program, and failure to do so has complicated evaluation efforts by some analysts. The Northeast CAs are responsible for identifying their priorities; preparing and submitting subproject proposals for analysis and approval; subproject implementation, including contracting goods and services and supervising works; operating and maintaining subproject investments; and accounting for all resources used in subproject implementation.

*Today you go to a community and in the first association meeting the people don't talk, they don't participate—they're too timid. But as they begin to gain confidence, they begin to loosen up. We begin to see the leaders start to emerge, and we're surprised because they have brilliant ideas. They know what they want. They discuss their ideas conscientiously and present the most viable alternatives for their community. And, best of all, they have a logical sense and an awareness in terms of environmental preservation. They also have a notion of the economic dimension. . . . So, every day we're learning with these small farmers, these young people, these women, and with everyone we see in our daily work.*

—João Bosco de Medeiros Lima  
 Technical Unit, State of Rio Grande do Norte, Interview October 2005

### *Municipal Councils*

In project Municipal Councils (MCs), 80 percent of the members are representatives of CAs and other civil society organizations—e.g., rural labor unions, religious groups—and the remaining 20 percent come from the local government. This is a second feature which differentiates the Northeast Brazil Program from many other CDD and local development schemes elsewhere, in which municipal authorities predominate in the de-

cision-making process. In the case of the Northeast, this design feature has been instrumental in ensuring that the subproject selection and approval process responds to the expressed needs of local communities, while also considering the needs of the municipality and the fit of Program activities with the municipality's overall municipal investment program. At the same time, involving local authorities formally in the process helps to ensure the institutional sustainability of the Program. MCs enforce the "rules of the game" during the subproject prioritization process and provide technical assistance and other guidance to CAs throughout the subproject cycle. Box 3.2 describes the work of one of the earliest MCs, in Afogados da Ingazeira in the State of Pernambuco.

### *State Technical Units*

State technical units (STUs) are usually situated in the State Planning Secretariats, though some sit in other secretariats, such as Local Planning or Rural Development. The STUs proved especially important at the beginning of the Program. They engaged people in subproject proposal analysis who did not have line agency biases about what the priorities of the rural poor should be, and were conversant with basic financial and economic analysis and sustainability issues. The STU is responsible for overall project administration, oversight, coordination and promotion, often delegating supervisory tasks to the MCs. In large States, the STUs have set up regional offices to give participating communities more direct local support and technical assistance.

### *Local Governments*

Local governments participate in the Program in their capacity as members of the MC, and their inclusion is extremely important for several reasons. First, it helps to ensure the institutional sustainability of the Program in the long run. Second, it is important to ensure that the subprojects become part of the overall municipality development program, complementing other investments rather than substituting for them. Finally, and perhaps most important, changing the way that rural citizens and local authorities interact with each other requires practice. This can only happen when they have opportunities to participate in institutional arrangements that do not replicate traditional patterns of dominance but rather encourage transparent, demand-driven decision making and accountability. Normally the Mayor and other officials hold up to 20 percent of the voting power in the MCs.

### Box 3.2 Afogados da Ingazeira, A Model FUMAC Municipal Council

Afogados da Ingazeira was one of the first municipalities to use the FUMAC mechanism under the Pernambuco R-NRDP, establishing its own Municipal Council in July 1995, with 17 members representing the 10 development “poles” within the municipality. Since then, community organization and popular participation in public investment decisions have flourished.

This FUMAC MC quickly evolved to become the Municipal Council for Community Development (*Conselho Municipal de Desenvolvimento Comunitário*, CMDC), working not only with FUMAC but also with the National Program for Strengthening Family Agriculture (PRONAF), and another Federal government program supporting small farmers. In August 1996, it evolved still further, becoming the Municipal Council for Rural and Urban Development (COMDRUR) with an even more comprehensive set of responsibilities.

The Council has always been concerned with enhancing popular representation and community participation in the decision-making process. To this end, COMDRUR members have not hesitated to revise the Council’s by-laws and statute when necessary. When the original articles did not work in practice or lead to expected results, members introduced changes to reconcile the principles of broad, democratic popular representation and strong community participation, with the imperative of successful and efficient action. The latest adjustment established several Council subgroups: a Popular Forum, an Executive Commission, a General Coordination Group, and technical support groups.

The *Popular Forum (PF)* has extensive membership, including representatives of every association and social group formally or informally organized in the municipality, municipal and state agencies, credit institutions, and local authorities. Regularly scheduled meetings are open to the general public. It is not unusual for 150 participants to debate any issue deemed important for the municipality. The PF is both a center for lively debate on public programs and an arena for strong partnership between civil society and government. It influences public policies, establishes priority objectives, and decides what kind of action should be taken to meet those objectives. The PF evaluates the performance of local government in general and COMDRUR’s Executive Commission in particular. It is the forum for deciding which investments FUMAC should fund.

The *Executive Commission (EC)* consists of 12 members, elected periodically by, and reporting to, the PF. The EC manages funds from both FUMAC and other programs. It also assists beneficiary associations with subproject implementation and follows up on their operation. The *General Coordination Group* articulates the different elements of COMDRUR, while the *Technical Support Groups* advise and guide the CAs.

**Box 3.2 cont'd**

More recently, COMDRUR turned itself into a “social” organization that collects a membership fee from its member associations, offers them technical assistance, and charges them for services provided. National and international non-governmental organizations as well as state agencies, which collaborate with COMDRUR under special agreements or contracts, provide another source of income. The Council is financially autonomous and can count on a respectable pool of technicians to work as service providers and consultants.

COMDRUR distinguishes itself by its ability to put political and party-oriented differences to good use, an attribute that seems characteristic of many MCs in Pernambuco and other Northeast States. It emphasizes seeking the most efficient alternatives for local development, and encourages participation by all segments of local society and across the political spectrum. Above all, COMDRUR has achieved unparalleled levels of social capital accumulation.

***NGOs and Other Civil Society Organizations***

Under the R-NRDP, as in the case of the APCR pilot, NGOs participated broadly in helping to mobilize and provide technical assistance to communities, but the nature of NGO involvement was different than in prior development schemes – and this is a third feature which distinguishes the Northeast Brazil Program from many CDD schemes elsewhere. At the beginning of project implementation in each State, NGOs receive information about the project to disseminate to rural communities, but they are not hired by the Program. Instead, if an NGO wants to participate by providing technical assistance or other services to participating CAs, it has to convince them that it has something to offer, as the CAs control the funding for technical assistance for community subprojects. In some States NGOs have also been contracted to provide technical assistance to STUs and MCs.

***The World Bank***

The World Bank opened an office in Recife, Pernambuco, in 1974, as part of an agreement between the Brazilian government and the Bank President Robert McNamara, that the Bank would begin working on rural development issues in the Northeast. At that time, and for the next 13 years, this was the only Bank office in Brazil staffed by Headquarters specialists (other smaller offices in Rio de Janeiro, Brasilia and São Paulo provided only logistical support to visiting missions). For three decades,

Bank task managers—including both international staff and Brazilian nationals employed by the Bank—have worked closely with government officials, STU staff, rural communities and civil society in all aspects of Program implementation and supervision. Over the years the Bank has decentralized more decision-making on Northeast rural development matters from Washington to its staff in Recife, albeit with Headquarters staff continuing to provide valuable Program support by helping to fulfill all major Bank reporting requirements and maintaining the Bank's central management information system (MIS) on the Northeast Program. The Recife Office has now been integrated with the World Bank's Brasilia Office, where the Bank's Country Director resides, and the locus of decision-making on Bank activities in Brazil has fully shifted from Washington to the field.

## **Setting the Stage for Implementation**

At the start up of each phase of the program in each State, the STU mounts an information campaign to inform eligible communities about what they need to do to participate, and prepares an Operational Manual to guide the entire project process. This triggers establishment of community associations through voluntary self-selection.

### *The Information Campaign*

Complementary mechanisms are used to disseminate information about the Program through a variety of media. STUs provide materials describing the Program's main features (tailored in both language and presentation to reach as many potential beneficiaries as possible, including illiterate households). NGOs and government agencies already working with the target population in rural areas also help disseminate information. Radio broadcasts in the early morning and evening—to fit into work schedules of the rural poor—are common and have proven successful. Once a project is up and running in a State, word of mouth from members of already established CAs to other potential beneficiaries has also proven to be one of the best ways of transmitting information.

### *The Operational Manual*

The Operational Manual is a key element of the Northeast CDD Program. It details all Program policies and procedures, as defined in the technical documents and legal agreements between the State and Federal

governments and the World Bank. Each participating State has its own Manual, tailored to the specifics of its project and containing guidelines for CAs, MCs and STU members. The Manual also provides sample forms needed at each step of project implementation. There are two or three editions—depending on the State—to make it useful for each group working with the program—from poor rural communities, to NGOs, technical assistance providers, MC representatives, and STU staff. The Manual standardizes procedures and provides a unified interpretation of the Program and the way it should work. Additionally, and perhaps most importantly, the Manual minimizes the need for extensive formal Loan Agreements between the World Bank and the State government (the Borrowers), thereby allowing flexibility to introduce appropriate adjustments and improvements during the course of project implementation.

### *Forming Community Associations*

The Northeast Brazil CDD Program has always by-passed the long-standing debate among development professionals—“What is a ‘community’ and how can they be formed?” Under the CDD Program, CAs *self-identify* and form their own associations, following the simple rules of the game set forth by the STUs. Once members of a locality decide to participate, they must formalize their legal status as a community association in order to be eligible to receive project resources. They do this by presenting the record of the association’s formation, signed (or finger-printed) by all members, the record of its formation meeting and of its elected officers (president, secretary, treasurer and alternates) to the local Registry (*cartorio*). The association also registers with the national tax cadastre. Community members who will sit on association committees (Project Implementation, Project Supervision, and Project Accounting) are elected with the officers. The Project Accounting Committee is normally composed of three community members who are not involved in other committees.

### *Opening Community Association Bank Accounts*

The CA then opens an account in a local bank, located closest to the community. This account may be used only to manage project resources, and all expenditures must be authorized by the signatures of at least two association officers.

When the World Bank first approached the Brazilian government about the idea of transferring resources directly to CAs for subproject

implementation, the procedure for obtaining legal status was long and difficult. However, as government officials became convinced about the importance of transferring resources directly to beneficiary communities, they helped with the process and this problem was overcome. And once people saw what CAs could do for a community, the idea caught on and the number of CAs grew exponentially, with each CA participating in one of the State projects under the Northeast Program usually helping 8 to 10 other new associations to organize and prepare proposals for subproject investments.

*The Barra do Aba Community Association was the first association formed here in the municipality. Others had no idea what an association was, what it was like to live in “association.” But, soon other associations were founded in nearby communities—with our help. Now there are 14 other [CAs] in Barra do Aba.*

—Enoque Figueiredo de Souza,  
Passagem, Barra do Aba Community,  
State of Paraíba, October 2005

*When others began noticing that the Barra [Community Association] had activities/ investments that were functioning and producing results, they became interested in forming an association and seeking financing for their own subprojects.*

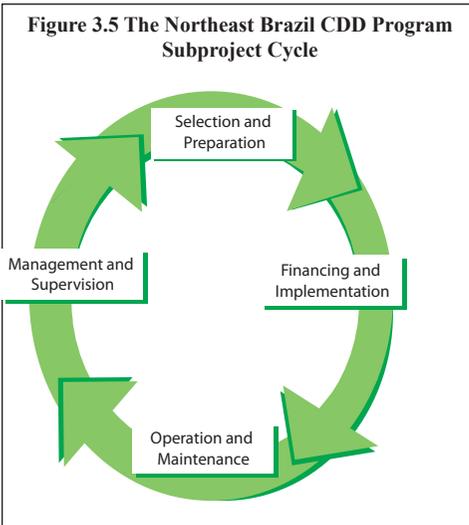
—Maria Socorro M. Figueiredo de Souza,  
Passagem,  
State of Paraíba, October 2005

## The Subproject Cycle

The subproject cycle begins once CA members assemble to decide upon the association’s priority needs for subproject investments

### *Selection and Preparation of Community Subprojects*

CA members determine community priorities by majority vote, and then prepare a subproject proposal. Some States allow CAs to submit a simplified proposal—containing information about the association (e.g., location, contact information), subproject type, cost, budget, number of families to be benefited, environmental impact, and, for productive and cultural subprojects, a simplified business plan—for approval purposes. However, upon approval, the CAs still have to submit a detailed subproject proposal for technical analysis. Other States require a detailed subproject proposal from the very beginning.



Starting with RPAP, the Program began using *standard designs* for a variety of sub-projects (e.g., cisterns, latrines, housing), which greatly facilitated proposal preparation. Nevertheless, CAs often lack the skills or expertise needed to prepare the proposal, and therefore search for and select outside *technical assistance* providers. Subproject budgets include up to eight percent of total cost for technical assistance during preparation,

implementation and operation. Communities do not pay for the assistance in subproject preparation unless the subproject is approved, nor do they pay implementation and operations assistance if they are not satisfied with the results. This approach to financing technical assistance has helped to achieve fairly good quality work: the technical assistance providers—not the CAs or the government—assume the financial risk for preparation of the subproject proposal, because if the proposal is not approved, the community does not have funds to pay for the services.

### *Eligibility and Approval of Subproject Proposals*

Determining eligibility and approving subproject proposals involves both the MCs and the STUs. Most participating municipalities now use the FUMAC mechanism, but this was not always the case. Under the R-NRDP and at the beginning of the RPAP, the States used the PAC mechanism. PAC is still used occasionally, if a State government, NGOs or others involved with the Program detect political interference at the local level. More importantly, CAs can request access to the PAC mechanism if they feel unfairly treated in the decision-making process of the participating MC. However, since the start of RPAP, the Program has emphasized the establishment of active MCs. Most of the eight RPAP States rapidly progressed in establishing MCs and sharply diminished their use of the PAC mechanism. The more decentralized FUMAC-P mechanism has experienced varying levels of success, and in the RPRP generation most States have opted to maintain this alternative only for certain municipalities. Fund allocations channeled through the FUMAC-P mechanism range from

a low of 6.7 percent of total project resources in Rio Grande do Norte, to as much as 30 percent in Bahia.

Under FUMAC, the CA submits a subproject proposal to the MC for analysis and preliminary approval. For each proposal submitted, the MC selects a subcommittee of three to five members to meet with all members of the applying CA. During these visits, this subcommittee verifies that all members of the association participated in the subproject prioritization process and have discussed and gathered the information required to effectively implement the subproject—including selecting technical assistance and contracting for works—and are committed to operating and maintaining it properly.

CAs that are competing for funds in the municipality hold a majority of seats on each MC subcommittee. This representation helps to guarantee that the subcommittee will strictly enforce the applicant community's compliance with all project guidelines. Since each municipality has a limited budget envelope, the disqualification of some community subprojects (according to the rules of the game) means that more resources will be available for others. This approach has resulted in a rigorous subproject selection process, but one that beneficiaries consider to be fair.

With the recommendations of the MC subcommittee in hand, the Council holds an open meeting to set priorities for all subproject proposals in that municipality based on the strength of the proposals, the community's poverty level, and perceived benefits—within the limits of an annual budget set by the STU. The MCs decide on priorities by majority vote, usually a simple majority. Some MCs assign values to specific aspects of the proposal (e.g., viability, sustainability, the CA's level of organization), while others rely primarily on presentations by association members. The presence of an STU representative during the MC decision meeting ensures that they follow the rules regarding transparency, participation, and proportionality of voting rights between CA representatives and local authorities.

After the MC completes the selection and prioritization process, it sends the proposals to the STU for final approval on technical grounds.

The process seems to work. “The technical unit respects the decisions of the Municipal Council. This is how we have guaranteed the credibility of the project,” according to Sonia Germano, Coordinator of the Rural Poverty Reduction Program in the State of Paraíba (Interview, October 2005). And the process is truly participatory and representative of the rural poor:

After approval, a *convênio* (subproject agreement) is signed between the STU and the CA establishing all subproject implementation

conditions—i.e., compliance with economic and technical criteria and environmental and social safeguards.<sup>16</sup> The *convênio* also provides that the CA must follow the project’s procurement, contracting and accounting procedures.

*In Pernambuco, the Municipal Council provides a forum not only for community associations but also for representatives of organized local civil society. These participatory Municipal Councils operate in 179 of the state’s 184 municipalities, and, because of their composition, they have extended their role not only to the Rural Poverty Reduction Program, but also to discussions of other programs, projects, and public policies. In terms of the program itself, the Council informs the technical units of the dates of the decision-making meetings, and one of the technical unit representatives attends to ensure that the directives and criteria used in selecting subprojects are in accordance with the Operational Manual. At this meeting, the Municipal Councils review subproject proposals for legitimacy and eligibility and prioritize them within an indicative annual budget for that municipality. Afterward, the selected proposals go to the technical unit to review for technical, financial, and economic viability and environmental sustainability.*

—Danuzia Correia de Araujo,  
Regional Technical Unit, State of Pernambuco  
Interview July 2005

### *Transfer of Funds for Implementation to Beneficiaries*

Next, consistent with the principle of decentralizing authority to the beneficiary CAs, once a subproject has been approved, the STU transfers all funds for implementation from the State’s project account to the CA’s bank account. This also avoids potential disbursement and implementation delays due to a shortage of funds or bureaucratic procedures. Moreover, it increases incentives for efficiency, because CAs may apply any small savings they realize during implementation to finance other development activities that will benefit the community. The funds are released from the local bank to the CA in tranches, calibrated to the needs of each subproject. Tranche release is managed by the STU to ensure quality control. Under the *convênio* with the CA, the STU also retains the power to transfer the money back to the project account if the community does not implement the subproject as agreed. The STU

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<sup>16</sup> This applies to the PAC and FUMAC mechanisms. In municipalities using the FUMAC-P mechanism, the MC and CA sign a *convênio* for subproject implementation.

visits the community during subproject implementation to check for compliance with agreed benchmarks for the release of funds.

### *Counterpart Contributions*

The Program requires counterpart contributions from the State and from the CAs. For most subproject types, the association contributes 10 percent of the total cost payable in labor, cash or kind; productive subprojects require contribution of up to 20 percent. The STU disburses to the CA's bank account only 90 percent of the funds (80 percent in the case of productive subprojects). Therefore, CAs cannot complete subprojects unless the community provides the counterpart contribution. The fact that actual average community subproject costs are 30 to 40 percent less expensive than similar government-managed investments provides adequate assurance that the project costs accepted by the STU are reasonable and not inflated.

*One thing I admire most about this program is that in Municipal Council meetings you find community members who are illiterate, poor—extremely poor—and who don't have resources to do absolutely anything, but they speak in such a way that leaves you dumbfounded and wondering where they got such wisdom.*

—**Elísio Brito de M. Galvão**  
**Mayor, São João do Sabugi, State of Rio**  
**Grande do Norte**  
**Interview October 2005**

### *Procuring Goods and Services*

The CA manages the process of obtaining goods and services for subproject implementation.

- For subprojects that require the contracting of firms (e.g., rural electrification or community water supply systems), the CA's Project Implementation Committee (PIC) invites proposals from at least three prospective suppliers of goods and services, in some cases from

*I believe the community association manages the resources much better than we can in the local government. One of the features of this program that I find extremely interesting is that resources are managed in a much more responsible way.*

—**Elísio Brito de M. Galvão, Mayor, São**  
**João do Sabugi,**  
**State of Rio Grande do Norte,**  
**Interview, October 2005**

lists of pre-approved providers furnished by the STU, MC or NGOs. These lists are important in subprojects like rural electrification, because the power company will accept only works implemented by certified service providers. Bids are prepared and submitted to the PIC and the CA meets to compare and select the least-cost bid that meets minimal requirements. The PIC informs the winner of its decision and then, if the winner is a company, verifies its legal and business status and operating licenses before proceeding. If all is in order, the PIC signs a contract with the service provider.

- For cases that do not involve contracting of firms, the CA implements the subproject itself by buying directly goods and services. In this case, the CA is required to obtain at least three price quotations for all purchases, to ensure competition and efficiency in the use of resources.

When any subproject is finished, the CA must sign a form verifying satisfactory completion. All States have simplified forms for these different transactions. Additionally, STU and MC representatives provide regular assistance to CA members throughout the process.

### *Building Support at the Local Government Level*

Although the local government does not finance the subprojects, CA members often invite mayors to participate in the inauguration of the work once it is completed. This has been an important aspect in terms of building political support for the Program.

*I would say that negative reactions to the Program are very few in number—practically nonexistent. As the Program gets established and receives widespread support from everyone involved, the politician that opposes it is, at the very least, in a very uncomfortable position. First, there is the question of the wisdom of opposing a Program that has the support of the majority of rural communities. But, beyond that, the truth is that over the course of the Program we have seen that this approach does not mean a loss of power; rather, it means an improvement in efficiency and in the ability to achieve in the best way possible what the communities want. In the end, the politicians that work intelligently with this Program don't lose power; they gain it.*

—Paulo Souto, Governor, State of Bahia  
Interview October 2005

## *Keeping Financial Records*

Throughout the process, the CAs must maintain financial records of all payments to contractors and service providers against invoices. The association's Project Accounting Committee uses this information to prepare simplified statements of accounts to present to the STU. At first, record-keeping is a challenge for many CAs:

*In Tejucupapo, thank God, we did everything correctly—documents, project accounting, everything. We had a few bumps in the road, but we went slowly and in the end we did it. Everything that had to be done in a certain way was done. It was part of the project so we had to do it the right way*

—Armando Souza, President, Tejucupapo Fishermen's Colony  
State of Pernambuco, Interview July 2005

## *Operations and Maintenance*

For most types of subprojects, upon completion the community retains ownership of the subproject investment—as well as responsibility for ensuring proper operations and maintenance.

- In the case of productive subprojects (e.g., manioc and rice mills, clothing manufacture, small irrigation schemes, farm machinery), the association's PIC determines dues and user fees for association members and nonmembers who use subproject facilities, based on estimated requirements for O&M, capital replacement, and possible expansion. CA members approve all user fees.
- For subprojects involving public social services (e.g., health posts or schools), the municipality or relevant public or private entity may undertake O&M under an agreement with the CA. For other types of social subprojects (e.g., day care centers), the CA takes responsibility for O&M, with each member contributing either financially or in the form of labor.
- For subprojects involving infrastructure services (e.g. water supply systems and rural electrification), beneficiaries pay user fees to a public or private utility company at the state or municipal level, which maintains the investments. In other cases where this is not feasible, the CAs operate and maintain the services (e.g. simplified water supply systems not connected to any service company) through user fees.
- Finally, for infrastructure subprojects serving the general public but not involving user fees (e.g., roads, bridges, and street paving), while the

CAs have the obligation to arrange for O&M, the trend has been for municipalities to share or, depending on the nature of the investment, to assume this responsibility.

### *Program and Project Supervision, Monitoring, and Evaluation*

Supervision of individual State projects under the Northeast Program takes place at two levels: the subproject, where CAs, MC representatives and STUs monitor implementation performance; and the project, where STUs and Bank staff monitor overall project implementation trends and compliance with operating procedures across participating municipalities. The World Bank also tracks implementation trends and performance across States, and tries to ensure cross-fertilization of experience and best practices. The management information system (MIS) maintained by all participating States—and shared with the Bank—plays a critical role in supervision.

#### **The Management Information System (MIS)**

The most important function of the MIS is to provide accurate and timely management information to those in charge of taking daily decisions about the program.

In addition, it facilitates transparency and provides excellent information for reporting, project supervision and evaluation over the life of the project. Each State has its own system to meet its specific information needs, but some information is standard across States (Box 3.3).

MIS data collection begins with the submission of the subproject proposal, which includes information about the community, the CA, and the proposed investment. STUs use these data to draw up a baseline of the area's pre-project demographics and household characteristics. To ensure transparency in subproject analysis and approval, the MIS also includes the dates and substance of all relevant discussions and decisions regarding subproject approval at the municipal level and at the regional and/or State levels. Some

#### **Box 3.3 Main components of the MIS**

- *Subproject information*
  - Community (location, demographic and socioeconomic indicators)
  - Community association (elected officials, member profile)
  - Proposed investment (number of participating households, total cost and budget, type of implementation—direct community implementation, contractor, engineering firm)
  - Analysis and approval information
  - Agreements established by the subproject convênio (project costs, release of funds, subproject completion)
- *Financial management*
  - Disbursements
  - Procurement
- *Project management*
  - Implementation progress

States have websites where CAs can check the status of their subproject proposals.

The second MIS data entry takes place when the CA and the STU (or the CA and the MC in the case of FUMAC-P) sign the subproject agreement. The STU enters all information defined by the agreement into the MIS at this time, providing data for the STU to track financial and physical implementation progress. The final data entry in the MIS occurs after subproject completion.

The MIS is a powerful tool for tracking project performance and generating data for evaluation. The data collected at the end of subproject implementation, compared with the baseline and field data collected, enables evaluation of project impact. The MIS can also serve as a training tool for the STU in building an evaluation culture. Using the information included in the MIS (i.e., targeting, location, number of subprojects per municipality, and linkages between investment amount and prevailing social and economic indicators), the STU and the World Bank can assess project performance and determine what is and is not a feasible subproject investment. In this way, the MIS can also provide inputs to the information campaign and ongoing local dialogue to improve the quality of subproject proposals and increase the percentage of proposals actually funded.

The Bank also maintains a central MIS consisting of all the States' project data. Staff can use this information to track indicators included in the project documents, monitor technical performance, identify problems, suggest course corrections, and compare implementation progress within and among States. According to Ed Bresnayan of the World Bank, "the MIS allows us to look at the data coming in from the States and turn knowledge into wisdom" (Interview, September 2005).

### **Monitoring and Supervision of Subprojects**

CAs, MCs, and STU/RTU staff regularly supervise subprojects, and the World Bank participates on a sample basis. CAs elect a Project Supervisory Committee (PSC) responsible for overseeing subproject implementation. This committee monitors implementation and, through constant consultations with the other association members, works to address any issues that arise. Experience has demonstrated that supervision by the CA is often better than what the State or even the municipality can provide, because not only the PSC, but also other members of the association want to make sure the investment is implemented correctly. Moreover, because the CA holds the purse strings, they can insist on high-quality work before approving payment.

The MC, through its subcommittees, periodically visits the communities to supervise progress on subproject implementation, as well as to ensure that all CA members know about the investment and agree with the way it is being handled. The MC informs the technical unit, which has the authority to stop subproject work if it is not being done as stipulated in the subproject *convênio*.

Directly, or through its regional offices, the STU supervises subproject implementation and checks on compliance with triggers for the release of second or third tranches of disbursements to the CAs. The STU also certifies the proper completion of the community subproject. The technical unit supervises the functioning of the different MCs during the subproject analysis and approval process. A non-voting STU representative attends all MC meetings that decide on priorities and approve subproject proposals. This representative ascertains whether the meetings are open to all and that the ratio between association and local government representatives is correct.

Using the MIS management tool for random field assessments, the STUs and the Bank staff overseeing the project note any delays in the subproject processing system, the release of funds, or the pace of subproject implementation. From “x” number of subprojects in the database in various stages of implementation, the Bank or STU can generate a random sample for field visits as well as desk reviews by the technical unit. The MIS also allows the STU to prepare many types of project reports (for internal government purposes and for recording compliance with Bank requirements), disbursement requests, and such other project data aggregations as may be needed.

STUs conduct regular supervision visits. In preparation for these visits, reports are generated using MIS data so that field personnel can verify on-site the information furnished by the CA. Bank staff also use MIS data to prepare for their supervision visits and to conduct periodic reviews of procurement and financial management arrangements. They analyze information in terms of costs, number of beneficiaries per subproject, and geographic investment patterns to see how the performance of STUs, MCs and CAs compare within and across States and municipalities.

For the World Bank, having a presence close to both the client State governments and the beneficiaries has been critically important to the success of the Program. The Bank’s Independent Evaluation Group (IEG, known previously as the Operations Evaluation Department or OED) agrees with this assessment. An evaluation of one of the Northeast CDD projects in 2000, concluded that “The successful outcome . . . depended on flexible and responsive supervision” (2000a: 10). OED (2000b) also found that the presence of a Bank office in Recife was an effective instrument, because it allowed task managers to respond rapidly to problems and take advantage of their proximity to State-level counterparts.

## **Community/Beneficiary Monitoring, Empowerment and Local Governance**

Complementing these intensive monitoring efforts which support measurement and management of the program, is the related set of active community/beneficiary monitoring activities which also are key to the social accountability, empowerment and governance objectives of the PCPR. These include committees organized by the CAs to supervise execution of works, and their fiscal councils which oversee use of financial resources. At the level of MCs, the involvement in the same decision-making fora of local government and community representatives is, in many respects, a two-way street. On the one hand, this helps to inform and integrate local government perspectives on development activities which the communities propose to undertake. On the other – and equally important – it facilitates social control and downward accountability, as community representatives observe and participate in the decision-making process on resource use by municipalities, including both project and many non-project funds which are also channeled through the MCs. This ‘bottom-up’ participation is key to strengthening governance at the interface between rural citizens and local governments

## **Project and Program Evaluation**

One of the most important characteristics of this Program has been its “learning by doing” approach. As such, a large number of reviews, studies and evaluations – in fact, more than 100 -- have been carried out since its inception. Some of these have been contracted to independent institutions and universities, some to individual researchers, and others have been done by the government itself or the World Bank. Some studies have focused on just one state project, others on several states, and still others on the entire program. While many of the studies have some methodological limitations, all of them present conclusions which are valid within the context of the particular methodology used. A more detailed summary of a review of these studies, and of a new impact evaluation which was commissioned for this book, is provided in Chapter 4. These studies and evaluations have generated valuable information about the results and impact of the Program, have fed into numerous improvements introduced between one phase and another of the Program, and have provided a wealth of lessons learned which can be useful both for development programs elsewhere in Brazil and in other countries.

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## Chapter Four

### Evaluating Results

Three Program generations after the CDD approach was first adopted in Northeast Brazil in 1993, there is substantial evidence of success on the ground. Today's Northeast Program reflects a long-term process of learning by doing for continuous innovation and improvement. Each new phase of the Program extracted the lessons from experience gained in the previous phase and the recommendations of studies and evaluation—more than 100 in all throughout the life of the Program. For this book a team evaluated the Program by comprehensively reviewing all relevant studies, including a comprehensive impact evaluation study in 2005.<sup>17</sup>

In addition to the studies on the Program itself, the evaluation team reviewed studies of the community-based land reform programs—Land Reform and Poverty Alleviation Pilot Program (*Cédula da Terra*), and Land-Based Poverty Alleviation Project I (*Crédito Fundiário*). They then classified 73 of the reviewed studies according to the methodology used and by the type of conclusions each methodology supported. This chapter presents those methodologies and the results of both the research review and the quasi-experimental study, according to each topic analyzed and review findings.

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17 This study was prepared for this book and coordinated by Hans Binswanger, with the participation of Túlio Barbosa, Claudia Romano, Alberto Costa, Naércio Menezes, Elaine Pazello, and Fátima Amazonas. A summary of findings and methodology is included here and in Appendix A. A fuller version is being issued in parallel with this book, as a separate self-contained publication.

The impact evaluation developed in 2005 used a quasi-experimental research design, one commonly used when specific conditions or limitations preclude the use of a traditional experimental design with “control” and “treatment” groups. In this case, researchers had to consider that the program relies on self-selection of beneficiaries, the difficulties of withholding potential program benefits from a control group, and the lack of consistent and reliable data from the time before the program began. Appendix A describes the detailed methodology and methodological standards of the study.

This chapter documents both the outputs and impacts of the Northeast CDD Program in terms of providing key infrastructure and services to the rural poor, cost effectiveness of the delivery mechanisms, success in actually reaching the rural poor, inclusion, asset accumulation, quality of life, and creating social capital and improving local governance. It also presents findings on beneficiary satisfaction and subproject sustainability. Before proceeding to those results, however, a brief summary of the three overlapping phases of the Program between 1993 and the present time may be useful.

## **A Brief Review of the CDD Program**

This chapter looks at the impact of CDD-based Northeast rural poverty reduction efforts since 1993, in three phases: These phases are summarized below and described in greater detail in Chapter 2. The *first phase* began in 1993 when the whole Northeast rural program was reformulated along CDD lines into the R-NRDP (Reformulated Northeast Rural Development Program). With some minor modifications, the R-NRDP adopted a CDD model which had been piloted under one component—the only successful component—of the former NRDP, called *Apoio as Pequenas Comunidades Rurais* (APCR). Under that model (known in Brazil as “PAC” or *Programa de Apoio Comunitário*), rural people with similar concerns organized into community associations (CAs), agreed on priorities and submitted investment proposals directly to technical units at the state government level (STUs). The R-NRDP mainstreamed that model, but also introduced a new pilot to test further decentralization in five municipalities in each participating state. The pilot mechanism was called FUMAC (*Fundo Municipal de Apoio Comunitário* or *Municipal Community Support Fund*). Through this fund, the CAs first submitted their proposals to municipal-level councils (MCs), which debated them, set priorities, and directed them to the STUs for final approval. Under

FUMAC, the STUs' mandate was limited to technical review, but they were not to question the priorities which had been set at the MC level.

The lessons from R-NRDP were incorporated into the *second and third phases* of the Program, known respectively as the Rural Poverty Alleviation Program (RPAP) and Rural Poverty Reduction Program (RPRP). In these phases more and more municipalities adopted the FUMAC mechanism. The PAC did play an important role in the early years of the shift to CDD principles under the APCR and R-NRDP. During those years it provided CAs with a channel to bypass paternalistic local elites, in an effort to ensure that the investments which the CAs considered to be their real priorities would be supported by the Program. At the same time, in many Northeast States great distances separate rural communities and STUs, creating space for other intermediaries besides the mayors to take advantage of this gap, and it was this concern which motivated the government and World Bank also to pilot the FUMAC mechanism under the R-NRDP. The FUMAC pilot quickly demonstrated that once all stakeholders understood they could elect the presidents of the MCs and that these did not need to be the local mayor, more and more areas opted to shift from PAC to FUMAC. Finally, as the R-NRDP had piloted FUMAC, the second phase RPAP piloted a variant known as FUMAC-P. This mechanism introduced annual budgets for the participating selected MCs and devolved even greater decision-making authority to them. The FUMAC-P councils receive their annual budget envelopes from the STUs and are responsible for passing them on directly to the CAs.

Over the three phases of the CDD program, the PAC has all but disappeared, although it is still used in a few locations. The FUMAC mechanism is employed in about 95 percent of municipalities and FUMAC-P in the remainder. The Program has also continually honed targeting strategies to give priority to reaching the poorest rural communities and municipalities.<sup>18</sup> Finally, in recent years the idea has taken root of dovetailing the CDD Program, through the MCs, with other public programs and projects, so as to scale up its impact.<sup>19</sup> In this regard, a widely shared consensus

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18 Six states (Bahia, Sergipe, Pernambuco, Rio Grande do Norte, Ceará and Piauí) that participated in the first stage of the RPRP introduced, in their respective Operational Manuals, a provision that priority would be given to municipalities with lower Municipal Human Development Indexes (MHDI)—(below a certain value, variable among the states). In the second set of RPRP projects, this emphasis on the poorer municipalities was also incorporated into World Bank loan agreements. The Municipal Councils will continue to be responsible for identifying the poorest rural communities in their respective areas of jurisdiction.

19 Even early in the RPAP and RPRP phases, the States took the initiative in seeking some sort of integration between project activities and other programs and projects. Integration was to become an important feature of project design in the second stage of the RPRP.

developed among stakeholders that, as important as the delivery of essential infrastructure and services was, the Program's impressive creation of social capital at the local level would be one of the keys to successful scaling up and extending even further its impact on developments in the rural Northeast. With regard to the Program's productive subprojects and impacts on income poverty, consensus is also building on the importance of strengthening small farmers' linkages with domestic and international markets.

The literature review reveals an increasingly sophisticated discussion on topics that have helped improve program planning and implementation, such as:

- universalism versus targeting<sup>20</sup>
- the need for orienting investments to overcome the structural factors that cause and perpetuate poverty (Kumar 2005, Guzzo 2006);<sup>21</sup>
- the appropriate balance between *demand-driven* and *supply* driven approaches in the context of the CDD Program: and
- the advantageous of adopting broader *territorial* (v. municipal) frameworks for planning rural development activities<sup>22</sup>

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For example, see the project appraisal document for the State of Bahia (World Bank 2005a).

20 Due to fiscal constraints and the size of the potential beneficiary population, the State governments opted for the alternative of targeting. The debate between universalism and targeting was particularly intense in 2003. See for example the papers presented in the Network Nós/BNB II Poverty Measurement and Information System Seminar - BNB Passaré, Fortaleza-CE, Brazil, 3–4 February, 2003.

21 Examples of such structural considerations which are cited fairly frequently are the need for more access to land and for complementary larger scale productive and infrastructure investments. Access to land, while still a major issue in the Northeast, has become more feasible through with the World Bank-financed *Cédula da Terra* and *Crédito Fundiário* programs which also employ CDD techniques (see Chapter 2). One of the objectives of efforts to integrate the CDD-based rural poverty reduction program more closely with other governmental programs and projects has been to link larger investments financed by others with the lower-cost community investments financed through the CDD program (e.g., large scale water mains financed through a federal government program with community water supply systems which obtain water from those mains). That said, even the CDD Program's most ardent supporters do not question the important complementary role which large scale infrastructure and other interventions also need to play in supporting the growth process and thereby reducing income poverty in rural areas of the Northeast.

22 The territorial approach seems to be the topic of the day among many *practitioners* of rural development. It calls for adopting broader planning and implementation frameworks to address problems which cut across municipalities and even States. Some Northeast States are considering adopting approaches with territorial features, while retaining the central roles of the FUMAC councils.

## Program Outputs and Impacts

From the time of the reformulation of the NRDP in 1993 through 2005, the CDD Program succeeded in financing some 50,120 community subprojects, benefiting 2.54 million households participating in almost 38,000 community associations (Table 4.1).<sup>23</sup> Approximately 10 percent of these households benefited from two or more subprojects. MCs are currently functioning in approximately 1,500 of the 1,686 municipalities in the Northeast region.<sup>24</sup>

### *Bringing Essential Small-scale Infrastructure to Rural Areas*

The bulk of the CDD Program investments have gone for infrastructure—primarily rural electrification and water supply subprojects. Results drawn from different studies show that the Program has effectively and efficiently provided the rural poor with access to these essential services. Between 1993 and 2005, communities implemented about 28,500 rural electrification and water supply projects, reaching approximately 1.54 million households. In addition, communities implemented about 10,000 other subprojects for various other types of infrastructure, 12,000 productive projects, and around 4,000 social projects.

Based on calculations using data from the IBGE 2000 Census, in the Northeast as a whole, close to 1.8 million rural households had access to electricity. Of these, 604,200 households –34 percent – had been served by the CDD Program. In the same Census, 609,000 rural households in the Northeast had access to piped water in at least one room or on the household property. Of these, approximately 193,400 households had benefited from residential water connections and cisterns through the CDD Program, representing between 29 percent and 32 percent of all residences with such access in 2000.<sup>25</sup>

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23 The number of beneficiary households and communities exclude repetitions within and among the three generations. The data in Table 4.1 reflect the period through 2005, to coincide with the timing of the special quasi-experimental research design study. As indicated elsewhere in this book, during 2006-2008 an 4,000 additional sub-projects for about 3,300 community associations and benefiting a further 200,000 families (or about 860,000 people) have also been carried out

24 Excluding Alagoas, where the program has not operated since the time of the R-NRDP, and Minas Gerais, where it operates in only part of the state.

25 In the lower limit, subprojects of water supply with residential connection that were considered unsustainable are excluded. The no-success depends on the availability of water,

**Table 4.1 Aggregate Results of the Northeast Brazil CDD Program (1993-2005)**

<i>Program totals</i>	<i>R-NRDP</i>	<i>RPAP</i>	<i>RPRP</i>	<i>Total</i>
Total loan disbursements (US\$ million) <sup>a</sup>	339	439	174	952
Total investment (US\$ million) <sup>b</sup>	616	585	233	1,434
Subprojects implemented (number)	18,431	21,698	9,991	50,120
Beneficiary families <sup>d</sup> (number)	939,430	1,231,935	369,368	2,540,733
Beneficiary communities <sup>e</sup> (number)	13,386	17,470	6,736	37,592
Rural electrification sub- projects <sup>f</sup>	5,040	8,537	1,372	14,949
Beneficiary communities (number)	4,200	7,198	1,143	12,541
Beneficiary families (number)	246,960	357,272	42,477	646,709
Water supply subprojects	2,700	7,786	3,093	13,579
Beneficiary communities (number)	2,250	6,528	2,578	11,356
Beneficiary families (number)	110,250	524,108	168,176	802,534

a. As of January 11, 2006

b. Including World Bank financing and state and beneficiary counterpart contributions.

c. As of November 2005 (including repeater communities).

d. As of November 2005 (excluding repeater families within and between different generations of the program).

e. As of November 2005 (excluding repeater communities within and between different generations of the program).

f. As of August 2005. Total number of communities and families that benefited from rural electrification and water supply subprojects. These beneficiaries may have received benefits other subprojects as well.

*Sources:* Participating states' management information systems and the World Bank's Client Connection

Using information from the National Household Survey (Pesquisa Nacional por Amostra de Domicílios, PNAD) compiled by CEPLAN (2005), it is estimated that between 1992 and 2003 at least three-fifths of

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that is, on the trustworthiness of the water source to supply the water (well, reservoir, river, etc.). The higher estimate considers negligible rate of no-success.

all rural households in the Northeast which had obtained access to water and electricity during that period, had done so through the CDD Program.

The findings of the impact study commissioned for this book support the conclusions of other studies – namely that the CDD Program has had a statistically positive impact on access to water and electricity in the rural Northeast (Appendix B). These results prompt two important conclusions. First, they support related findings in other studies that the subprojects are sustainable, because households could have lost the service after implementation. Secondly, they indicate that the CDD Program reaches rural families who, in its absence, probably would not have gained access to water and electricity.

### *Delivering Services at Lower Costs*

Not only is the CDD Program bringing essential infrastructure and services to large numbers of the rural poor, but it is doing so at relatively low cost. Program costs are shown in Table 4.1 above. The aggregate cost of the roughly 50,000 projects implemented was approximately US\$1.4 billion, US\$952 million of it borrowed from the World Bank, and US\$482 million contributed by the States, municipalities and beneficiaries. Therefore, the average unit cost of the subprojects has been about US\$28,000. Currently, the financing limit per community subproject is US\$50,000. With rare exceptions, most subprojects financed by the Program have had a total cost well below the reference limit.

To put these figures in perspective, studies suggest that the unit costs experienced by the CDD Program have been about 30 percent lower than costs experienced through other types of service delivery.<sup>26</sup> At this rate of cost reduction, for the total number of subprojects financed—infrastructure, productive, and social—and using a sustainability rate of 80 percent, the total savings may have amounted to at least US\$248 million, US\$128.5 million of it in the rural electrification and water supply sectors alone.

Most (85 percent) of the municipal representatives interviewed for the quasi-experimental impact study agree with this assessment. They believe that the CDD Program subprojects cost less than others implemented through supply-driven development approaches. Nearly all (98 percent) also believe that community-driven development achieves better results than supply-driven projects. There are various possible reasons for the lower costs. The subprojects may reflect better choices made by the beneficiaries

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<sup>26</sup> See, among others, OED 2000a; Hydros 2004; INTERCOOP 1998; FLACSO 1998; and van Zyl, Sonn, and Costa. 2000.

or the financial mechanisms used may encourage savings because leftover funds stay in the hands of the CAs to finance other activities they choose. Studies have also demonstrated the cost-cutting efficacy of the Program's procedures—including local shopping for materials, equipment and services by the CAs.

### *Really Reaching the Rural Poor*

The studies reviewed show almost unanimously that the CDD Program is in fact reaching the rural poor in the Northeast. A recent and extensive study of the RPAP projects, which collected data on incomes and was based on a survey applied between August and October 2004, found that 75 percent of households benefited by the RPAP had a per capita income lower than US\$1 a day, thus below the poverty line. Moreover, 55 percent of these families lived with insecure food conditions (Buainain & Fonseca 2005c).

Many studies indicate that beneficiaries also had poor access to services and housing and low educational attainments.<sup>27</sup> For example, according to the study cited above, over 30 percent of adults had no education at all. In Ceará and Pernambuco, only around 15 percent of the households had access to piped water, while 30 percent had basic sanitation conditions; in Pernambuco only 33 percent of the houses had bathrooms.

In Pernambuco the beneficiaries' access to many services before they participated in the Program was worse than access by those who had not participated, while in various other aspects the initial conditions were similar (Buainain & Fonseca 2005b) For example, only 19 percent of the beneficiaries had regular access to water before the project, while non-participants had a 25 percent access level. The situation was similar for septic tanks, electricity, and in-house bathrooms, as well as for the incidence of the principal illnesses and food security.

Buainain (2002), studying the land reform pilot in the Northeast, *Cédula da Terra*, demonstrated that *Cédula* beneficiaries were in fact the

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<sup>27</sup> The baseline studies and some of the Physical Performance Studies (*Estudos de Desempenho Físico, EDF*) -- in general conducted by consultants contracted by the STUs for purposes of project monitoring and evaluation --, demonstrate that, effectively, the beneficiaries of the RPAPs and RPRPs are poor. The samples used, however, do not allow the affirmation that the families interviewed are the poorest in the communities and/or in comparison with other communities. See: Argôlo de Souza 2004; ASPEC 1999; CEPLAN 2004; FETARN/IICA 1999; FLACSO 1998; Fonsêca and Melo 1999; Hydros 2004; IICA/FETARN/AACC 1999; Instituto Civitas 2004; INTERCOOP 1998; Matos Filho 2002; Sampaio et al. 1999; van Zyl, Sonn, and Costa 2000.

poorest. The study compared the situation of the beneficiaries to that of the rural poor on average in the States analyzed, using data from the PNAD and selecting only households with characteristics similar to those of the beneficiaries in terms of age, experience in agricultural activities, and maximum family income. Buainain found a clear-cut difference between the *Cédula* beneficiary group and the general rural poor population. The *Cédula* beneficiaries lived under worse socioeconomic conditions before the project than did the general rural poor. They had less capital (durable goods, houses, land), fewer adults among them held salaried jobs, and they had fewer work opportunities.

The quasi-experimental impact study analyzed the differences between the situation of project beneficiaries who had received investment subprojects in 2002 and those who received subprojects later, in 2005. The study results indicate that the Program has improved targeting over time (see Table 4.2). That is, people who entered the Program in 2005 were slightly worse-off to begin with than were those who had entered in 2002 in terms of infrastructure, access to education and health care, and some household assets. Therefore, far from suffering from “elite capture”—a common criticism leveled against CDD programs—the quasi-experimental study finds that the Northeast Program is reaching increasingly poorer families over time. Other studies of the Program suggest that MCs are the main reasons for this improvement in targeting (van Zyl, Sonn, and Costa 2000).

### *Encouraging Inclusion*

The existence of inequality of opportunities among minority groups, such as *quilombolas* (communities of descendents of Afro-Brazilian freed or escaped slaves) and indigenous communities, and issues constraining women’s full participation, have constituted important challenges for development programs in Northeast Brazil. The CDD Program, although not establishing specific quotas for each group, has been more successful than many others at furthering their inclusion.

### **Women**

Approximately 30 percent of all community associations benefited by the Program are headed by women. In addition, as members of households participating in the Program, they also benefit. While no studies have directly captured how investments have impacted on women, the effects can be verified indirectly. The traditional distribution of labor in rural communities in Northeast Brazil means that women and children assume daily responsibility for obtaining drinking water for home use and livestock. This

**Table 4.2 Household and Community Characteristics in 2002 and 2005 (percent)**

<i>Characteristic</i>	<i>Benefited earlier (2002)</i>	<i>Benefited later (2005)</i>
<i>Household</i>		
Family owns house	89	78 <sup>a</sup>
With access to garbage collection or burns garbage	74	65 <sup>a</sup>
With Bathroom in the house	63	59
Total household assets (in 2005 reais)	1,256	921
Household head education: never in school	12	17 <sup>a</sup>
<i>Community</i>		
With public telephone	30	20
With primary school education	74	63
With secondary school education	24	9 <sup>a</sup>
With health post	33	11 <sup>a</sup>
Houses with piped water	45	31
Houses with electricity	70	48 <sup>a</sup>
Houses connected to sewage system or with septic tanks	51	38
Total value of community owned assets (in 2005 reais)	86,384	65,451

a. Difference between control and treatment is statistically significant at least at 10 percent.

*Source:* Binswanger et al 2006

work demands an immense physical effort and long hours trekking to the source and bringing the water home. Moreover, the lack of refrigeration in many rural households means that women must prepare food daily, with little possibility of storage. Since most Program investments concentrate on infrastructure—such as water supply systems and rural electrification—it is reasonable to assume that they have lightened women’s workloads and greatly improved their quality of life.

Furthermore, due to a variety of factors, including migration by men and boys to larger towns and cities in search of employment, women head a large number of the households in the rural Northeast. In Paraíba, for example, women head 133,000 out of a total of 575,000 rural families (23 percent). Clearly women play an important role in rural community life, and the composition of Program beneficiaries reflects this. Women not only benefit directly from investment subprojects but they also actively participate in CA leadership. One survey revealed that women headed

roughly 500 of the 2,600 community associations in Paraíba, and this does not count those CAs whose vice-presidents or secretaries were women. The State of Sergipe reports that between 2002 and 2005, the Program financed 945 subprojects benefiting 624 CAs, 179 (29 percent) of which were headed by women. The 282 subprojects financed for these associations benefited nearly 18,000 families, of which women headed about 4,000 (38 percent). (Data was drawn from Program MIS).

### **Indigenous Communities**

The CDD Program actively supports the States' efforts to promote social inclusion in a way that allows indigenous populations to participate, while fully respecting their specific characteristics and culture (Table 4.3). The Program's participatory approach has contributed to achieving this objective, facilitating the selection and financing of specific activities which attend to the needs of these groups. All States that have an indigenous population have an indigenous peoples' participation plan.<sup>28</sup>

The Program experience in the State of Maranhão exemplifies the kind of support which the CDD Program has brought to indigenous communities in the Northeast. In 1995–2003, nearly 100 subprojects benefited approximately 6,000 of the 17,000 indigenous families in the State. These subprojects supported productive investments like manioc flour mills, small rice mills, tractors and boats; infrastructure investments including electrification, water supply, and reservoirs; and social investments involving improvements to schools and dwellings. Studies have shown that these indigenous communities identified and executed their subprojects as efficiently as did other non-indigenous communities.

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<sup>28</sup> The RPRPs incorporate Indigenous Peoples' Participation Plans. The most recent are the RPRPs of the States of Maranhão, Bahia, Pernambuco, Ceará, and Sergipe, and they include detailed descriptions of the goals to be reached and the procedures to be observed when working with the indigenous populations.

**Table 4.3 Subprojects Benefiting Indigenous Populations**

<i>State</i>	<i>Number of indigenous groups</i>			<i>Number of families benefited</i>	<i>Total value (R\$)</i>
	<i>Number of tribes</i>	<i>Number of groups benefited</i>	<i>Number of subprojects</i>		
Bahia	12	12	21	600	572,000.00
Ceará	10	1	1	60	46,978.82
Maranhão	6	84	110	6,040	5,798,736.96
Minas Gerais <sup>a*</sup>	1	1	3	159	91,206.00
Paraíba	13	13	27	1,783	1,137,786.00
Pernambuco	11		14	378	1,488,017.02
Sergipe	1	1	1	68	48,275.00
<b>Total</b>	<b>53</b>	<b>112</b>	<b>177</b>	<b>8,710</b>	<b>9,182,999.80</b>

a.1993–1996.

Source: States' MIS

### Quilombolas

The CDD Program has also actively supported the participation of *quilombolas* (Table 4.4). Maranhão, again, serves as a good example of how the program is reaching this traditionally marginalized group. One study concluded that “the Northeast Rural Poverty Reduction Program (NRPRP) has done more than most projects to reach poor people in the Northeast of Brazil to improve their living standards. Among the NRPRP group of projects, the one in Maranhão is making good headway in targeting the most vulnerable rural Afro-Brazilians such as the [*quilombolas*] to participate in project benefits To date the subprojects have been largely in the categories of rural electrification, rural water supply, road rehabilitation and income generating activities such as clothes-making, rice and maize processing and child care centers” (Nankani 2002:1).

**Table 4.4 Subprojects Benefiting *Quilombolas***

State	Number of <i>quilombolas</i>		Number of subprojects	Number of families benefited	Total value (R\$)
	Total groups in the NE	Number of groups benefited			
Bahia	253	63	104	9,747	6,200,000.00
Ceará	42	22	31	1,832	1,662,269.69
Maranhão	79	79	95	4,517	4,663,341.34
Paraíba	2	2	4	220	338,832.30
Pernambuco	30	18	18	777	1,455,090.74
Piauí	06	6	7	308	328,248.62
Rio Grande Norte	62	33	33	2,199	895,453.42
Sergipe	04	4	8	532	359,494.07
<b>Total</b>	<b>478</b>	<b>227</b>	<b>300</b>	<b>20,132</b>	<b>15,892,730.18</b>

Source: States' MIS

### ***Beneficiary Satisfaction with the Quality of Subprojects***

Several studies have indicated that user satisfaction and subproject quality are generally high in the Northeast CDD Program.. One such study by van Zyl, Sonn, and Costa (2000), based on their examination of a set of physical performance reviews of RPAP projects that had been carried out in various Northeast States (Table 4.5), found that:

*[I]n all states, the majority of subprojects were found to be technically satisfactory, of good quality. Beneficiaries, in almost all cases, expressed their satisfaction with the quality (good or excellent) of materials used in construction. Depending on the individual state, between half and three-quarters of the subprojects were considered to be adequately sized to meet beneficiaries' needs, another 13-33 percent were considered under-sized, and 2-14 percent too large. Beneficiaries regarded more than 90 percent of all investments as being satisfactory overall" (p. 140).*

**Table 4.5 Some Results of the Physical Performance Reviews (EDFs)**

<i>State</i>	<i>EDF study by</i>	<i>Quality material</i>				
		<i>(percent)</i>			<i>Size (percent)</i>	
		<i>Excellent</i>	<i>Good</i>	<i>Adequate</i>	<i>Undersized</i>	<i>Oversized</i>
Sergipe	ASPEC (1999)	97		80	16	4
Ceará	FLACSO (1998)	95.7		65.8	23.1	11.1
Bahia	INTERCOOP (1998)	87.6		72.32	13.24	14.29
Piauí	Fonsêca and Melo (1999)	23.8	45.2	50.5	33	16.5
RGNorte	IICA/ FETARN/ AACC (1999)	93.7		63.6	21.1	15.2
Pernambuco	Sampaio et al. (1999)	90.1		63.6	12.2	24.2

*Source:* Binswanger et al 2006

The original studies analyzed by Binswanger *et al* indicate that beneficiaries' perceptions about the quality of Program investments were fairly positive. Different researchers, who analyzed these matters independently in the same States at different times and in different States during the same time period, corroborate these findings.<sup>29</sup> Regarding the verification of materials quality and the size of the construction work, methodological weaknesses could exist only if the samples were not representative, or if they were biased in choosing only the best subprojects, or if the interview instrument was bad—all reasons to distrust the averages indicated for subproject quality. That is not the case in the studies reviewed here. The problems identified with respect to the impact analyses (e.g., lack of control) do not affect the results presented on subproject performance or quality.

### *Subproject Sustainability*

The issue of sustainability involves several dimensions. Analysis here focuses on the sustainability of subprojects over the medium and longer-term, especially productive subprojects; the ability of beneficiary communities or their representative organizations to establish regulations for use, charge operations and maintenance fees, and administer the subprojects;

<sup>29</sup> FLACSO 1998, IICA/FETARN 1999, Matos Filho 2002, Bauinain 2005.

as well as factors that either contribute to or hinder the sustainability of community-based investments.

The issue of operations and maintenance of investment subprojects cannot be separated from the nature or type of subproject, which authors have not always taken into account in studies addressing this subject. The following stand out among the principal types of subprojects financed: rural electrification, water supply, local road improvements, small dams and reservoirs, bridges, fords, housing improvements, sanitation, and productive subprojects.<sup>30</sup>

CAs execute investments in rural electrification, generally through contracts with specialized firms and following the technical specifications required by the electricity companies granted concession rights. Once the investment is completed, the CAs hand their property over to the companies, most of which are now private in the Northeast. The service companies assume responsibility for operations and maintenance, and beneficiaries pay user fees directly to them. Every family whose home is connected to the system is responsible for maintenance of the investment within the household. Therefore, discussing regulating use or collecting user fees for electricity is superfluous, except in cases of use in installations belonging to the associations themselves (e.g., social centers, water supply, productive units).

Water supply subprojects may have different configurations and, consequently, the regulation of use and collection of user fees also differ. Cisterns are a common investment, and since one family unit has one cistern, the families are also responsible for maintenance. There are two general types of simplified water supply systems with home connections: CA-operated systems and systems connected to municipal water providers. In the first, the association usually operates the system from source, to distribution, to home by collecting user fees to cover O&M costs. Under the latter, the municipal government maintains the system and charges users for the water they consume. Studies on this issue have provided variable results but all recognize that, given the vital importance of water, even poor families feel compelled to pay the user fee (Rêgo 2002, NCA 2002, OED 2000, Civitas 2004). User payments can be in regular installments or an extra sum when needed (e.g., when a problem arises such as a pump breakdown). Less frequently, they seek external financial support, normally from municipal authorities.

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30 Over the period 1993-2005, seventy percent of the sub-projects were for infrastructure, 20% for productive activities and 5% for social sector investments.

Fountains are another simple form of water supply under the responsibility of associations. Their maintenance costs are very low but also require the collection of user fees, normally included in the monthly fees members pay to their CAs. There are also a small number of water supply systems that use saline removal water purification devices, especially in semi-arid areas. In this case, consumers pay for water either by buying “water cards” that allow the use of fixed quantities of water per card, or through user fees.

Similarly, for housing and sanitation improvements (bathrooms, septic tanks), maintenance is the responsibility of each beneficiary family and therefore does not require regulating use and collecting user fees. Investments in non-controllable public assets (bridges, fords, roads, dams, and reservoirs) are normally maintained by the municipal authorities.

On the cost efficiency side, the OED (OED, 2000a) study revealed that unit costs did not vary noticeably between delivery mechanisms (PAC or FUMAC). However, the average unit costs of infrastructure were 30 percent lower in subprojects implemented by CAs (directly or through small local firms) compared with projects implemented by government agencies or their contractors. In the case of rural electrification, there is no significant difference for installation of high-tension lines, but low-tension lines linking individual houses to the grid cost on average US\$3,491 per kilometer in the Program, compared with US\$5,043 per kilometer when implemented by other sources. Also, building costs—for substations as well as community centers—were almost 50 percent greater outside the Program (US\$152 per square meter of constructed space, compared with US\$105 per square meter).

A study by Matos Filho (2002) indicates better operational performance for subprojects financed by the RPAP and PRONAF in the State of Rio Grande do Norte than for projects financed under previous rural development policies. Some 73 percent of the RPAP municipalities and 80 percent of the PRONAF municipalities had an Operational Performance Index (OPI)<sup>31</sup> of “excellent” and “good.” Of a total of 432 projects sampled, 397 were implemented by community organizations and 239 (60 percent) presented an average Institutional Performance Index (IPI)<sup>32</sup> above 2.0, which suggests that such organizations make efficient project

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31 Operational Performance Index (OPI), used to measure the degree of functioning of projects financed by RPAP and PRONAF, measures the relation between the number of projects in operation and the total number of projects financed in 1997–2000.

32 The Institutional Performance Index (IPI), used to measure how much projects contribute to income improvements and/or the associative strengthening of beneficiaries and project execution organizations. In other words, IPI measures a project’s capacity to contribute toward economic and social strengthening of community organizations and their mem-

executors. This means that the subprojects were not only in operation, but also contributed to income generation and/or social organization of the respective beneficiaries.

Another study (Matos Filho, Pires da Cruz, Moraes de Souza & Roldán de Braceras 2005) based on opinions expressed in interviews with RPAP Municipal Council directors, confirmed that 76.7 percent of subprojects were in operation and contributing to income improvements within the communities. The same study reveals that about 61 percent of the 101 randomly chosen subprojects visited by the field team had been completed and were in operation. Twenty-six percent of the subprojects visited were in the execution phase, and just 8 percent of the total subprojects that had been implemented were not in operation. Furthermore, 76 percent of the interviewees stated that they use the subproject services daily.

An extremely critical 2003 report by the Support Foundation for Rural Workers in the Sisal Region<sup>33</sup> regarding the implementation of the RPAP in that part<sup>34</sup> of the State of Bahia identified an operation rate of 60.7 percent among subprojects with up to eight years of implementation.<sup>35</sup> A World Bank mission to verify the on-site situation of subprojects not in operation found that, of the 303 subprojects, only 24 (8 percent of the sample) were not operational, and that 19 of them had actually been financed by programs prior to the RPAP (see Caminha et al., 2004).

Sustainability data suggest that, with the exception of some types of productive projects, an average 80 percent are still operating three to five years after implementation. The lowest estimate comes from the above-mentioned highly critical study of the RPAP in Bahia.

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bers (as measured through the evaluation of directors of municipal rural development councils).

33 In Portuguese, *Fundação de Apoio ao Trabalhador Rural da Região do Sisal, FATRES*

34 Research was conducted in 11 municipalities (303 subprojects), with a survey of 303 subprojects. The situation of each subproject was investigated, including the form in which it had been implemented, the benefit to the community, and the cost of the investment. In some cases, information was obtained from the Municipal Council of Rural Development, from Bahia's *Produzir* Project Technical Unit [*Companhia de Desenvolvimento e Ação Regional, CAR*], the mayor's office, and community residents.

35 Of the 303 subprojects analyzed, 184 were operational, 28 were operating precariously, and 91 were not in operation. The subprojects that the study claimed were not operational were: 7 telephone posts, 15 manioc flour mills, 6 dams, 6 artesian wells, 1 water supply system, 3 water supply centers, 1 slaughterhouse, and 19 productive subprojects (sewing, broom manufacturing, soap manufacturing, corn mill, brickyard, honey manufacturing, and irrigation). Caminha et al, 2004 arrives at markedly different conclusions.

### **Productive subprojects encounter more difficulties with sustainability**

The vast literature on the Program indicates some consensus regarding productive subprojects: without them, poor rural communities in Northeast Brazil will have great difficulties in consistently and sustainably overcoming barriers imposed by poverty. On the other hand, productive subprojects run a higher risk of failure for a variety of reasons—e.g., drought, sparse small-scale production, market exposure, limited entrepreneurial capacity, deficient or non-existent technical assistance.

The studies (i.e., Fonseca de Melo 1999, Matos Filho 2002, Bauinain & Fonseca 2005) reveal divergent perspectives about the source of communities' difficulties in sustaining productive subprojects. Simplistic explanations associate these difficulties with the perverse role of middlemen, while more sophisticated ones point to the inability of small producers to meet the challenges of a globalized economy. At the core, the failure of many productive subprojects has to do with a lack of sufficient rigor in prior analyses of the technical, economic, and financial viability of the proposed investments and of whether the venture would fare better as the initiative of a single person or of a small group. Unfortunately, technicians who failed to use and/or prepare appropriate feasibility studies often encouraged such unsuccessful productive initiatives.

At the same time, a great many types of productive endeavors are not high risk, due to their simple nature and forms of operation. These include manioc flour mills, small grain-processing equipment operated by families that pay a fee—in the form of the product—to the association to raise money to maintain equipment. Such undertakings generally serve family and community consumption rather than larger markets. Agricultural mechanization, small irrigation projects, and honey and cashew production subprojects are technically simple and low cost, despite exposure to market risks (Box 4.1).

### **Matching Grants vs. Credit**

One key question regarding productive subprojects relates to whether or not it makes sense to finance them through matching grants rather than conventional bank credit. This question, brought up earlier by van Zyl, Sonn, and Costa (2000), arises from a financial analysis of different types of productive subprojects, with varying degrees of complexity and good potential viability. The answer lies in the observation that the conventional financial system overlooks an enormous number of poor rural families in the Northeast. This situation was far more problematic before the expansion of PRONAF, traditional Agrarian Reform Projects and those based on land credit.

#### Box 4.1 Creating Linkages with Global Markets under the Northeast CDD Program

*To overcome difficulties with productive subprojects, the Brazil CDD Program has adopted a strategy of proactively identifying steady markets for products that communities show an interest in and have the ability to produce.*

*The Fair Trade pilot project, in which RPAPs in five States (Bahia, Pernambuco, Rio Grande do Norte, Ceará, and Piauí) joined forces with CONTAG (the National Confederation of Agricultural Workers) and respective worker federations from the participating States, has had some successful initial experiences. Communities from the five States have begun exporting honey, cashew nuts, and craftwork to the European market through Italian buyers. The communities received prospecting missions of NGOs and European businesses. With the new contracts and business dealings established in the process, another important outcome was evident. The new exporters, with a new sense of personal worth and appreciation of the value of associative work, saw they could reach the global market through product niches and differentiation. To succeed in this market, however, the products must meet the most demanding quality, certification and consumption standards. In other words, market laws are unyielding, and no serious producer can afford to ignore the competition (Amazonas 2002). The main lessons from the pilot include: there are market opportunities for small rural family producers (of both agricultural and non-agricultural products)—the demand is greater than the organized supply; and the capacity for organization and delivery is already present in communities—the successful communities did everything the importers asked (World Bank/ Ministry of Agrarian Development/CONTAG 2003).*

*Moreover, communities from three of these states—Rio Grande do Norte, Ceará, and Bahia—used their European experience to enter markets in the United States and Canada. According to data from 2006 to 2008,<sup>b</sup> 7,500 producer families were exporting honey, cashew nuts, organic coffee, papaya, and craftwork, yielding total revenues of US\$15 million.*

*Note: Data provided by producers/exporters, such as Caliman Cooperatives, Coopercaju, Apodi Coopapi in Rio Grande do Norte; Federation of Agricultural Workers of Bahia, and Ceará STUs.*

The latest generation of CDD projects focuses on providing *seed money* to poor rural families who show potential for taking on productive endeavors. The assumption is that, once their first venture succeeds, families can continue on their own to gain access to the traditional financial system. Evidence suggests that the strategy works: cashew producers

from Serra do Mel in Rio Grande do Norte, honey producers in Simplício Mendes in Piauí, and many other producers who participated in experiences with Fair Trade and others exporting to the EU market have now “graduated” and have accessed the regular credit system.

### **Improving Productive Subprojects**

Profiles of Program beneficiaries show an increasing demand for directly productive investments, once basic infrastructure needs (especially water and electricity) have been satisfied. Therefore, it is crucial that the STUs take measures to strengthen the performance of productive subprojects for which the demand is heaviest.

On-site analysis and investigation of the reasons for unsuccessful productive subprojects shows low investment by the CAs, by the technical assistance providers, and by the STUs themselves. Weak analyses of the technical, economic and environmental aspects of productive subproject proposals may have undermined the potential for success. Examples analyzed by van Zyl, Sonn, and Costa (2000) demonstrate the adverse impact of imperfect knowledge regarding revenues, prices and costs on the eventual viability of productive subprojects. Therefore, a first step toward improving performance will be to *invest in better feasibility analyses, particularly for subprojects that will be exposed to strong market competition*. Of course, sound prior analysis, though necessary, will not guarantee success. *Follow-up and technical assistance* during the operational phase is also indispensable.

Recommendations for *strengthening links with markets and forming both community and producer associations* are equally critical for subproject viability. The first experiments are under way, and States have reported some success on both fronts. In Pernambuco, a productive subproject must be part of a productive network (e.g., agro-industry and fish processing networks). These subprojects are receiving close attention and support from both the Program and other partners. The challenge ahead is to expand the network concept to a wider base of participants. Some States, such as Piauí, have adopted a similar approach using a concept of “territories.” Another successful path explores export possibilities through the Fair Trade and other exporting mechanisms described above and support for selling products to domestic and international supermarket chains.

From the operational perspective, whether using the Fair Trade mechanism or other means of pursuing traditional regional, national or international markets, preparation and approval of investment proposals for productive subprojects should be undertaken only when clear market opportunities have been identified.

Both scholars and beneficiaries agree that *access to land* is a prerequisite for some types of productive subprojects, especially those of an agricultural and livestock nature. The relevance of the land issue becomes more apparent when the Program switches focus from small rural producers (with direct and/or indirect access to land) to entire communities. Although small rural producers remain part of the target group, the explicit incorporation of other groups in the community (e.g., salaried workers, landless rural workers, tenant farmers, women, young people, ethnic minorities) increases demand for access to land as an essential component of the strategy to make productive subprojects viable. This challenge can be addressed both by taking on productive subprojects that require no land, or only a little (e.g., small processing or transformation industries, craftwork) and by expanding the successful *Crédito Fundiário* experience (Chapter 2).

### *Impact on Income and Physical Capital Accumulation*

Results from different studies suggest that the Program positively impacted income and assets, but only one of these studies used a proper control group and analytical design to capture this impact without selection bias. The quasi-experimental study presented here analyzed the impact of the Program on physical capital accumulation, since it is not possible to reconstruct data on income using recall strategies. Finding a positive impact on physical capital means that income did increase, but it is not the only measure of income gains since they can be consumed, used to pay off liabilities or to make new investments.

Appendix B shows the estimated impacts of the Program on the real non-land *per-capita net worth* of households in the quasi-experimental study. The net worth measure includes domestic appliances, autos (cars, motorcycles, bicycles), and agricultural and financial assets net of liabilities, but does not include land value. The team ran similar regressions for total asset value and for the four different asset types separately. The first model in Table B6 shows the average total Program effect on net worth, the second model disaggregates the impact by subproject type, and the third model disaggregates the impact further by subproject type in each State.

The results show the Program's positive impacts on physical, non-land net worth, but the coefficient is only slightly larger than its standard error. All the disaggregated effects by project type and project type by State are also positive, but not statistically significant. The regressions on each specific asset type also show positive impacts, but only a very few of the

coefficients are statistically significant. Therefore, at this time it cannot be definitively concluded in a statistically significant way that the Program has a positive impact on assets.

Nevertheless, *these regressions strongly suggest that there may be a positive impact on assets*. All of the estimated impacts on net worth and almost all impacts on the value of each asset type are positive for all States and subproject types. A total of about 45 different treatment impact coefficients were estimated in all of these regressions, and *to have almost all come out positive would be unexpected if the Program had no positive impacts at all on assets*. Moreover, Table B6 shows that the estimated overall impact of the Program on per-capita non-land net worth is large, namely R\$524 per capita for a population that had only R\$1,255 of non-land net worth to start with. Extrapolating this estimate to the overall beneficiary population would mean that the total impact of the Program on net worth would be about as large as the total Program cost from 1993 to 2005.<sup>36</sup>

The lack of statistical significance of the impact estimates on net worth, total value of assets, and each asset type could be due to various reasons. For instance, increases in income may not be reflected in capital stocks because the poor beneficiaries may have fully consumed all or most income gains from the Program; the sample size analyzed may have been too small to reach statistically significant conclusions, or the recall data may be too noisy (unclear) to estimate an impact with sufficient precision.

In any case, these results align with the largest previous before-and-after study of the RPAP (Buainain & Fonseca 2005a), analyzing short-run impacts comparing baseline and after project data for beneficiaries. The authors found that the average increase in income was not large but, for certain subproject types and in some states, these increases were more significant. The authors found, for example, that in Ceará income increased relatively more, a real income increase of 7 percent, and that, in communities benefited by productive

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36 Given the estimates in Appendix B, Table B6, model 1, assuming this is a true value of the average impact of the RPRP on per-capita net worth assets, the total Program impact can be calculated by multiplying the per-capita impact, of R\$524, by the total number of Program beneficiaries. Using the numbers described above about total projects implemented and an average of 4.5 people per family, the RPRP benefited a total of 11,433,299 people between 1993 and 2005, in all types of projects. Therefore, the impact of the project after three years and only on net-worth assets can be on the order of R\$6 billion (about US\$2 billion using an average exchange rate of US\$1=R\$3). The total cost of the RPRP in the same period (1993–2005) was calculated at US\$1.4 billion (using the exchange rate applicable at the time of each investment). Also assuming this estimate is verified, the percentage increase in assets to an average beneficiary can be calculated. Since the average value of a beneficiary's net-worth is R\$1,255, this would imply that the RPAP has increased per-capita assets by about 42 percent.

projects in the State of Pernambuco, real income increased by 10 percent, all in a short time period of about 12 to 18 months.

Access to land can greatly increase income benefits. Buainain and Fonseca (2003) analyzed the *Cédula da Terra* program targeted at poor rural landless families in Northeast Brazil. Using baseline data collected in 1999, with a re-survey of the same households in 2003 (only of beneficiaries), the authors found that per-capita real income increased by at least 46 percent in the period. This compares with no change in real income for the rural population with characteristics similar to those of the beneficiaries' during a similar time period. Additionally, the researchers found that families invested significantly in agricultural production and that income composition improved considerably as the proportion of agricultural production to total gross annual income increased from 13 percent in 1999 to 65 percent in 2003, indicating a move toward more sustainable income sources. Buainain and Fonseca (2005a) also indicate that RPAP beneficiaries increased their assets (Table 4.6).

**Table 4.6 Asset Accumulation by RPAP Beneficiaries**

<i>Asset</i>	<i>Percent Increase</i>
Water reservoirs	30
Wells and water holes	8
Water pumps	16
Motorcycles	27
Parabolic antennas	26
Refrigerators	17
Machines and agricultural implements	25
Pulverizers	13
Bicycles	almost 8
Televisions	12
Pig stys	20
Leisure automobiles	11

Source: Buainain and Fonseca (2003)

The effects on beneficiaries' assets are not observed to have any spill-over effects to other communal infrastructure. Obtaining one program subproject does not improve a community's chances of getting another one, regardless of the funding source. There may be even some crowding-out effects, which is consistent with the findings that MCs and authorities

focus on covering all communities at least once, “thinly spreading the resources available.”

### *Other Improvements in the Quality of Life*

#### **Housing and access to services**

As indicated earlier, most studies show that housing conditions and access to services—sanitation, access to water and electricity, and presence of an in-house bathroom—greatly improved in communities benefited by the Program. Analyzing a large sample of RPAP beneficiaries, Buainain and Fonseca (2005a) found short-run increases (from a few months to 18 months) in in-house bathrooms from 46 percent to 64 percent and in the use of septic tanks from 27 percent to 48 percent. In Pernambuco especially, where various subprojects financed habitation improvement, these bathroom and septic tank indexes jumped, respectively, from 32 percent to 60 percent and from 7 percent to 22 percent.

In addition, in households benefited by the RPAP, access to piped water jumped on average from 24 percent to 47 percent; treated water from the public network, from 9 percent to 25 percent; water supply throughout the year, from 30 percent to 52 percent.<sup>37</sup> The time families spent collecting water lessened by more than half, from 261 to 138 minutes a day; and the availability of electricity rose from 79 percent to 91 percent of the households (Buainain & Fonseca 2005a).<sup>38</sup>

The repercussions of these impacts are many. Access to potable water means improvements in health and hygiene, and also a reduction in the financial and physical costs of obtaining water from distant wells. For example, both a reduction in health problems and in the heavy work required in fetching water and an improvement in the family’s physical comfort were cited by 73 percent to 85 percent of the households interviewed. More time for productive and leisure activity was cited by 75 percent of the households and a reduction in illnesses by 50 percent of the households interviewed. Access to electricity allowed beneficiaries to use electro-domestic appliances for between 30 percent (Bahia) and 100 percent (Pernambuco) of interviewees. Refrigerators were very important, because they allowed great improvements in the quality and diversification of the family’s food and nutrition. Between 90 percent and 100 percent of the beneficiaries interviewed indicated that real estate values rose after being connected to the electricity network (Buainain & Fonseca 2005a).

<sup>37</sup> On this item, the State of Ceará went from 20 percent to 72 percent of the households.

<sup>38</sup> The State of Bahia stands out in this item, from 67 percent to 86 percent of the households.

### Food security

Food security also showed a modest improvement. Before participating in the Program, 46 percent of the beneficiaries reported adequate food security conditions. After the project this percentage increased to 51 percent (Buainain & Fonseca 2005a).

### Health

Many studies indicate the positive effects of the Program on health<sup>39</sup> but only the quasi-experimental study measured this impact while controlling for self-selection bias. It did this by analyzing various illnesses more common in the rural zones, as well as infant mortality. The data on perceptions of changes in health and infant mortality were collected at community level in a group interview in which community leaders, members, and the community health worker participated. The authors concluded that the Program does reduce infant mortality. Appendix B, Table B7 shows a greater reduction in infant deaths in the communities benefited by the Program, at a statistically significant level of 10 percent.

Regarding more common illnesses, the study analyzed each one separately, as well as a total index of six common illness—diarrhea, verminosis, dengue fever, hepatitis, asthma, and trypanosomiasis (*doença de chagas*). All the results are consistent with the beneficial effect of the Program in diminishing the incidence of these illnesses, although only the impacts on the incidence of hepatitis, asthma, and trypanosomiasis are statistically significant. The consistency of the signs is impressive, even if many of the coefficients are not statistically significant.

Table B8 in Appendix B presents the results for each of these illnesses, and also for the index. In this case, a positive sign of the treatment variable means that the incidence of the illness diminished more intensely in the group of beneficiaries than in the control group.

These results of the impact of the Program on the health of the beneficiaries support earlier studies. Khan and Silva (2002) compared baseline data of beneficiaries, collected in 1998, with the situation of these same households in 2002. They reported an enormous reduction in the incidence of diarrhea and verminosis during that time period. The study by Buainain and Fonseca (2005a) also reports a significant reduction in the incidence of more common illnesses such as diarrhea, even in a short time period.

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<sup>39</sup> See, for example, Buainain and Fonseca (2005a)

## *Social Capital Creation and Improved Local Governance*

Probably the most salient result coming out of the analyses of the Northeast CDD program relates to the very positive evidence that it is creating strong and sustainable social capital in participating rural communities. This, in turn, has positive implications for strengthening public governance at the local level.

### **Social Capital**

Findings on social capital creation clearly contradict earlier expressions of skepticism about the likely efficacy of the CDD approach. These doubts reflected the view that old habits and traditions would pose a formidable obstacle to the distribution of Program benefits to the poorest populations, including: (i) the long-time tradition of dependency of the rural poor in the Northeast in relation to paternalistic local elites (*clientelismo*); (ii) the lack of formal organization of poor communities and their distrust of the state; and (iii) the propensity of local and regional elites to divert public investments in the Northeast to benefit themselves (“elite capture”). A study by Kottak, Costa, and Prado (1994), carried out midway through the R-NRDP articulated such concerns, and these would be voiced by others until the late 1990s.

However, as the Program expanded and gained experience with the FUMAC mechanism, other studies correlated Program activities with increasing community participation and the creation of social capital. This has had impacts beyond implementation of subproject investments *per se*, as the Program’s institutional mechanisms are increasingly being used in other contexts, such as to influence decision-making on priorities and delivery of various other federal and state programs.<sup>40</sup>

In a recent study, Buainain and Fonseca (2005a) concluded that that the CDD Program’s implementation mechanism is a good one. Taking a longer-term perspective, they expressed no doubt that there was notable progress in the development of social capital in the poorest rural communities and that the Program has contributed positively to this transformation. Moreover, they determined that “there does not seem to be a shortcut to overcome the historical deficit of social capital other than building it up slowly” (p. 127).

In contrast, a recent study by the World Bank Operations Evaluation Department (OED) reached more negative conclusions about the

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40 Some examples of these sorts of programs are: *Luz para Todos*, FUNASA; Caixa Econômica Federal; PRONAF; Crédito Fundiário, *Bahia de Toda Gente*, *Bahia que Faz*, and *Caminhos para Bahia*.

Program's impact on the processes of community participation and social capital formation (Kumar 2005). The results have been severely criticized for being based on inadequate use of available literature about the Program as well as for methodological limitations. Criticism of the methodology concentrated on the fact that, instead of constructing a random sampling of the members of CAs who had carried out CDD activities and the beneficiaries of non-CDD projects, it worked with a random sampling of members across entire communities where these interventions were carried out, whether or not they were beneficiaries, and thereby introduced a negative sample selection bias (Kumar 2005, annex S.I). In other words, the study treated the concept of 'community' from a geographic standpoint, while the Program defines 'community associations' as groups of individuals within a community who voluntarily form a group to pursue certain common interests – with no implication that they represent the entire village or town. This criticism of the sample composition process is valid and significant, because informants who did not benefit from the Program may have expressed a negative or uninformed view about the participatory decision-making processes, exclusively by virtue of not having been involved in it. Another methodological limitation of the study was its over-emphasis on "cross-sectional analysis" to the detriment of more appropriate longitudinal analysis, which compares situations before and after the interventions even when based on "recall data." As such, the conclusions reached by this study must be interpreted with care.

Indeed, all studies of the Program's impact on social capital prior to the quasi-experimental study commissioned for this book suffer from some methodological limitations that expose their conclusions – whether positive or negative -- to questions. In general, the sample design and analysis methodologies used did not resolve the problem of sample selection bias and the influence of other factors, observable or not, over social capital. Additionally, they did not present clearly the limitations to their conclusions. The quasi-experimental study has focused on addressing these issues, enabling the researchers to draw more valid conclusions about the Program's impact on social capital creation.

To summarize, the quasi-experimental study results, presented in detail in Appendix A, indicate that:

- community participation has been growing significantly in the communities benefited by the CDD Program, and the growth has been faster in communities that are implementing a subproject now compared with those that did so three years ago;
- many of the Program CAs are also involving themselves with development activities financed by other sources;

- these CAs enjoy immense prestige within their communities and repute among civil society representatives and municipal authorities;
- the participation of rural community residents in Program CAs has grown as much in number as in intensity;
- the decision-making processes are predominantly democratic, both within the CAs and in the MCs;
- the formation of CAs is strongly associated with the perception of increasing trust, solidarity and cooperation among members of the same community and between them and other social actors;
- the CAs are seen as capable of contributing to the improvement of family income, obtaining projects that benefit their members, representing their interests to the authorities and resolving local problems; and
- their activities are all the more valuable because they awaken members' interest in the decision-making processes, mobilize community resources to carry out collective activities, assist needy members of the community, collaborate with other social groups and communities, and frequently are able to obtain positive answers to their demands from municipal authorities.

Moreover, these results reveal *no tendency* since 1993 toward the independent formation of social capital in rural communities in the Northeast, suggesting that variations in social capital must be due to the CDD methodology of forming a CA and implementing community subprojects. By virtue of the dimension more than the concrete values, the rates of change signal in a definite way that a process of intense growth in social capital is occurring in the rural communities studied and that the Program has an immense influence over this change.

It is interesting to note that the quasi-experimental impact study found that although social capital rose most rapidly during the implementation of subprojects, it *continued* to grow (albeit slowly) after completion.<sup>41</sup> This indicates that earlier concerns that social capital generated by the CDD methodology would be short-lived are unfounded, and that after implementation of subprojects there is valuable social capital available for use by other programs.

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41 For a fuller discussion of this topic, see Appendix A, pp. 102-108 on measuring social capital, and the chapter on social capital in *Rural Poverty Reduction Program in Northeast Brazil Evaluation, 1993-2005*, which is being published jointly with this book and contains the detailed results of the quasi-experimental research study.

## Local Public Governance

Studies show that the CDD Program's institutional arrangements improve social control over the public sector and minimize elite capture and political interference, thereby strengthening public sector accountability for local use of public resources.

There are strong indications that the positive effects of the Program on cooperative relations among rural communities, and of communities with the public sector, are having an impact on municipal governance in the rural Northeast. This is because the Program helps establish channels and mechanisms that multiply communities' opportunities to participate in and exercise control over government activities. They also reduce the influence of politicians and other elites with vested interests in maintaining relations of political dependency vis-à-vis the rural poor, and work for transparency in decision making and the dissemination of information. These processes occur at the community level through the CAs and at the municipal level through the MCs.

Buainain and Fonseca (2005a) found that Program rules and participatory mechanisms:

- eliminate opportunities for political actors or other interested parties to behave in ways that foster political or economic dependency among poor communities (by eliminating these actors' control over development resources);
- create incentives for practices that encourage political equality and participation;
- lead to the empowerment of CA representatives and weakening of the links of personal dependence on political leaders;
- demand transparency in decision-making and circulation of information about development programs; and
- promote an environment conditioned by mutual control, because it is in the collective interest that each CA remains a candidate for receiving new projects.

Similarly, the municipal authorities interviewed for the quasi-experimental impact study stated that the activities of CAs and MCs have had a positive influence on municipal administration. They have generated a new model for governance where relations between rural communities and municipal administrators are closer, more frequent, and more reciprocal than ever before.

This widely shared observation by a differentiated group of social actors regarding the impacts of social capital, citizenship, and the practices

of governance reinforces the results reported by much of the most recent literature. Moreover, it shows the importance of CAs as entities for social and political representation of poor rural communities and, consequently, the relevance of the positive effects of the Program in the rural Northeast.

From 1993 to 2005, the CDD Program has met the demands of almost 38,000 CAs and created over 1,500 MCs, covering 89 percent of the rural municipalities in the Northeast. The results of the quasi-experimental study demonstrate that the Program has been instrumental in the creation of one-third of these associations. In the universe of benefited entities, this means that more than 12,000 rural CAs were organized directly through the Program, thereby bringing about a new institutional configuration that has positive impacts on local public governance in the region.

### **Final Considerations on the Potential for Greater Use of Social Capital and Governance**

All the results indicate—in a statistically significant way—that the Program has an immediate and intense impact on social capital formation. This impact derives both from the formation of associations and from the execution of subprojects, a moment of exuberance or euphoria engendered by the collective activities, followed by a period of slower growth. Moreover, the social capital generated by the stimulus of the Program does not decline after the subproject is implemented, which indicates sustainability of the Program's effect on social capital. The Program generates and then reinforces institutional arrangements that enjoy high levels of trust and credibility in the rural communities and which promote social control and transparency and reduce traditional political interference.

All of this suggests great potential for further social capital formation in these communities. However, because of budget limitations in the current generation of Bank-financed CDD projects and the scarcity of other public programs using the community-driven approach, these new social institutions are not being used to their full potential. These institutions are capable of appropriately representing the interests of the poorest populations; efficiently implementing local activities; strengthening horizontal bonds of trust, solidarity, and cooperation among equals; and democratically transforming their vertical relations. They also have the capacity to transform social capital into other forms of capital, especially economic. In spite of the use of the RPRP participatory institutional mechanisms by other Federal and state initiatives, and the increasing focus of the PCPR on leveraging the organizational capacity and social capital of rural communities to access markets, there is still considerable untapped scope to further expand their reach, for purposes of reducing rural poverty in the Northeast.

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## Chapter Five

### Conclusions and Moving Forward

The rural CDD Program in Northeast Brazil is operating on a large scale and has developed the impressive capacity to implement community investments very cost-effectively. From its reformulation in 1993 through the present time, the Program has benefited over 11 million people through more than 50,000 community subprojects. It has facilitated and worked with more than 38,000 community associations and 1,500 participatory municipal councils in all of the States in Northeast Brazil. Community demand first focused on water and electricity supply, and preliminary estimates indicate the Program's enormous impact on access to these services by the rural poor. Some 59 percent and 60 percent, respectively, of rural Northeast households that obtained access to water and electricity in just the ten years through 2003, did so through the Program.

Results from the quasi-experimental study indicate that rural households that obtained water and electricity under the Program would not have had access to basic services from other sources. The Program has also been providing these services about 30 percent cheaper than other public programs, which makes scarce resources go farther.

Studies show that the Program *does* reach poor rural families. Buainain and Fonseca (2005c) indicate that 75 percent of beneficiary families had a per-capita income below US\$1 a day before project implementation. Moreover, findings from the quasi-experimental study indicate that the Program continues to improve targeting over time: people reached recently by the Program were slightly worse-off to begin with than the earlier beneficiaries. Therefore, instead of succumbing to "elite capture",

the Program reaches increasingly poorer families. Many studies suggest that the participatory Municipal Councils are the main reason for this improved targeting.

Women, indigenous populations, and *quilombolas* have benefited from special efforts the Program has made to reach them. Approximately 30 percent of all community associations in the Program are headed by females. Women also benefit as members of households participating in the Program, and they are becoming more active in all Program activities at the local level. All States that have indigenous populations already have specific plans for reaching them (indigenous communities are participating in the Program in a higher proportion than their share in the total population). *Quilombolas* have also become target groups in the States where they live, with the Program reaching more than 50 percent of all *quilombola* groups residing in the Northeast.

Project quality and beneficiary satisfaction are high, with more than 90 percent of the individual beneficiaries consulted reporting that they are happy with the quality of construction materials and with the overall project quality. This was not achieved at the expense of sustainability, which is also high. On average, 80 percent of sub-projects were operational at the time of the study, i.e. some 3-5 years after completion. For more complex productive projects (e.g., milk processing, cashew nut processing/packaging facilities), sustainability depends crucially on effective market linkages. This in turn requires strengthening of pre-project analysis of technical, economic, financial, and environmental viability. This is now taking place and will continue to be a priority moving forward for the project staff.

The Program significantly improves its beneficiaries' quality of life in terms of health, housing conditions, and access to services. Access to water and electricity has different effects on many aspects of beneficiaries' lives, including positive effects on health, and reduction of physical effort and financial expenses to obtain water. Regarding health outcomes, the quasi-experimental study suggests that the incidence of child mortality and various diseases—such as diarrhea and verminoses—has decreased in communities benefited by the Program, and it obtained statistically significant findings that the Program has reduced asthma, hepatitis, and trypanosomiasis.

The Program's effect on assets is less clear at this time, though initial findings indicate a positive impact. Since it was impossible to reconstruct data on income, the quasi-experimental study analyzed the impact on physical capital (non-land net worth). They estimated about 45 different treatment impact coefficients in all of these regressions, almost all of which

came out positive, although only a few were statistically significant. With such a high number of positive coefficients, it would be unlikely that the Program had no positive impact. Thus far, these regressions strongly suggest that the impact may be positive because all of the estimated impacts on net worth and almost all impacts on the value of each asset type are positive for all States and subproject types. Moreover, the Program's estimated overall impact on per-capita non-land net worth is large—a R\$524 per capita increase for a population that had only R\$1,255 to start with. To put this in perspective, if one were to extrapolate this result to the entire beneficiary population of the Program, it would mean that the aggregate impact on per capita non-land net worth may have been as large as the total Program investment during 1993 to 2005.

The lack of statistical significance of the impact estimates on net worth, total value of assets, and each asset type could be due to various reasons—e.g., increases in income may not be reflected in capital stocks because the poor beneficiaries may have fully consumed any income gains from the Program; the sample size analyzed may have been too small to reach statistically significant conclusions on these impacts; or the recall date may be too noisy (unclear) to estimate an impact with sufficient precision. The research team recommends further analysis of this issue. Nevertheless, data from the clusters of about 2,000 families who have been linked to national supermarket chains and to international markets in Europe and the US, indicates that their incomes have increased on the average by about US\$2,000 a year.

Finally, the Program has strong, positive, statistically significant and sustainable impacts on social capital and is helping to improve local public governance in participating States. The results from the quasi-experimental study strongly indicate the Program empowers beneficiaries and builds significant social capital within communities and municipalities. Moreover, the results show that the social capital created continues to grow even after subproject completion—thus disproving the initial skepticism about the efficiency and sustainability of the demand-driven strategy that the Program uses. The institutional arrangements and transparency mechanisms established for the Program promote social control over the public sector and minimize elite capture, political interference, and corruption. Furthermore, the Program has created an impressive institutional mechanism that is already being used to channel funds from other programs for local and community development in several States. It has potential to be used more and integrated into public policies at local, State, and Federal levels.

## Can This Work in Other Countries?

Representatives of governments, NGOs, and the private sector from a great variety of countries have visited the Northeast Rural Poverty Reduction Program, including the community-based land programs.<sup>42</sup> At the same time, members of the Bank's Northeast team have participated in designing CDD programs in many countries, including, Argentina, Bangladesh, Ghana, India, Mexico, Mozambique, Nepal, Philippines, and Sri Lanka. Visitors first arriving in Brazil and officials welcoming Northeast team members to their countries, often remark that this type of program works well in Brazil, because it is a richer and more developed country with a longer tradition of democracy, and community organizations have been operating for a very long time.

After the visits, skeptical officials recognize that, while Brazil may have a higher per-capita income, the pervasiveness of inequality and poverty, especially in the rural Northeast, is not unlike conditions in their own countries. They understand that Brazil only emerged from 20 years of military rule in 1985, and that Brazil does not have such a long uninterrupted tradition of participation and community involvement. In fact, many countries—particularly in Asia and Africa—have a much longer and richer tradition of community organization. As a result of these visits, some of them have moved to design and begin to implement CDD programs of their own.

### *Elements of Success*

The CDD model is not a blueprint for success and that should simply be applied to another country. Instead, there are a few general principles that are replicable and that other countries can take and apply to their unique situations.

**Communities in the driver's seat.** Some basic CDD principles seem to apply across countries. The focus of action in the Brazilian CDD Program is the *community association*, which works because it is a self-selected group of people who identify a common need and work together to fulfill it. The Program puts money directly into the association's bank account, which they invest according to their needs and priorities. When these groups contract service providers for technical assistance and implementation, the results are normally less expensive, and often of better quality, work than similar investments executed by the public sector. These investments

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<sup>42</sup> Some of the countries include Bangladesh, Bolivia, Cambodia, China, El Salvador, Guatemala, Haiti, Honduras, India, Malawi, Morocco, Panama, Paraguay, South Africa, Sri Lanka and Zimbabwe.

give the community a sense of ownership, which results in much better maintenance of investments than when the communities perceive them as belonging to the government.

**Building self-worth.** Perhaps the most important element of Brazilian CDD Program is that community associations have a bank account, manage financial resources, and implement activities they never imagined they would be able to do. These responsibilities bring empowerment and a sense of self-worth to communities as they shoulder them (Box 5.1). One Northeast team member, who has also provided assistance to CDD projects in such countries as India, Sri Lanka, and Nepal, has seen that this principle is valid across regions because it relates to basic human conditions.

*To be human is to be self-seeking by nature and when you have resources it attracts attention and people want to participate in meetings and organize. But meetings alone don't fill stomachs. When people know there is money available, they become interested and it helps them to organize.*

— Participant in grupo Ativo de  
Mulheres Agricultoras de Caboré,  
State of Rio Grande do Norte,  
2005

**High-level political support.** Government commitment at the highest level and the perceived need to obtain results on the ground is another essential condition for getting positive results with the CDD approach. In Brazil, the Governors of each of the ten participating States bring this commitment through their advocacy, by providing counterpart funding, and by selecting qualified and dedicated technical unit staff to coordinate the program and enforce the rules of game.

**Simple, enforceable Program rules.** The principle that the rules of the game should be few and enforceable seems to yield similar results across countries. The central requirement is for direct transfer of resources to beneficiary groups, comprising target group members—all of them participants in decisions about their community's investment priorities. After that, the next most important rule is that beneficiaries understand and agree among themselves how they will go about finding and contracting for technical assistance to prepare and implement proposed investments. There must also be clear agreement among them on how they will maintain the investments. All these elements must be taken into consideration when evaluating a community's commitment and capacity to implement an investment. Local authorities should participate in the Program (important

### **Box 5.1 Finding water—and respect—after generations**

In Brazil, residents of one community that had constructed a water supply system for 80 families expressed their happiness at finally having running water in their homes—a dream they and their parents and grandparents had had for many years. Yet, as important as the water was, they believed that the most important impact of the Program was that they now feel like real human beings. Asked what that meant, they responded:

*In the past, if we passed in front of the local bank, or if a dog passed in front of it, the bank manager would not notice the difference. We were invisible to him. Now, because we have a big account for the size of this local branch, the manager stops us and invites us to have coffee with him. He has even visited our community. No bank manager ever did that before.*

In India, Sri Lanka, and Nepal, beneficiary communities have used almost the same examples and words, in describing their feelings.

to ensure long-term institutional sustainability), but the decision-making process must be fully participatory. In Brazil, voting power in the choice of community investments is held 80 percent by representatives of potential or current program beneficiaries and 20 percent by representatives of local government. Other institutions such as representatives of NGOs, churches or civic groups can also participate.

Although experience has shown that these fundamental principles can be applied in countries as culturally diverse as the ones mentioned above, operational aspects should be tailored to particular country situations. For instance, the technical units in Brazil are normally attached to state-level planning secretariats and have significant autonomy. Elsewhere, the agencies can range from private foundations to central ministries. The extent of participation and involvement of NGOs may also vary.

## **Looking to the Future**

At this stage, the Northeast State governments are using the second phase of the Rural Poverty Reduction Program (RPRP), and the important social capital and participatory Program mechanisms, to scale up the Program even further and increase its impact on improving rural livelihoods and incomes. An important part of the strategy is the linking of small farmers

to national and international markets. The other is to mainstream the Program's participatory mechanisms by using them for priority setting, channeling of resources and implementation of other State and Federal programs.

Over the last few years, and particularly during 2006-2008, as communities have satisfied basic socio-economic infrastructure needs, they have been increasingly prioritizing subprojects that raise incomes and employment.<sup>43</sup> Efforts to link small farmers to national supermarket chains and to international markets are also increasing, and this will continue in the future. During recent visits, representatives of European and US importers, while recognizing difficulties that need to be addressed, have been extremely impressed with what has been achieved under the RPRP/PCPR in terms of both the degree of organization and the very large number of rural producer community groups which have been formed and established a track record of participatory decision-making, management of financial resources and implementation of investment activities. The absence of such conditions has often limited efforts to link small farmers with markets in other countries.

In terms of scaling up use of the program's participatory mechanisms, for every US\$1 of World Bank financing, the States of Bahia, Maranhão, Ceará and Piauí are using them to channel between US\$5-10 equivalent of funding from other State and Federal programs, thereby ensuring that these programs also reach the rural poor and do so much more cost-efficiently. In addition, the mayors of many rural municipalities are enlisting the help of the Program-developed Municipal Councils to decide how to allocate municipal budgets.

The consensus among practitioners (from the states and the Bank) and State and local authorities is that in the future, the CDD program should focus on further expanding the trends it has helped developed so far. Despite the important results documented in the previous chapter, the amount of resources channeled from the Bank-financed program has been small compared with the needs; inequality and persistent poverty in the Northeast region. The municipal, State, and Federal governments have a proven mechanism at their disposal to which they can add substantial amounts of their own resources to change this situation. State and Federal programs results on the ground will be greatly enhanced by using this

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43 This has been the general experience in Northeast Brazil with CDD sequencing in a Program setting where communities have been quite free to prioritize their needs without top-down efforts to tilt decision-making towards particular ends – i.e., basic needs and services first, then incomes, productive improvements and market linkages second. The authors do not suggest that this would necessarily be the same pattern in all settings, as choices would be influenced by start-up conditions in terms of basic infrastructure and services, livelihood issues, etc.

*The biggest innovation that [the Program] has brought to Piauí is the integration with other government development programs in the state such as the Caixa Econômica, the Ministry of Agrarian Development, the Secretariat of Rural Development, etc. A group of actions that, in addition to guaranteeing the basic tools necessary for development, provide effective mobilization and participation of civil society.*

— **Wellington Dias, Governor of the state of Piauí, March 2006**

mechanism across the board.<sup>44</sup> The decisions will be made by the community associations and Municipal Councils, with both actors will be better informed about which investments would have the most impact at the municipal level. Successful examples of this integration already exist in every state, and its generalization will increase

efficiency in the use of government resources and its impact on reducing poverty.

Another important aspect has been incorporated and should be further developed. Early on, the Program's priorities focused exclusively on meeting locally-identified needs and empowering communities to meet those needs. Now, empowered communities contribute significantly to local decision making, and the Program is introducing higher-level government priorities into the Program in an effort to magnify the poverty reduction impacts. One example is the focus on the Human Development Index (HDI) introduced in the RPRP. In Maranhão, improving HDI is a State priority, and State representatives have started to participate in Municipal Council meetings to provide pertinent information about the HDI and what kinds of investments will help improve the municipality's HDI to local community and local government representatives.

Had this approach been followed in the past, it would have been seen as "just another government program" from which the communities and sometimes the local governments felt removed. Today, the community associations and Municipal Councils receive information and discuss with State or Federal government representatives what to do, how to do it, and what roles they can play to ensure successful implementation of programs they want.

<sup>44</sup> Examples of Federal and State programs which have already started to use these mechanisms are: *Luz para Todos*, FUNASA; *Caixa Econômica Federal*; PRONAF; *Crédito Fundiário*, *Bahia de Toda Gente*, *Bahia que Faz*, and *Caminhos para Bahia*.

### *Further Scaling Up*

The community-driven Northeast Rural Poverty Reduction Program, and the related *Crédito Fundiário* program, have developed functional institutional mechanisms for executing local investments that could become fully institutionalized in the Brazilian government. In light of the Program's proven capacity to reach the rural poor and implement projects cost-effectively, it could become the main implementation mechanism for demand-driven community and municipal development programs. To do so, the Program's participatory Municipal Councils would need to be further integrated with other project-specific councils to form municipal development councils, something that is already taking place in some municipalities.

The Program and its participatory mechanisms could become the primary method for executing various Federal, State, and municipal programs at the local level. Each level of government could add significant fiscal resources of its own to the program, preferably as fungible budget envelopes for the Municipal Councils.

### *Questions for Future Research*

The research team designed a quasi-experimental study to fill a gap in knowledge about the impacts of the Program, because of limitations in the conclusions reached by previous impact studies. However, some questions remain unanswered. How does the Program impact individual investments, total asset value, and net worth? How does the Program impact income? Is this best measured by analyzing investment, consumption, or both? How does the Program impact on child mortality and diseases among the total beneficiary population? Will actual observations reinforce key informants' perceived changes?

To close these important knowledge gaps, the existing 2005 FECAMP baseline study (Buainain & Fonseca 2005c) will be resurveyed, because it included questions on these very issues and it surveyed a large sample—around 3,000 households in three states. The still-open question about the impact on income can be answered only by using baseline data on income collected before or just after project implementation, as the FECAMP survey has done. The resurvey of the FECAMP study will be done using the range of methodologies to correct for self-selection bias, such as propensity-score matching and difference-of-difference methods.

## Concluding Thoughts

For over 30 years, the Government of Brazil and the World Bank have evolved an approach to poverty reduction through experimenting and learning what works. Today the Northeast is less vulnerable to drought, and the economy has been shifting to less vulnerable activities. Agriculture, 30 percent of regional GDP in the 1960s, accounts for less than 10 percent

today—although it is still important in the region. Respectable progress has been made on infrastructure, with new installations for transportation, communications, energy, water resources, sanitation, manufacturing, medical services, and tourism. GDP has grown and social indicators have

improved. During droughts, relief programs have managed to reach the people in need. New irrigation schemes have proven successful, and the manufacturing sector is able to compete nationally. Human capital has increased, and new social capital has been formed. On the environmental side, institutional improvements have been made, although pressures have been building on natural resources.

The Northeast RPRP has been successful and cost-effective in opening access to basic socioeconomic infrastructure and services for the rural poor, which were neglected by most earlier centralized government programs. The Program has improved the beneficiaries' quality of life in both physical and social terms.

Through its participatory mechanisms and scaling up to every State in the region, the program has created impressive institutional machinery for local and community development. In addition to empowering the beneficiaries and tapping a remarkable and previously unexploited community capacity to implement investments, the Program has built significant social capital within communities and municipalities. This social capital has improved governance and reduced corruption.

Community association members have a new-found confidence in themselves and in their abilities. After several years of watching

*The importance of this program is that . . . wherever [it] goes, that region is changed, whether in terms of infrastructure or in the way things are done. For example, when the program brings a tube well to a community, we can see that people who have never in their lives had a vegetable in their house now have tomatoes, cilantro, mango, okra, everything . . .*

**—Interview, Antonio Ivo de Medeiros,  
Mayor of Santa Luzia, Paraíba October  
2005**

how the Program operates on the ground, Cassio Cunha Lima (2005), Superintendent of SUDENE during the reformulation, noted that,

*“It’s not just a simple statistic... There is a real transformation among the members of these community associations that goes beyond the life of the program. From the moment the [community association] members first assemble and begin to understand that they have rights—and also the capacity to resolve their problems—that realization affects their behavior in all aspects of life.”*

Access to infrastructure—such as safe water—has been undeniably important for poor, rural communities. But more important for their long-term development has been the impact both on empowerment and on the formation of social capital. The Governor of Bahia summed it up this way:

*I believe in this model of community involvement and participation because the rural poor know what their problems are and, when they work to resolve these problems, they also become responsible for the solution. I always say, if we are going to do something, we do it together; if we make a mistake, we make that mistake together as well. . . . Many times the communities know what they want, but the way to go about getting it may depend on receiving outside assistance, particularly in terms of technology. But when you respect their will to achieve the desired result it’s much easier to find technological solutions.*

—Interview, Paulo Souto, Governor of the state of Bahia, October 2005

By the same token, the Municipal Councils have played a critical role in the transparent and participatory allocation of resources from the Bank-supported program. They have improved targeting, prioritization, and integration of these investments with other investments in the municipality financed from other sources. The Program’s most important long-term impact, however, comes from its spillover effects in creating social capital and improving local governance.

The challenge now is to transform the social capital created in community associations into economic capital for the region. Using their good common sense to make the best of opportunities offered by the Program, poor rural communities first opt for basic infrastructure subprojects and then move on to productive investments. In practice, investments in basic infrastructure not only have a positive impact on a family’s well-being, but also serve as a prerequisite for many types of directly productive,

income-generating investments from irrigation to commerce and small-scale processing industries.

Then, community associations can further develop their products and link them to markets, including both the export market (about 1,000 community associations have been exporting to the European Common Market) and national and regional markets. The approach being used is the creation of mechanisms that link the community association directly to the buyers, with them (or their representatives) providing technical assistance in terms of the preparation, processing, packaging, and transport of products needed to comply with buyer requirements. Those mechanisms include a series of programs supported by NGOs (i.e., Fair Trade), as well as direct work with national and international buyers and socially responsible enterprises—including large local and international supermarket chains with a social agenda, and manufacturers of socially- and environmentally-responsible products. Experience has shown that there is larger demand for products from poor, rural communities of developing countries than their ability to organize themselves and supply viable amounts in a reliable manner and with consistent quality.

There are hundreds of beneficiary community associations producing, or with the ability to produce, the same product (e.g., there are 600 community associations producing honey in Piauí, 700 in Bahia, and 300 in Pernambuco). The technical units have facilitated visits to community associations by importers from both the European Common Market and the United States. These importers, once they have shown their interest in the products, provide technical assistance about the types of equipment needed and processing requirements, as well as packaging and labeling for export. The Program finances the equipment needed to comply with quality requirements, the private sector (or NGOs) works with the communities (for a fee) on all bureaucratic export requirements, and the community associations have grouped and organized themselves into numerous export clusters to ensure volume and reliability of supply. After the first exports, the communities themselves (or a large number of them) are able to maintain direct contact with the buyers through the use of the Internet. The same principles apply for the supply to local supermarket chains. It is expected that over the next three to five years, thousands of community associations will be connected to the local and international markets.

Summing it all up, the Brazilian experience is showing on a very large scale that, given the chance, poor people - even illiterates - can do much more to help in the solution of their own problems than many development practitioners and governments assume.

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# Appendix A

## Methodology of the Quasi-experimental Impact Study

This appendix describes the methodology used in the Northeast Rural Poverty Reduction Program (hereafter referred to as the Program) impact evaluation and explains the methodologies commonly used in impact evaluations. It is written for readers who do not have a strong background in evaluation methods and statistics but who want to know on what we base our conclusions and how we reached them.

### *About evaluation studies and methodologies*

There are many different types of evaluation studies, and they serve many different purposes. They range from measures of project expenses and the number and type of projects funded and completed, to case studies of projects, supervision reports, and impact evaluation studies. Different types of studies have different purposes, but sometimes studies are used for purposes they were not designed for, or to answer questions they were not designed to answer. First, we discuss “impact evaluation” and the exacting design standards these evaluations have to fulfill.

However, there is a wealth of other studies available about the Program. To provide a map to this literature, we have classified these studies by the methodology used. In the second part of this appendix, we present this classification and provide guidance on what types of conclusions and inferences each type of study can reliably support. Each study

in the literature was also classified according to this typology, and the numbers under each classification are provided.

### *Standards and methods for impact evaluation*

#### **The gold standard of impact evaluation**

To rigorously evaluate the impact of a program (or *treatment*) such as the Program described herein, we need to compare a group of households or associations that benefit from the program (the *treatment group*) with a group of households or associations that did not benefit from the program (the *control group*). And we need to observe both groups *before and after* the starting date of the program. That means we need both a *baseline survey* and at least one *follow-up survey* including both groups. Moreover, we need to ensure that the treatment and the control groups do not have different characteristics that would influence the way the treatment affects them. The classic way to ensure that there are no significant differences between treatment and control groups is an experiment, in which individuals are randomly assigned to the treatment and the control groups. The gold standard of impact evaluation, therefore, is an experiment with *random assignment of individuals* to treatment and control groups, and with a *baseline survey and follow-up surveys* of the variables that could be affected by the program.<sup>45</sup> Both random selection and baseline surveys are critical to meet the gold standard.

**Random selection.** The Program design invites people who are members of an association or who want to form an association to apply for program benefits. The reason is that willingness to work together in an association is a necessary condition for success (and a legal requirement under Brazilian law). Therefore, beneficiaries and their associations *select themselves* into the program, that is, into the treatment group. Without violating a basic feature of the program, it is not possible to take a sample of individuals and randomly assign them to the treatment or control group.<sup>46</sup> The lack of random assignment (or of an appropriate correction for it in the analysis) means that systematic differences are likely between the members of the control group and the treatment group. For example, the members of the treatment group could be better educated, more enter-

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<sup>45</sup> Even experimental studies that satisfy these exacting conditions are subject to problems (Ravallion 2005)

<sup>46</sup> Random assignment also means that some individuals or associations are denied the benefits of the program until the end of the evaluation period. This is a condition that program sponsors usually find hard to accept.

prising, or wealthier than those in the control group. Even in the absence of the project or treatment, they would therefore have higher income or asset growth than the control group. When we measure the difference in income growth between the two groups, *the treatment effect*, we would not know whether it rose because of the treatment, or because the treatment group was better equipped to improve its income to start with. The observed difference in performance would therefore overestimate the treatment effect. This error in the estimation of the impact is called a positive *sample selection bias*.<sup>47</sup> Next, we will discuss ways of making up for the lack of random selection.

**Baseline data.** The need for baseline data is universally acknowledged. It allows for the measurement of the treatment impact between the baseline period and the resurvey period(s). Various RPAP studies have collected baseline data, including the Buainain and Fonseca (2005c) study and various random baseline studies carried out in 1999 such as FETARN/IICA (1999) and Fonsêca and Melo (1999). If later the sample units in the baseline are resurveyed, we end up with before and after data for both a treatment group and a control group. With such data, we use the *difference of difference method* to estimate the treatment effect. If, for example, we want to measure the treatment impact on income, we subtract the income gain of the control group from the income gain of the treatment group. If incomes of both groups grew over the period for reasons unrelated to the program, but the treatment group's income grew faster, this method cleans out the underlying income trend. Few evaluations, however, are based on such "*before and after*" data. As a consequence, many investigations are based on comparison of project beneficiaries and non-beneficiaries long after the treatment has been implemented and it is too late to randomly assign individuals to treatment and control groups. The investigator can only do "*with and without*" comparison of the treatment groups at the same point in time, but these comparisons are inevitably plagued by sample selection biases. Again there are a number of methods to partially or fully overcome such biases, and they will be discussed in the next subsection.

### *Making up for lack of random selection*

The basic idea is to match the beneficiaries with non-beneficiaries who are as similar to the beneficiaries as possible. For example selecting beneficia-

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<sup>47</sup> Sample selection biases can also be negative, as when sicker people go into treatment because they hope the treatment will improve their health.

ries from the same village, the same occupation, and/or the same income group as non-beneficiaries would make them more similar to each other and eliminate parts of the sample selection bias.

Because individuals and communities differ in many respects, an index has to be constructed out of the observed variables that allow matching of individuals via a single variable. The most commonly used technique to do this is called Propensity Score Matching (PSM). This technique involves collecting good data on many characteristics of the members of the treatment and control groups, which we call the  $z$  variables. A variable  $x$  is then constructed, which has the value of 1 for the treatment group and the value of zero for the control group. The following multiple logit regression is then run *to explain the probability of an observation being a member of the treatment group* or a member of the control group:

$$X = bZ + e,$$

where  $b$  is the coefficient explaining how a variable impacts on the probability and  $e$  is an unexplained error. The regression can then be used to predict the propensity score (the probability of being in the treatment group) for each of the observations. Observations in the treatment group can then be compared to observations in the control group with similar propensity scores. We used this technique extensively in the quasi-experimental study.

The problem with this method is that unobserved or unobservable variables can have an impact on the probability of becoming a member of the treatment group. For example, individuals and associations with higher ability or better quality education could be more likely to apply, but we have no data on ability or quality of education. Therefore PSM cannot correct for the impact of unobserved variables, and an *unobserved variable bias remains*.

The *difference of difference method* can partially overcome the heterogeneity between treatment and control groups associated with unobserved variables. Suppose the unobserved ability increases the baseline income of an individual but does not affect the subsequent income growth. Then the gain of income of any individual during the treatment period is independent of his or her ability. When we subtract the income gain of the treated group from the income gain of the control group, the resulting difference correctly measures the treatment effect. However, if ability also affects the growth of income, an unobserved variable bias remains. It is for this reason that the difference of difference method is also called the “*fixed effects method*.”

An additional way to partially overcome the sample selection bias is the “pipeline” method. Under this method, all individuals or communities in the sample selected themselves into the program, and therefore are more similar to each other than individuals not interested in the program would be. But the treatment group entered the program shortly after the baseline, while the control group entered the program shortly after the resurvey. For example, a program could have been rolled out in phases and become available to the control later for reasons that had nothing to do with their observable or unobservable characteristics. The pipeline method reduces sample selection biases to the extent that this assumption is correct.

As will be seen shortly, the quasi-experimental impact study of the Program combines all three methods to reduce remaining sample selection biases to a minimum.

### *Making up for a missing baseline*

The main method to make up for a missing baseline is to use recall data that ask respondents to provide information from before the time the project was started. But human brains are limited and cannot reliably recollect huge amounts of information. Therefore, recall data have to be used with great caution. To anchor people’s memories, recall data are best collected for dates when important events occurred such as a major political event or a major drought. The quasi-experimental study of the Program, for example, uses the date of the last time Brazil won the World Cup in football (in 2002). Recall data should be confined to important and easily recollected information: Most people will have no problem recalling where they lived five years ago, how many children they had, whether they lived in their own house or rented one, the characteristics of the house, whether and what kind of car or other assets they owned. But it would be chancy to ask a farmer how much income he earned five years ago or even how much maize he produced. This study, therefore, focuses primarily on asset and debt data, rather than income and consumption data. We use these data to reconstruct the net worth of households before and after the treatment. If a program or treatment has a significant impact on incomes, it should be reflected in the accumulation of assets.

In addition to economic variables, recall data can also be used for social and health variables. Most people would remember which associations they belonged to five years ago, whether the number of friends increased over the period or decreased, and whether they could have relied on friends or family members for support in an emergency. On the other hand, remembering how much money they contributed to an association

five years ago would be difficult to recollect. They may also be able to state whether health conditions and infant mortality have improved or deteriorated. We therefore also collected data on easily recalled social capital and health variables.

Despite the opportunity to use recall data, few of the evaluation studies of the Program did so. Instead most studies relied on with and without comparisons. A partial way to overcome the biases arising in such comparisons is to use regression analysis, in which the impact variable of interest (such as income) is regressed on observable characteristics of the treatment and control group members. For this method to fully eliminate any biases, all variables affecting income growth must be included in the regression. But many such variables are not observed or may be intrinsically unobservable. For example, it may be possible to observe an individual's years of education but not the quality of the education or his or her ability. The omission of such relevant variable leads to *left out variable biases* (also called unobserved variable biases). Experience from many studies that allowed for evaluation of left out variable biases suggests that they tend to be large and that even the inclusion of many well-measured variables will not eliminate them. Increasingly, therefore, the use of with and without comparisons is being abandoned as a technique for impact evaluation. Such studies can, however, provide other useful information, a topic discussed below.

### *A classification of available data and studies on the Program*

We will now discuss the broad purposes of each type of data and study and give examples of the conclusions that can reliably be drawn from them. Table 12 summarizes the number of studies we found in each class of studies. Later, we will use the insights from this section and the classification of the studies to make sure we report only findings from the pre-existing literature that can be supported based on the methodologies and data collection methods used in the studies.

### **The Management Information System**

Since the reformulation of the NRDP in 1993, the technical units in each state have developed strong and similar management information systems (MISs). Each state uses its MIS for its own management purposes and also sends each month a set of common and comparable data to the World Bank office in Recife and headquarters in Washington. This allows the World Bank to monitor progress of the overall Program across states.

The MIS system traces the progress of each subproject, from the date an association submits a proposal until the project completion, acceptance of the communities' financial accounts by the technical unit, and finally the signature of a document between the association and the technical unit acknowledging that project execution has been concluded to both parties' satisfaction.

The MIS system is therefore the source of data on program expenditures and outputs in terms of the number, size, and types of projects; the number of families benefited; the location of the subproject; the elapsed time between each project step; budgets and expenses of each subproject, and so forth. The MIS system monitors whether the legal status of each association and the expenditure reporting by them is up to date. For example, the system checks whether the terms of their presidents have expired and they have been reelected. The system has a registry of potential technical assistance providers. Two states also monitor the political party of each municipality's mayor. Finally, the MIS also contains all the communications between technical units, communities, and Municipal Councils; the supervision reports by the technical unit; and the agreements among the different actors.

All project samplings ever conducted—for World Bank supervision missions and for every research study—are based on the MIS system. MIS information is used in this book to describe the overall evolution of the program, the types of projects implemented, their cost and geographic distribution, the number of beneficiaries, the rate of project repetition within the same associations, and the speed of subproject implementation.

## *World Bank Reports*

### **Supervision reports**

Program supervision is a management tool of the World Bank to ensure that projects achieve their intended objectives. The Bank reviews each project in each state at least twice a year. Program supervision focuses on whether progress is satisfactory; whether it is achieving its objectives; whether financial, procurement, and monitoring and evaluation systems are working properly; and whether the legal project covenants are being adhered to. Supervision missions also identify any problems encountered in project execution and agree on remedial actions. A supervision mission therefore involves both the study of project records at state level, as well as field visits to communities and Municipal Councils for evaluation of project processes, financial accounts, and subproject quality. Subprojects to be visited are selected at random. At the conclusion of the supervi-

sion mission, the findings are summarized in an Aide Memoire and in the Implementation Status Report (ISR). In the ISR, project implementation and the various project processes are rated satisfactory or unsatisfactory.

Supervision reports are a rich source of insights into how a project is going and whether it is achieving the intended outputs. They are not independent evaluations, because they are often done by people who have been involved in the project development or its subsequent evolution. A constant fear therefore is that the supervisory World Bank staff members are no longer independent observers and may be over-optimistic in their project assessment. The supervision reports summarize expert opinion, not results from systematic surveys. Nevertheless, they provide the first assessment by those responsible for the project on many of the issues also covered in independent evaluation studies, ranging from program targeting to subproject quality, costs, and impact on production and welfare.

### **Quality Assurance Reviews**

Reports by the Quality Assurance Group (QAG), reporting to World Bank management, enable performance to be improved while a project is being prepared or implemented. Like reports by the Bank's Operations Evaluation Department (OED), QAG reports may be based on desk reviews of project documents or on field visits. The reports may deal with project preparation or specific topics such as supervision quality, financial management, or procurement (e.g., example, findings on procurement in Paraíba, Ramalho 2004; on water resource management in Bahia and Pernambuco, NCA, 2002; and on the quality of procurement by associations in Bahia, International Development and Finance, Inc. & PRICEWATERHOUSECOOPERS 1999).

### **Expert Opinions**

Expert opinions present analysis of previously existing information, sometimes supported by field visits to projects.

### **Research Studies**

Many research studies, particularly those involving large surveys, were commissioned and financed by the state technical units out of project funds. Terms of reference were often designed with World Bank involvement, either in the writing of the terms of reference or via comments made during the "no objection" process for using project funds to pay for the studies. Most studies were then subject to competitive selection of independent consultants, whose proposals covered study design and data collection, as well as the analysis. The consultants with the winning bids then carried

out the studies independently until the first draft stage, when project units and World Bank staff members would comment on the studies. A typical example of these processes was the development of the Physical Performance Reviews (*Estudos de Desempenho Físico*, EDF) carried out in seven states. These are the main sources of findings presented in this book on the physical quality of the subprojects and on the associations' procurement procedures.

Some of the studies were also directly commissioned by the World Bank, such as the large review of the program by van Zyl, Sonn, and Costa (2000). Their large and comprehensive study included review of existing studies, analysis of existing MIS and survey data, as well as additional data collection on selected topics such as the performance of productive subprojects and the development of social capital.

Other studies were initiated by independent researchers, often in the context of masters theses and doctoral dissertations. A typical example is the doctoral dissertation by Matos Filho (2002), the best example of a subproject sustainability study.

## **Classification of the research studies**

### *Case studies*

Case studies involve one or several community projects, the work of the Municipal Councils, or both. Most are descriptive of processes, perceptions, and results, but some also quantify the results. Case studies are particularly useful as early warning systems of problems that may arise to generate hypotheses that can be tested later in more representative studies or to obtain reliable interpretation of quantitative results gathered in surveys. But they are not statistically representative so that no definitive conclusions can be drawn from them, especially not in terms of impacts.

A good example of a study that served as early warning is Nichter (2003). An example of a study that generated hypotheses tested later in larger surveys is Kahn and Silva (2002), which pointed out more emphatically the health effects arising from the water supply and sanitation projects. An example of a case study that helped interpret quantitative results was Instituto Civitas (2004).

### **Random cross-section surveys of beneficiaries, associations, and subprojects**

Random cross-section surveys are done before, during, or after the implementation of community subprojects. Some of them include a control group; others do not.

**Random baseline surveys**

Random surveys are made of communities and beneficiaries that had not previously received any projects. For example Sampaio et al. (1999) carried out such a survey for Pernambuco. Had the random sample been resurveyed, it could have formed the basis of a rigorous impact analysis, using some of the techniques discussed above to correct for sample selection bias. As it stands, the study can only discuss the characteristics of the rural population.

**Without any control group**

Studies without any control group can provide information about project beneficiaries, their satisfaction with projects, the processes used to carry them out, and the direct project expenditures and outputs. The baseline studies by Buainain and Fonseca (2005c), for example, report on the percentage of beneficiaries below the poverty line. The EDF studies discussed above analyzed project quality and user satisfaction. Both sets of studies include control groups, but the data for the control groups were not analyzed.

**With and without studies with comparisons to state means**

Some studies did not collect data from any control groups but instead compared the characteristics of beneficiaries with the mean characteristics of the rural population of the state or with the rural poor population. For example, Buainain and Fonseca (2005c) showed that the beneficiaries of the RPAP had a slight advantage in terms of education over the mean of the poor population in Ceará, Bahia, and Pernambuco.

**With comparison to a control group within the same survey**

Most studies with comparison to a control group within the same survey were designed to measure impacts. As discussed above, these comparisons will suffer from self-selection bias and can therefore not be used for a program impact analysis. None of the existing studies used propensity score matching to try to reduce such biases.

**Before and after studies**

The best way to collect “before” information is to carry out a baseline survey, followed by one or several resurveys. Kahn and Silva (2002) is the only such study, in Ceará. A number of studies used recall data, including the Buainain and Fonseca (2005a) study for immediate impact.

### **Before and after studies of beneficiaries, associations, and projects**

The classic economic return studies of productive projects carried out by the World Bank for decades use the before and after approach. Van Zyl, Sonn, and Costa (2000) conducted such a study in the context of the RPAP program and calculated rates of return and net present values. In these studies, recall information is analyzed on the additional income of beneficiaries arising from the project and on the forgone income of beneficiaries who gave up some productive activities. The Kahn and Silva (2002) study on project impacts and sustainability, discussed above, and some of the social capital studies also fall into this category.

### **Before and after, with comparison to state trends**

Kahn and Silva (2002) in Ceará studied a sample of projects which included RPAP projects and the pilot project of the *Cédula da Terra* program in which the beneficiaries also acquired land. They compared and found that the income of the project beneficiaries grew faster than that of the mean rural population. The results are not reported separately, however, for the RPAP and *Cédula da Terra* project types.

### **Before and after, with comparison to a control group within the same sample**

Although a number of studies were designed as such studies, they sometimes did not report the before and after comparisons with the control group, as in the Buainain and Fonseca (2005a), or they carried out only a baseline survey without a followed-up resurvey. As discussed above, such studies should also use propensity score matching, difference of difference analysis, and/or the pipeline method to correct for sample selection bias, but none have done so.

### *The number of studies and results in each class*

The team classified a total of 73 studies. Some studies use only one methodology and therefore fall into a single classification. Other studies use different methodologies for different results. A first way to look at these studies is to classify them by the highest level of methodology used. Another way is to classify separately each result for which different classification applies as a separate study. By looking at the two different ways of counting, we get a column with the net number of studies, and another column with the gross number of results. Table A1 reports both of these findings. As discussed, some studies do not report results on data of comparators they had actually collected. We do not classify these studies by their study design but by the methods used to report results.

Data collection effort and survey qualities often far exceeded the quality and depth of data analysis. Another disappointment was that several of the available baseline studies were not followed up by resurveys, and the data have been lost in some instances.

**Table A 1 Classification of the studies reviewed**

<i>Study type</i>	<i>Number of studies</i>	
	<i>with highest level methodology falling into classification</i>	<i>Number of results falling into classification</i>
Supervision reports	9	9
Quality Assurance Group reviews	2	2
Expert opinions	10	10
Case studies	16	16
Random baselines	4	4
Without any control group	19	20
With comparison to state means	1	2
With comparison to control within same survey	2	3
Before and after without comparison to control	5	7
Before and after with comparison to state trends	2	2
Before and after with comparison to control within same survey	3	3

### *Methodology Used in The Quasi-Experimental Study*

This quasi-experimental study covers a total of 864 households in 108 communities and 90 municipalities, divided equally among the States of Ceará, Piauí and Rio Grande do Norte.<sup>48</sup> Half of the sample comes from control communities and half from treatment communities, covering infrastructure and productive projects. For each community in the sample, eight beneficiary households were interviewed. Because we could not rely on any existing baseline information, the baseline data were constructed via recall to the last time Brazil won the World Football Cup (in 2002). The data were based on household and community physical and social capital characteristics, as well as health indicators.

<sup>48</sup> These three states were chosen for a practical reason: they were the only ones that had kept a good record of the community profile questionnaires filled out when each community applied for a project. This information was used to carry out the first stage propensity score analysis used to select the sample from the treatment and control communities.

Questionnaires, administered at the municipal, community, and household levels, sought information on demographics, health, education, physical and financial assets, as well as social capital and governance characteristics.

To deal with the problem of self-selection bias, the quasi-experimental study used four different methods. First, a pipeline method was used to select comparator communities that succeeded in obtaining a project. Specifically, it used the most recently approved projects, during the first half of 2005, as the control group and, the treatment group was selected from communities whose projects were approved in the first year of the RPRP, in 2002. Therefore, control and treatment should be similar in the characteristics that allow communities to be successful at obtaining projects.

However, we could expect that a self-selection bias might persist because the early birds, comprising the treatment group, obtained their projects a full three years earlier than the control communities. The proposed way of dealing with this remaining selection bias was by using a first-stage propensity-score matching to select the sample, using the most similar pairs of treatment and control communities from the population, thus taking care of selection bias that is due to observable community differences. The propensity-score matching used information from community profiles collected when the communities applied to obtain the RPRP projects, together with municipal characteristics.<sup>49</sup>

After the data collection, household and community information from the expanded survey dataset was also used for a second-stage propensity score matching. Last, difference of difference method of analysis was used to adjust for additive effects of unobservable characteristics. We are not aware of other studies using so many different steps simultaneously to reduce sample selection bias.<sup>50</sup> The econometric results showed that our strategy of combining four different methods to reduce sample selection bias was really needed: the second stage propensity score matching and the difference of difference method did clean out self-selection bias that

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<sup>49</sup> The variables used in the first stage propensity score varied slightly in each state due to availability of information, and included: distance to the municipal seat, existence of school and health post in community, condition of main roads of access to community, ratio of percentage of health posts to municipal population, municipal demographic density, ratio of community and municipal population, average education of population in municipality, various municipal indexes from the HDI, log of per capita municipal GDP.

<sup>50</sup> Still some self selection bias could remain because of the effects of unobservable variables which vary over time, and thus are not cleaned out by the difference of difference method. It is important to note that there is no method available in the literature to deal with this latter problem.

remained after the pipeline method and the first stage propensity score matching.

### *Measuring Social Capital*

#### **Descriptive analysis**

One of the interesting facts disclosed by this analysis of the impact of the Program on social capital is that many of the community associations benefited by the Program are also involved with other community projects financed from other sources. For instance, 31.5 percent of the community associations help their fellow members and the community to obtain projects from the National Program for Strengthening Family Agriculture (PRONAF) which reaches 75.0 percent of the communities in the sample) and 13.0 percent participate in the selection process of the Bolsa Familia program<sup>51</sup> (which reaches 88.9 percent of the communities in the sample). Today, 40 percent of the community associations carry out at least one other activity besides those of the projects financed by the Program. In 2002, only 29 percent of the community associations carried out at least one other activity. Table A2 summarizes these and other major findings.

These associations (and their leaders) enjoy immense prestige within their communities and excellent repute among civil society representatives and municipal authorities. The participation of the rural community residents in their associations has grown as much in number as in intensity. The decision-making processes are predominantly democratic both within the communities and in the Municipal Councils.

The formation of community associations is strongly associated with the perception of growth in trust, solidarity, and cooperation among members of the same community and between them and other social actors. All the data obtained in the research study indicate that the associations' capacity for action has been growing and that much of this increase can be attributed to learning from doing while implementing Program sub-projects and participating in the Municipal Councils. The associations are seen as capable of contributing to the improvement of family income, obtaining projects that benefit the community, representing their interests to the authorities and resolving local problems. Their activities are all the

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51 PRONAF, a federal program designed for the strengthening of family farming; the main line of action is provision of subsidized rural credit to small family farmers; also provides funds for community investments through municipal government, among other sub-programs. Bolsa Familia seeks to help (i) reduce current poverty and inequality, by providing cash transfers to extremely poor families, and (ii) break the inter-generational transmission of poverty by conditioning these transfers on beneficiary compliance with requirements such as school attendance, vaccines and pre-natal visits.(World Bank 2005b).

more valuable because they awaken community members' interest in the decision-making processes, mobilize community resources to carry out collective activities, assist needy members of the community, collaborate with other social groups and communities, and obtain positive answers to their demands from the municipal authorities. Their colleagues see association leaders as their *equals*, as persons they highly respect and whose decisions benefit most or all community members. Consequently, the majority trusts the associations.

These results are especially relevant as indicators that the fears of elite capture of benefits —through unlawful cooperation with community leaders—are unfounded. Also noteworthy is the growing influence of association leaders in shaping community issues and in resolving conflicts among themselves.

**Table A 2 Household, community and municipal characteristics**

	<i>All (percent)</i>	<i>2002 Communities (percent)</i>	<i>2005 Communities (percent)</i>
<i>Household</i>			
In the community associations the decisions are taken democratically	71	71	70
Associations strengthen friendly relations among its members	97	96	98
Associations help people in need	86	86	87
Association collaboration among different communities	86	85	87
Community associations contribute in the improvement of family income	78	79	77
Community associations are capable of obtaining projects that benefit the community	93	92	95
Community associations are capable of representing communal interests	94	93	96

**Table A 2 Household, community and municipal characteristics**

	<i>All (percent)</i>	<i>2002 Communities (percent)</i>	<i>2005 Communities (percent)</i>
Community associations are capable of resolving local problems	80	78	83
Families participate in collective activities in the community	68	66	69
Family participation in collective activities increased in the last 3 years	32	34	29
Family participation in collective activities increased with the formation of the association	40	41	39
Solidarity among members of the community increased in the last 3 years	20	17	22
Solidarity among members of the community increased with the formation of the association	29	26	31
Trust with respect to members of other communities increased in the last 3 years	15	15	14
Trust with respect to members of other communities increased with the formation of the association	17	17	18
Trust of governmental authorities increased in the last 3 years	22	21	22
Trust of governmental authorities increased with the formation of the association	21	19	22
The informants trust the leaders of the associations very much	61	63	58

**Table A 2 Household, community and municipal characteristics**

	<i>All (percent)</i>	<i>2002 Communities (percent)</i>	<i>2005 Communities (percent)</i>
The informants trust that their decisions benefit the majority or all the members of the community	81	82	78
The leaders of the associations are very respected by their colleagues	81	81	80
The influence of the leaders in conflict resolution grew in the last 3 years	24	21	26
The leaders help to solve most of the conflicts among members of the community	39	43	35
<b><i>Community</i></b>			
In the Councils of the RPAP the decisions are taken democratically	46	44	49
The number of members of the community association grew in the last 3 years	46	49	43
The portion of members that participate actively in the association grew in the last 3 years	36	29	43
The portion of members that contribute financially to the association also grew	27	22	32
The frequency of meetings in the community association intensified	31	25	38
The influence of its leaders in conflict resolution grew in the last 3 years	23	18	28
Most members participate in local decision making processes	64	58	70

**Table A 2 Household, community and municipal characteristics**

	<i>All (percent)</i>	<i>2002 Communities (percent)</i>	<i>2005 Communities (percent)</i>
Associations awaken and stimulate participation in decision making processes	61	45	77
Community associations are capable of helping members in need	72	75	70
Community associations appropriately represent local interests	87	80	94
Community associations resolve local problems effectively	71	67	75
Associations mobilize community resources to carry out collective activities	44	38	49
Associations cooperate with other social groups and communities	54	42	66
Leaders of community associations have a lot of influence in the life of the community	54	44	64
Influence of the leaders increased in the last 3 years	40	25	51
There's a lot of trust in working in partnership with the municipality and the state	44	40	47
Trust in working with the municipality and the state grew in the last 3 years	33	22	45
Service to community demands per municipality grew since the formation of the association	54	50	58
<i>Municipality</i>			

**Table A 2 Household, community and municipal characteristics**

	<i>All (percent)</i>	<i>2002 Communities (percent)</i>	<i>2005 Communities (percent)</i>
The actions of the associations influence the municipal management positively	79		
The actions of the Councils influence the municipal management positively	81		
Relations between rural communities and municipal managers became more reciprocal	80		

Source: Binswanger et al 2006

Finally, the municipal authorities indicate that the activities of community associations and Municipal Councils have had a positive influence on municipal administration. They have generated a new model for governance in which relations between rural communities and municipal administrators are in closer proximity, more frequent, and more reciprocal than ever before.

This widely shared observation by a differentiated group of social actors regarding the impacts of social capital, citizenship and the practices of governance reinforces the results reported by a relevant portion of the most recent literature. Moreover, it shows the importance of community associations as entities for social and political representation of poor rural communities and, consequently, the relevance of the positive effects of the Program in the rural Northeast.

To date, 37,600 community associations have had their demands met by the Program and over 1,500 Municipal Councils have been created, covering 89 percent of the rural municipalities in the Northeast. The results of the quasi-experimental study demonstrate that the Program was instrumental in the creation of 32.4 percent of these associations. In the universe of benefited entities, this means that more than 12,000 rural communities were organized directly by virtue of the Program. If the Program has brought about a new institutional configuration that has positive impacts on public administration—in the sense of citizenship and social capital, to what extent are the impacts attributed to the Program by the local actors valid and justified?

### Inter-temporal analysis

To answer this question, the effect of the Program on different measures of social capital was analyzed through inter-temporal comparisons of Program beneficiaries and through estimation of a social capital “time trend.” The inter-temporal analysis includes the changes that occurred between the period prior to the formation of a community association, the year 2002—when the projects were implemented in the communities that had first access to the Program within the sample used (communities 2002)—and the research study date (September and October 2005) when the projects were being implemented in the most recently benefited communities within the sampling (communities 2005). The time trend estimate sought to verify the extent to which variations in social capital observed over the years could be attributed to the Program or to the existence of a tendency toward social capital formation that was endogenous to rural communities in the Northeast independent of the Program. The time trend was estimated using information about the stock of social capital existent before the formation of the community associations and in the year these entities were formed—a historical process covering a period of 26 years (1979–2005) within the sample. Because memories from distant times can be unreliable, the only observations used in this exercise were made in communities with associations created since 1993 (when the Bank adopted CDD).

Presented here first are the results of the time trend estimation on which the validation of all the results of the inter-temporal comparison depend. If we found a positive trend in social capital formation independent of the Program, the results obtained by the inter-temporal comparisons would be overvalued. But if we found a negative trend, the inter-temporal comparison would be an undervaluation of the real impact of the Program on social capital.

Appendix B presents the results of the time trend estimation. These results reveal *no tendency* over the last 12 years toward the independent formation of social capital in rural communities in the Northeast. Consequently, the variations in the stocks of social capital that were obtained (described below) must be due exclusively to the processes of formation of community associations and implementation of community subprojects of the Program. In this way, changes in social capital stocks in each temporal period effectively analyzed reveal particular dimensions of the Program impacts.

One of the ways changes in social capital in the benefited communities were analyzed was to measure the total short-term impact (STI) of the Program. Besides that, the long-term total impact (LRI), and the additional

evolution of social capital after the implementation of the community sub-projects of the Program (AG), were measured with regard to the communities benefited in 2002. Finally, in relation to the subgroup of communities benefited in 2005, made up of households in communities that formed their associations up to 2002, the impact due to the formation of the community association (AFI) and the direct impact of the implementation of the subproject (PI) were isolated. The results of this analysis are summarized in Appendix B.

This analysis indicates that the Program has effectively generated social capital in rural communities in the Northeast. By virtue of its dimension more than its concrete values, these rates of change signal in a definite way that a process of intense growth in social capital stock is occurring in the communities researched and that the Program has an immense influence over this change. The growth rate of social capital generation reaches a peak with the implementation of the community subproject (high value of PI in the 2005 group), which leads to an intensification of community participation and closer relations with local government. After this phase, growth continues more slowly (suggested by the AG value in the 2002 group), indicating that the slowing down is probably due to the lack of new stimuli or that the social capital created is less utilized than it should or could be. Because even without stimuli social capital continues to grow, it also proves that the principal argument sustaining initial skepticism about the Program's implementation strategy does not hold true (namely that social capital generated during community implementation of sub-projects would be ephemeral, due to the patriarchal tradition, the low level of cultural capital, and the social apathy of poor rural populations).

Inter-temporal comparisons were also obtained separately for four dimensions of social capital, defined as: cognitive, structural, community participation, and civil participation. The cognitive and structural dimensions are the *inputs* for the formation of social capital. Community and civil participation are the *outputs* or evidence of the existence of social capital.

*Cognitive social capital* was defined as people's motivations for acting collectively in specific situations. It is the most elemental form of social capital, and was calculated from a variable that identified the extent of solidarity and cooperation among the members as measured by participation by the families interviewed in collective activities that benefited the community. *Structural social capital* refers to institutional arrangements, more or less formal, established by social groups for their collective action together with different social actors and with the public sector. It was measured by the extent of friendship networks with people within and outside

the community, access to relevant information about the municipality, state, and country, and participation in cooperative activities with members of other communities.

*Community participation* is the capacity of a group to act collectively. It was measured through a variable that consulted informants at the household and community levels about the typical reaction local people could expect in a crisis that demanded a collective response. *Civil participation* is the highest level of expression of social capital, because it reflects the action of individuals in matters of supra-communal interest, exercising social control over the state and assuming their responsibilities and obligations as citizens.

The change indicator for cognitive social capital reveals a more accentuated growth trend between the formation time of the community association and 2005 than between 2002 and 2005, and a steeper trend in the 2005 communities than in the 2002 communities. This difference in growth rate between the two types of community is higher between 2002 and 2005. The results relative to structural social capital reveal that it has also been growing in rural communities in the Northeast benefited by the Program. It is stimulated by the implementation of the community subprojects. It continues to grow after completion of the subprojects but more slowly than before and during implementation.

When considering the possible impacts of the Program on the *input dimensions* of social capital formation (Appendix B), the results allow refutation of the hypothesis that, after subproject implementation, community involvement and participation in community associations and their activities would be reduced. No such reduction was observed either in motivation or in the institutional arrangements put into place for collective action. On the contrary, after subproject completion, the growth rate in trust in the poor rural populations, as well as the expansion rate of their horizontal relation networks moderated but continued to grow. This suggests that once this process is initiated by the Program, its effect is long lasting.

This suggestion is reinforced by the results found in relation to the *outputs*, the elements resulting from the formation of social capital at community level. It was observed that community participation has been growing significantly in the communities benefited by the Program, and that it has been growing faster in communities that are implementing a Program subproject now than in those that did so three years ago—although both groups are growing.

When considering the possible impacts of the Program on these two output dimensions of social capital formation (Appendix B), the results

reveal that the cumulative impact of the community association formation processes and of the execution of Program subprojects (measured by the STI), is greater among the 2005 communities than among the 2002 communities. They are captured at the moment of euphoria provoked by the implementation of the community subproject by the beneficiary group, while the results of the 2002 communities are captured three years after that moment when communities' evaluations of past facts no longer has that same euphoric effect. When comparing the results of the STI and AG indicators, we can also verify that these *outputs* of social capital formation continued to grow in the 2002 communities, during the period after the conclusion of the subproject implementation phase, though more slowly than while the community association was being formed and the subproject was being implemented.

The quasi-experimental study demonstrates, therefore, that the Program has positive and relevant impacts on the social capital *inputs* that are both sustainable and durable. Furthermore, it reinforces the newly emerging paradigm in the literature at the end of the century about NRPRP impacts on the formation of social capital and constitutes a solid refutation of the analyses shaped by the initial skepticism.



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## Appendix B

### Statistical Results from the Quasi-experimental Impact Study

Table B 1 Quasi-experimental study: Program impact on access to electricity and water

	<i>Water</i>	<i>Electricity</i>
Treatment* Water	0.242 <sup>a</sup> (0.044)	0.042 (0.024)
Treatment* Electrification	-0.029 (0.028)	0.400 <sup>a</sup> (0.080)
Treatment* Productive	-0.009 (0.036)	0.066 <sup>a</sup> (0.023)
Constant	0.029 (0.028)	0.010 (0.013)
n° of observ.	573	573
F (k, n-1)		10.43
Prob > F		0.0000
R-square	0.0851	0.1051

a. Statistically significant at 5 percent

b. Standard-deviations robust to heteroskedasticity in parentheses.

**Table B 2 Estimate time trend in formation of social capital**

Regression with robust standard errors	Number of obs=	780
	F( 2, 777)	= 2.60
	Prob > F	= 0.0747
	R-squared	= 0.0068
	Root MSE	= 0.25111

	Coef.	Robust Std. Err.	t	P> t	[95% Conf. Interval]	
trend	.0002462	.0027812	0.09	0.929	-.0052134	.0057058
ptreat	.0886152	.0389407	2.28	0.023	.0121737	.1650566
_cons	.2845304	.0580892	4.90	0.000	.1705001	.3985607

Note: The variable ptreat is the estimate value of the probability of being a household of the group of communities of 2002, result of the propensity-score analysis

**Table B 3 Measurement of Program impacts**

Impacts	Group of communities, 2002		Group of communities, 2005	
	Average	T of T-test	Average	T of T-test
STI	26.4%	8.05	45.7%	12.67
LRI	42.8%	10.82		
AFI			19.9%	6.54
PI			33.2%	8.97
AG	19.3%	6.50		

STI short-term impact; LRI long-term total impact; AFI impact due to formation of community association; PI direct impact from subproject implementation; AG evolution of social capital post-project implementation.

**Table B 4 Measurement of Program impacts on inputs of social capital**

Impacts	Group of communities of 2002		Group of communities of 2005	
	Average	T of T-test	Average	T of T-test
STI	4.2%	2.72	14.6%	5.43
LRI	7.5%	3.92		
AG	3.7%	2.72		

Note: See table 15 for spell outs of acronyms used in column 1.

Table B 5 Measurement of Program impacts on outputs of social capital

Impacts	Group of communities of 2002		Group of communities of 2005	
	Average	T of T-test	Average	T of T-test
STI	16.4%	4.46	22.1%	5.39
LRI	31.4%	6.11		
AG	12.8%	3.73		

Note: See table 15 for spell outs of acronyms used in column 1.

Table B 6 Quasi-experimental study: impact of the Program on change in net-worth assets per capita: 2002–05

$\Delta$ net-worth non-land assets per capita	Model 1	Model 2	Model 3
Treatment <sup>a</sup>	523.78 (442.42)		
Treatment*water		505.38 (446.60)	
Treatment*electrification		430.35 (448.32)	
Treatment*productive		558.45 (458.63)	
Treatment*Ceará*water			602.75 (447.09)
Treatment*Rio Grande do Norte*water			76.34 (532.01)
Treatment* Rio Grande do Norte *productive			749.10 (506.93)
Treatment*Piauí*electrification			430.35 (449.10)
Treatment*Piauí*productive			353.75 (448.86)
Constant	-480.32 (434.95)	-480.32 (435.71)	-480.32 (436.48)
n° of observations	573	573	573
F (k, n-1)	1.40	0.60	1.45

a. Treatment is a dummy for Program beneficiaries; other terms are interactions between treatment, project types and each state studied; standard errors, corrected for heteroskedasticity, are in parentheses

b. Standard-deviations robust to heteroskedasticity in parentheses.

**Table B 7 Quasi-experimental study: impact of the Program on infant mortality, 2002–05**

$\Delta$ <i>Infant Mortality</i>	<i>Sample resulting from the matching</i>
Treatment <sup>a</sup>	-0.190 (0.111) <sup>b</sup>
Constant	1.841 (0.077) <sup>b</sup>
N <sup>o</sup> of observ.	65
F(k,n-1)	2.9
Prob > F	0.094
R- square	0.043

a. Treatment is a dummy for Program beneficiaries

b. Standard-deviations robust to heteroskedasticity in parentheses.

**Table B 8 Quasi-experimental study: impact of the Program on the incidence of sicknesses, change between 2002 and 2005**

<i>Sicknesses</i>	<i>Diarrhea</i>	<i>Verminosis</i>	<i>Dengue</i>	<i>Hepatitis</i>	<i>Asthma</i>	<i>Trypano- somiasis</i>	<i>Index of illnesses</i>
Treatment <sup>a</sup>	0.350 (0.592) <sup>c</sup>	0.467 (0.548) <sup>c</sup>	0.022 (0.550) <sup>c</sup>	1.040 <sup>b</sup> (0.534) <sup>c</sup>	1.229 <sup>b</sup> (0.538) <sup>c</sup>	1.219 <sup>b</sup> (0.643) <sup>c</sup>	0.704 (0.512) <sup>c</sup>
N <sup>o</sup> of obs.	72	72	72	72	71	66	66
Chi2(k)	0.350	0.730	0.000	3.800	5.210	3.600	1.890
P > chi2	0.554	0.394	0.969	0.051	0.023	0.058	0.169
Pseudo R2	0.004	0.007	0.000	0.037	0.048	0.045	0.009

*Note:* The coefficients estimating the various cutoff points in the estimation have been suppressed in the table

a. Treatment is a dummy for Program beneficiaries

b. The variable is statistically significant at the 5 percent level.

c. Standard-deviations robust to heteroskedasticity in parentheses.

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## Appendix C

### Selected Studies of the Brazil CDD Program

The team that conducted the Quasi-experimental Impact Study reviewed over 100 other reports and studies on the Northeast CDD Program, and then classified 73 of these according to the methodology employed. The following is a list of all the reports and studies, which may be of interest to researchers and others interested in learning more about the Program.

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- Amazonas, Fatima – Relatório Feira de Bologna. Banco Mundial, Recife. 2002.
- Angrist, J. e Krueger, A. “ Empirical Strategies in Labor Economics” , in Ashenfelter e Card (eds), *Handbook of Labor Economics*, vol. 3A, Elsevier. 1.999
- Argôlo de Souza, Renato. *Projeto de Combate à Pobreza Rural do Estado do Maranhão – PCPR – MA (Comunidade Viva) – Relatório Final*, São Luis, Maranhão, 2004.
- ASPEC - Associação de Pesquisa e Estudos Científicos, *Avaliação Progressiva do Projeto São José no Estado de Sergipe*, PRONESE, Aracaju, 1999.

- Banco Mundial, MDA, CONTAG - Apresentação: A Economia Globalizada X A Produção da Agricultura Familiar no Brasil – Uma Estratégia de Acesso ao Mercado – Terceiro Fórum Temático América Latina e Caribe Sociedade Civil e Banco Mundial – Angra dos Reis – Brasil 21–23 Outubro 2003.
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- Buainain, A . M e R. Fonseca (coord.). *Projeto de Combate à Pobreza Rural Fase II-Projetos Renascer (PE), Produzir (BA) e São José (CE): Perfil Socioeconômico da População Beneficiária Fase II*. Relatório de Consultoria Técnica, Unicamp, Campinas, 2005b.
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- Caminha, Raimundo Nonato. “Projeto Desenvolvimento Integrado do Maranhão: Uma experiência de trabalho em grupo”. Banco Mundial, Recife, 2004
- CEPLAN - Consultoria Econômica e Planejamento. *Estudo de Desempenho Físico do PCPR Pernambuco*, Versão Final, Recife, 2004.
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