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The World Bank

Report No: ICR0000432

IMPLEMENTATION COMPLETION AND RESULTS REPORT
(IBRD-42510)

ON A

LOAN

IN THE AMOUNT OF US$ 60.0 MILLION EQUIVALENT

TO THE

STATE OF PARAÍBA

FOR A

RURAL POVERTY ALLEVIATION PROJECT

March 30, 2007

Sustainable Development Department
Brazil Country Management Unit
Latin America and Caribbean Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective 06/30/2006)

Currency Unit = Real
Real 1.00 = US$ 0.462
US$ 1.00 = Real 2.164

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

CAS	Country Assistance Strategy
CDD	Community-driven Development
CNPq	National Council for Science and Technology Development
COFIEX	Committee on External Financing (Federal Government)
COOPERAR	State Technical Unit
EMEPA	State Company for Agro-livestock Research
EMPASA	Agricultural Storage and Services Company, State of Paraíba
FUMAC	Municipal Community Schemes
FUMAC-P	Pilot Municipal Community Schemes
FUNASA	National Water and Sanitation Foundation
IBGE	Brazilian Institute of Geography and Statistics
ICMS	Tax on Circulation of Goods and Services
IDEME	Institute for Municipal and State Development of Paraíba
IERR	Internal Economic Rate of Return
IPEA	Institute of Applied Economic Research (of Ministry of Planning)
MIS	Management Information System
MTR	Mid-term Review
NRDP	Northeast Rural Development Program
O&M	Operation and Maintenance
PAC	State Community Schemes
QE	Quasi-experimental Evaluation
R-NRDP	Reformulated Northeast Rural Development Program/Project
RPAP	Rural Poverty Alleviation Program/Project
SAR	Staff Appraisal Report
SEBRAE	Brazilian Service in Support of Small Business
SENAR	National Rural Training Service
SEPLAN	State Secretariat for Planning and Development
STU	State Technical Unit
SUDEMA	Superintendence for Administration of the Environment
UFPB	Federal University of Paraíba

Vice President:	Pamela Cox
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ICR Team Leader:	Anna Roumani

COUNTRY
Project Name

CONTENTS

A. Basic Information

Country:	Brazil	Project Name:	Rural Poverty Alleviation - Paraiba
Project ID:	P042565	L/C/TF Number(s):	IBRD-42510
ICR Date:	03/30/2007	ICR Type:	Core ICR
Lending Instrument:	SIL	Borrower:	STATE OF PARAIBA
Original Total Commitment:	USD 60.0M	Disbursed Amount:	USD 60.0M
Environmental Category: B			
Implementing Agencies: State Secretariat for Planning and Management			
Cofinanciers and Other External Partners:			

B. Key Dates

Process	Date	Process	Original Date	Revised / Actual Date(s)
Concept Review:	04/15/1997	Effectiveness:	03/23/1998	03/23/1998
Appraisal:	06/30/1997	Restructuring(s):		
Approval:	11/20/1997	Mid-term Review:		05/29/2002
		Closing:	06/30/2003	06/30/2006

C. Ratings Summary

C.1 Performance Rating by ICR

Outcomes:	Satisfactory
Risk to Development Outcome:	Low or Negligible
Bank Performance:	Satisfactory
Borrower Performance:	Satisfactory

C.2 Detailed Ratings of Bank and Borrower Performance (by ICR)

Bank	Ratings	Borrower	Ratings
Quality at Entry:	Satisfactory	Government:	Satisfactory
Quality of Supervision:	Satisfactory	Implementing Agency/Agencies:	Moderately Satisfactory
Overall Bank Performance:	Satisfactory	**Overall Borrower Performance:**	Satisfactory

C.3 Quality at Entry and Implementation Performance Indicators

Implementation Performance	Indicators	QAG Assessments (if any)	Rating
Potential Problem Project at any time (Yes/No):	No	Quality at Entry (QEA):	None

Problem Project at any time (Yes/No):	Yes	Quality of Supervision (QSA):	None
DO rating before Closing/Inactive status:	Satisfactory		

D. Sector and Theme Codes		
	Original	Actual
Sector Code (as % of total Bank financing)		
Other social services	90	90
Sub-national government administration	10	10
Theme Code (Primary/Secondary)		
Decentralization	Primary	Secondary
Improving labor markets	Primary	Secondary
Participation and civic engagement	Primary	Primary
Rural services and infrastructure	Primary	Primary

E. Bank Staff		
Positions	At ICR	At Approval
Vice President:	Pamela Cox	David de Ferranti
Country Director:	John Briscoe	Gobind T. Nankani
Sector Manager:	Laura Tuck	Maritta R. V. B. Koch-Weser
Project Team Leader:	Jorge A. Munoz	Luis O. Coirolo
ICR Team Leader:	Raimundo N. Caminha	
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F. Results Framework Analysis

Project Development Objectives (from Project Appraisal Document**)**
The project will assist the State Government of Paraiba to alleviate rural poverty and its consequences by: (a) providing basic social and economic infrastructure and employment and income-generating opportunities for the rural poor; (b) decentralizing resource allocation and decision-making to local levels by supporting community-based municipal councils and beneficiary associations in investment planning and implementation; (c) providing a safety net for the rural poor during a period of macroeconomic reform and fiscal adjustment; and (d) leveraging resources mobilized at the community and municipal levels.

Revised Project Development Objectives (as approved by original approving authority)

(a) PDO Indicator(s)

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
Indicator 1 :	Providing basic social and economic infrastructure, and employment and income-generating opportunities for the rural poor.			
Value quantitative or Qualitative)	NA	2,840 community subprojects implemented with social welfare and job/income benefits	na	3,373 investments financed benefiting 154,000 families.
Date achieved	03/23/1998	06/30/2006	06/30/2006	06/30/2006
Comments (incl. % achievement)	(a) Improved health, lower infant mortality, improved living conditions, better housing; (b) Productive investments (6,000 families) show strong potential to create employment and raise incomes. Women were 37% of beneficiaries of productive investments.			
Indicator 2 :	Supporting community-based municipal councils and beneficiary associations in investment planning and implementation.			
Value quantitative or Qualitative)	NA	NA. Maximization of above impacts.	na	222 participatory Municipal Councils and 3,360 associations mobilized/trained to decide, allocate resources for and implement investment subprojects. Training also focused on community O&M of investments, and specialized training for prod've subprojects.
Date achieved	03/23/1998	06/30/2006	06/30/2006	06/30/2006
Comments (incl. % achievement)	Training of Councils and associations to carry out their roles/responsibilities greatly exceeded appraisal estimates. See Annex 2, Table 2.1.			
Indicator 3 :	Resources leveraged at the community and municipal levels.			
Value quantitative or Qualitative)	NA	NA. Maximization of this process (a pilot introduced	na	Organized community associations and Municipal Councils

		mid-stream).		decided the allocation of 88% of project funds; and, leveraging complementary, parallel funds in a 5:1 ratio (outside funds to project funds).
Date achieved	03/23/1998	06/30/2006	06/30/2006	06/30/2006
Comments (incl. % achievement)	Integration pilot was very successful and will be expanded under the proposed follow-on project in Paraiba.			
Indicator 4 :	Deepening social capital initiated by Reformulated NRDP			
Value quantitative or Qualitative)	Not established at appraisal	NA	na	Studies (see ICR) show that associations were more active in their associations after their subproject; had greater confidence in leaders and associations; and in making new demands to public authorities and having them attended to.
Date achieved	03/23/1998	06/30/2006	06/30/2006	06/30/2006
Comments (incl. % achievement)	See Barbosa (2007); de Oliveira (2006); Binswanger et al, 2006. Project's institutional and governance structure provided women, indigenous peoples and ethnic minorities with opportunities for growth and empowerment.			

(b) Intermediate Outcome Indicator(s)

Indicator	Baseline Value	Original Target Values (from approval documents)	Formally Revised Target Values	Actual Value Achieved at Completion or Target Years
Indicator 1 :	Numbers of project beneficiaries			
Value (quantitative or Qualitative)	NA	110,000 families	na	154,000 families (770,000 people)
Date achieved	03/23/1998	06/30/2006	06/30/2006	06/30/2006
Comments (incl. % achievement)	Results were 140% of appraisal target.			
Indicator 2 :	FUMAC Municipal Councils Created and operational			

Value (quantitative or Qualitative)	NA	38	na	222 of which 154 incremental - established under the Project.
Date achieved	03/23/1998	06/30/2006	06/30/2006	06/30/2006
Comments (incl. % achievement)	Council formation was 405% of appraisal estimate.			
Indicator 3 :	Community associations benefited			
Value (quantitative or Qualitative)	NA	780 associations benefited	na	3,360 associations renovated/established and benefited by the Project. Another 1,000 associations mobilized and waiting to participate under the follow-on, but already contributing to their communities.
Date achieved	03/23/1998	06/30/2006	06/30/2006	06/30/2006
Comments (incl. % achievement)	237% of appraisal target.			

G. Ratings of Project Performance in ISRs

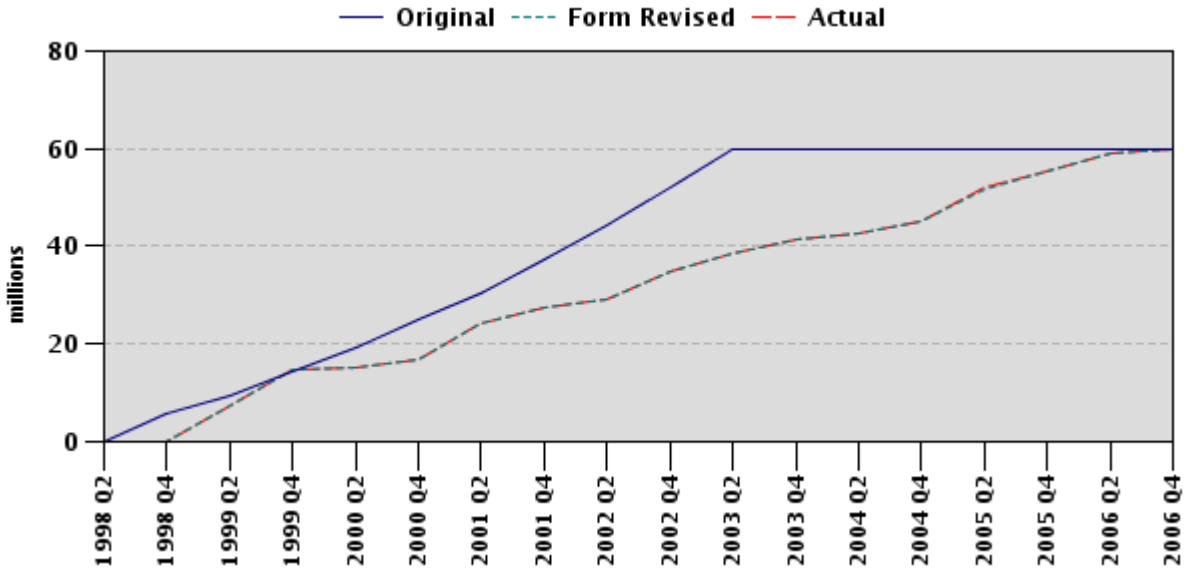
No.	Date ISR Archived	DO	IP	Actual Disbursements (USD millions)
1	06/30/1998	Satisfactory	Satisfactory	0.00
2	12/20/1998	Satisfactory	Satisfactory	7.46
3	06/30/1999	Satisfactory	Satisfactory	14.74
4	12/17/1999	Satisfactory	Satisfactory	15.27
5	06/20/2000	Satisfactory	Satisfactory	16.63
6	12/13/2000	Satisfactory	Satisfactory	24.18
7	06/01/2001	Satisfactory	Satisfactory	27.47
8	11/29/2001	Satisfactory	Satisfactory	29.16
9	06/21/2002	Satisfactory	Unsatisfactory	35.05
10	09/09/2002	Satisfactory	Unsatisfactory	35.05
11	11/20/2002	Satisfactory	Unsatisfactory	38.56
12	12/19/2002	Satisfactory	Satisfactory	38.56
13	03/13/2003	Satisfactory	Satisfactory	38.56
14	05/21/2003	Satisfactory	Satisfactory	38.56
15	06/26/2003	Satisfactory	Satisfactory	41.36
16	12/12/2003	Satisfactory	Satisfactory	42.58

17	06/17/2004	Satisfactory	Satisfactory	45.09
18	11/18/2004	Satisfactory	Satisfactory	48.84
19	04/29/2005	Satisfactory	Satisfactory	54.29
20	04/25/2006	Satisfactory	Satisfactory	59.44
21	03/28/2007	Satisfactory	Satisfactory	60.00

H. Restructuring (if any)

Not Applicable

I. Disbursement Profile



1. Project Context, Development Objectives and Design

1.1 Context at Appraisal

The Paraiba Rural Poverty Alleviation Project (known as Cooperar in Brazil) under review was part of the first free-standing scale-up of the community-driven development (CDD) program in the Northeast region of Brazil – the Rural Poverty Alleviation Program (RPAP) – comprising US$444 million of Bank loans to eight states including Paraíba.[1]

Both the context and justification for this project are found in the characteristics and history of the Northeast region which houses over 60% of Brazil's poor and about 70% of its rural poor. Some 11.5 million people in thousands of small communities and towns, eking out a living in a vast, largely semi-arid region disadvantaged historically by lack of investment in socio-economic infrastructure and services, health and education, and by variable agro-climatic conditions and vulnerability to severe drought, a weak natural resource base, low labor productivity and skewed landholding.

The State of Paraíba is exceptionally poor, even by Northeast standards, and was classified at appraisal as last among all states of Brazil in its Human Development Index (HDI)[2] ranking, and with 72% of its rural population defined as indigent.[3] The Staff Appraisal Report, Annex A (SAR, Report 16757-BR) details stark indicators of deprivation: 81% of rural households (urban 52%) with less than one minimum salary per month (about US$0.75 per capita); 95% of rural families with inadequate water access (urban 24%); 73% without sanitation (14% urban); and 60% illiteracy in persons over 14 (32% urban). Some 85% of the state's municipalities harbored precarious, unhealthy living conditions critically affecting childhood survival.

Major changes in the state economy in the decades preceding the Project – especially the decline of cotton and rising import competition - had further weakened the fragile agricultural base, with negative impact on the rural poor. Further, like other Northeast states, Paraíba was buffeted by austerity programs from 1986-1994 designed to curb inflation and promote adjustment, but whose effects included reduced investment in basic rural development: water supply, energy, roads, health and education and small-farm agricultural services. The Federal Government's Real Plan of 1994 had important macroeconomic effects but fiscal tightness again impacted severely on the rural poor, highlighting the importance of complementary, targeted actions to offset the consequences of stabilization.

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[1] The RPAP in eight states followed immediately after the Reformulated Northeast Rural Development Program (R-NRDP, 1993-1995) in the ten states comprising the NE region, and was the first program in the series where the states took a Bank Loan (with Federal Government guarantee). The RPAP greatly expanded coverage of the distinctive methodology of community associations, mainstreamed the participatory Municipal Councils and institutionalized direct transfer of project funds to beneficiaries for approved socio-economic and productive investments.

[2] United Nations composite index measuring economic and social development and in Brazil, measured every 10 years.

[3] Defined at appraisal as the level of income corresponding – at maximum – to the value of a "basic food basket" meeting a family's minimal nutritional requirements as defined by FAO/WHO, 1993.

Nevertheless, even with these formidable challenges, the State of Paraíba has shown marked improvement across a range of key indicators of social and economic progress in the past 15 years and this trend continues. The State Human Development Index (HDI) increased from 0.557 in 1991 to 0.661 in 2000,[4] moving the state from the bottom ranking to fourth lowest, a major achievement. State per capita income grew about 50% in this same period, while the proportion of poor (persons with per capita household income below one-half of the minimum salary) fell from 69% to 55%, a 20% decline.

Given that the Project attended 80% of the total eligible poor rural population with close to 3,400 investments of which 82% were electricity and water supply, and which included promising productive ventures some 60% of which were market-targeted, this ICR concludes that the Project made and continues to make, an important contribution to these improving socio-economic indicators.

The Project was appropriate in light of the context at appraisal. It disbursed fully, provided a greater quantity of basic social and economic infrastructure to a larger number of beneficiaries than originally targeted; mobilized more community associations and established a larger number of participatory Municipal Councils; fostered their participation in the investment selection and implementation processes; and achieved its objectives, albeit over a longer period than envisaged at appraisal.

1.2 Original Project Development Objectives (PDO) and Key Indicators

The Project was intended to alleviate rural poverty by: (i) providing basic social and economic infrastructure, and employment and income-generating opportunities for the rural poor; (ii) decentralizing resource allocation and decision-making to local levels by supporting community-based Municipal Councils and beneficiary associations in investment planning and implementation; (iii) leveraging resources mobilized at the community and municipal levels; and (iv) deepening the creation of social capital already initiated by the Reformulated Northeast Rural Development Project (R-NRDP).

Project performance indicators are shown in the SAR,[5] Annex H as: (i) number of financed subprojects by category (PAC, FUMAC and FUMAC-P); (ii) number by type (infrastructure, productive and social); (iii) number of beneficiary families, female beneficiaries, communities and municipalities; (iv) number of technical assistance and training events, including for women; (v) number of Municipal Councils functioning in a satisfactory manner (FUMAC, FUMAC-P); and (vi) sustainability of subprojects (financial and organizational).

1.3 Revised PDO (as approved by original approving authority) and Key Indicators, and reasons/justification

PDO and indicators were not revised.

[4] HDI is calculated every 10 years.

[5] The Project was prepared in SAR format, pre-dating the now required Results Monitoring Framework.

1.4 Main Beneficiaries

The SAR describes primary beneficiaries as mainly sharecroppers and wage workers dependent on a diverse strategy of income-generating activities, and impacted by scarce and irregular rainfall, and by lack of modern production technology and infrastructure. The vast majority of rural families in the targeted cohort earned less than one minimum salary (about US$120/month at appraisal) or the equivalent of around US$0.75 per capita/day.

1.5 Original Components

The Project had three components:

Component A: Community Subprojects (US$71.0 million, 90% of total base cost), supporting small-scale investments selected, executed and subsequently operated and maintained by the beneficiaries themselves. Three separate delivery mechanisms determined how subprojects were approved and financing arranged.[6]

Component B: Institutional Development (US$4.8 million, 6% of total base cost), providing all implementing entities (the State Technical Unit, project Municipal Councils and community associations) with technical assistance and training to increase their capacity and improve implementation of the Project.

Component C: Project Administration, Supervision, Monitoring and Evaluation (US$3.2 million, 4% of total base cost), financing project coordination and activities to provide feedback on project performance and impact.

1.6 Revised Components

Components were not revised.

1.7 Other significant changes

Extension: The original Closing Date (June 31, 2003) was extended three times, to end-June 2006. The first extension of one year (to end-June 2004) enabled a new state government and STU to examine/resolve all subprojects with pending issues delaying their financing, primarily associations' failure to submit accounts for expenditures made.[7] Reasons for the second extension

[6] (a) **State Community Schemes (PAC)**: Rural communities submit investment proposals to the State technical Unit (STU) for screening/approval. STU releases funds directly to them for approved subprojects; (b) **Municipal Community Schemes (FUMAC)**: Municipal Councils, with at least 80% of voting members comprising beneficiaries/civil society, debate/approve investment priorities based on an annual, indicative budget. STU reviews proposals and releases funds directly to associations for those approved; and (c) **Pilot Municipal Community Funds (FUMAC-P)**: More decentralized version of FUMAC. STU sets an annual budget envelope based on a distribution formula. Councils submit an annual operating plan (POA) to the STU which transfers funds – upon approval – to the Council to manage distribution to beneficiary associations.

[7] Funds for subproject execution are usually released in installments based on stages of completion. Beneficiary associations are required to submit their statements of expenditure with appropriate documentation to the State Technical Unit before subsequent installments are released.

to end-June 2005 stemmed from the State Government's desire to complete financing of 1200 community subprojects with agreements already signed, improve institutional aspects of the STU, and formulate a follow-on project with integration features and other innovations. A final extension to end-June 2006 was intended primarily to disburse a US$7.0 million Loan balance in a situation of tight counterpart funds, provide a bridge to the proposed new project and continue preparation activities.[8] The State Government's prompt resolution of the counterpart deficit justified the final extension and the Loan disbursed fully.

Reallocation of Funds: There were three reallocations of Loan funds totaling US$16.03 million of which some US$11.28 million (70%) covered higher demand than anticipated under the PAC mechanism.

- In 2001, of the total US$8.88 million reallocated, 90% went to PAC category 1(a) stemming from the new state government's decision to evaluate all existing Municipal Councils to ensure they were sufficiently representative and sustainable, a time-consuming process requiring the use of the PAC delivery mechanism to channel ongoing community demand and keep the project moving.

- In 2004, of a reallocation totaling US$5.3 million, 60% also went to PAC to cover 870 PAC subprojects whose agreements had been suspended in 2002 for bureaucratic/administrative reasons, but reinstated and financed in 2004, leaving this category with a negative balance of US$3.2 million. The remaining 40% went to Category 2 Consultants' Services and Training (US$1.8 million) and to Category 3(b) Project Supervision and Monitoring (US$300,000).

- In 2005 the reallocation of US$1.85 million (US$1.5 million to Category 2 Consultants' Services and Training, US$50,000 to Category 2(a) Incremental Operating Costs, and US$300,000 to Category 3(b)) was chiefly to consolidate project performance and institutional capacity in the year before Closing on June 30, 2006, in anticipation of a new project.

2. Key Factors Affecting Implementation and Outcomes

2.1 Project Preparation, Design and Quality at Entry

Project Quality at Entry is rated Satisfactory.

***Soundness of the Background Analysis*:**

- The analytical base and design parameters of this Project were similar to its seven peer projects in other Northeast states and have been described in all relevant Implementation Completion Reports (ICR).[9] Essentially, the project emerged from the experiences, lessons

[8] Use, rather than closure and cancellation of remaining Loan funds helped the State Government maintain project activities at a time of counterpart funding shortage. This judgment proved correct as government subsequently increased its counterpart funding again and Loan funds were invested effectively.

[9] ICRs for Rural Poverty Alleviation Program (RPAP): Ceará Report No. 23397, December 21, 2001; Bahia, Report No. 23395, December 21, 2001; Pernambuco, Report No. 24307, June 24, 2002; Sergipe, Report No. 23396, December

and positive outcomes of an innovative, community-driven approach to rural poverty reduction piloted in Northeast Brazil from 1985-1993 and scaled up from 1993 onward..

- The Northeast CDD approach, as mainstreamed in 1993, diverged sharply from the centralized, administratively-driven and largely ineffective integrated rural development programs of the 1970s and 1980s which saw the vast majority of program resources absorbed by administrative costs and with barely 30-40% going to poor communities for poverty-related investments.

- This discredited approach was replaced by decentralized, participatory mechanisms coalescing around a set of guiding principles: (a) pass funds directly to beneficiary communities for approved investments; (b) involve local authorities as partners and use local cost-sharing mechanisms; (c) maintain transparent decision-making throughout; and (d) use simple, explicit and easily-monitored poverty targeting mechanisms.

- Project objectives and methodological features were consistent with the goals of the 1997 Bank Country Assistance Strategy (CAS) for Brazil which stressed the centrality of poverty reduction; priority development of the Northeast region; development of the poor rather than poverty relief; sustainability through cost recovery; and, stronger financial commitment from municipal and state governments. Project design also heeded the previous CAS and its Progress Report (June 1996).

- The Project fit the State's rural strategy, supporting access to basic rural services, organized decentralization, local development and community participation, and exploiting local potential to curtail out-migration of poor rural families.

- Finally, it was also consistent with the goals of the Federal Government's *Comunidade Solidária* program launched in 1995, a framework for coordinating rural and urban programs in municipalities with the most severe poverty, and stressing community self-help and local empowerment.

Assessment of Project Design:

- Project objectives were appropriate given conditions on the ground and applying the mechanisms tested under the R-NRDP, with certain upgrades. Design heeded lessons learned under the R-NRDP, scaled up successfully-piloted features and introduced further innovations and improvements.

- Institutional simplicity was a key feature, with the main players being the community associations, participatory Municipal Councils (with 80% membership from poor rural communities/civil society), and the State Technical Unit (STU). The lines of project coordination were straightforward and sector agencies had no direct, day to day involvement with the Project unless required periodically and locally, to provide specialized services. This feature enables the NE CDD mechanism overall to target a minimum 90% of project funds to direct community investments, the remainder financing mainly technical assistance.

21, 2001; Maranhão, Report No. 30275, December 28, 2004; Rio Grande do Norte, Report No. 25209, March 7, 2003; and Piauí, Report No. 24308, June 24. 2002.

- Design improvements included: (i) mainstreamed FUMAC Municipal Councils (a pilot under the R-NRDP) and a new pilot municipal funds program (FUMAC-P) to further decentralize control over funds allocation/management; (ii) systematic beneficiary targeting through performance-based incentives and penalties; (iii) upgraded management Information System (MIS) and monitoring and evaluation system (M&E); (iv) an Operational Manual with technical, financial and administrative parameters; (v) increased Bank financing from 59% to 75%; (vi) funds for technical assistance to communities to prepare and implement their subprojects, valued at 2-8% of total subproject cost; (viii) standard subproject designs and cost parameters; (ix) increased Bank financing for project supervision and monitoring, and state/community cost-sharing; and (x) publicity and information campaigns.

- However, a couple of design features over-reached: (i) in retrospect, Loan size was excessive for the State's fiscal capacity over the five years, and (ii) graduation provisions were premature for Paraíba at the time.

Poverty and Social Aspects:

- The project was part of the Bank's Program of Targeted Interventions. Eligible municipalities were defined by indicators/parameters to ensure that resources would reach municipalities with a high concentration of rural poor. At the next level, the targeting framework assumed that poor communities could best judge their investment priorities. The Municipal Councils were to target especially vulnerable groups based on local knowledge of communities' socio-economic situation, their level of organization and the overall availability of infrastructure and services.[10] It was intended that communities eventually determined to have savings capacity and access to adequate infrastructure would progressively be charged a higher cost-sharing percentage and then be graduated out of the program.

- Improved quality of life was expected to be the main benefit for an estimated 705,000 people (141,000 families), about 60% of the state's target population, through better access to water, and other basic social and economic infrastructure, and by helping to increase production, employment and incomes and reduce vulnerability to drought.

- Women's participation was seen as crucial to project success. Women's activities – traditional and innovative – were to receive focused attention and monitoring, while improved access to water supply and social investments was expected to increase their ability to seek paying jobs. The only specific target was that 30% of the beneficiaries of productive subprojects be women.

- Project design did not acknowledge indigenous or ethnic groups but the Project did assist such groups consistent with the Bank's Indigenous Peoples (IP) safeguard and growing awareness of the need to ensure their inclusion.

[10] Participation in the Project depended/depends on being a legally-organized community association, a Brazilian legal requirement for receiving public funds.

Adequacy of Government's Commitment:

- The State Government was consistently committed to the Project and worked closely with the Bank to develop it.

- Paraíba's performance under the previous R-NRDP was especially good. Subprojects financed under the R-NRDP were 250% of target, numbers of families 600% of target, some 40% were financed under the participatory Municipal Council mechanism even though it was still a pilot, disbursement and counterpart funding were strong, and the STU's reputation for quality coordination was firmly established.

- The Bank had no reservations about government's commitment to the new operation. Objective conditions on the ground underscored the socio-economic and political imperatives of expanding coverage.

Risk Assessment:

- Risks cited in the SAR were drawn from Bank experience with CDD operations in Latin America and elsewhere. These were: (i) irregular counterpart funding with potential to erode community confidence and interest in participating; (ii) technical weaknesses and inadequate supervision of dispersed subprojects; (iii) mis-targeting of project resources; and (iv) political interference in subproject selection.

- Risk-mitigation measures/design features cited at appraisal were effective in practice. For example, government's commitment to and ownership of the Project saw a strong desire to collaborate with the Bank to resolve periodic shortages of counterpart funds. Further, the overall burden on government was lighter due to the Project's beneficiary cost-sharing provisions. Another good example is how the use of standardized subproject designs with cost/quality parameters for many types of commonly-demanded subprojects, combined with a minimum three visits by STU technicians to each subproject, the STU's regional offices and training/technical assistance provided to associations and the Municipal Councils, minimized technical problems. The ICR presents many examples of how the Project dealt with other risks and the extent to which mitigation design was appropriate.

- Some risks arose unexpectedly in the course of implementation and caused delays, but had positive goals and outcomes, e.g., restructuring Municipal Councils to ensure adequate representation and adherence to project rules; and halting further subproject approvals until a large backlog of community proposals can be processed according to project quality standards. Such "positive risks" were not predictable from the information available at appraisal.

2.2 Implementation

- The SAR included a list of basic indicators showing expected inputs, results and impact, and an Implementation Plan. Expected impacts were: (i) improved standards of living (measured by increased income and access to public services and/or infrastructure); (ii) increased

community participation/social capital; and (iii) increased women's participation.[11] Section 3.2 and Annex 5 discuss the impact of the project on incomes and family wellbeing. Impact on women is discussed in 3.5(a).

- The MIS and the STU's regular reports measured physical progress against targets (detailed in Annex 2 and Table 2.1) while specialized reports (MTR, Borrower Completion Report, IDEME (2006) and Barbosa (2007) case studies) assessed the physical quality of infrastructure financed and beneficiary perceptions of life changes.

- Even though it ran for over eight years, and some ratings were downgraded following the MTR, the Project was never declared at risk or viewed as potentially at risk. Problems were resolved within the agreed, overall implementation framework.

Mid-term Review:

- A Mid-term Review (MTR) mission in May 2002 found that the Municipal Councils visited were generally representative and functioning in a satisfactory manner. Most associations visited had no problems with project cost-sharing requirements and were operating and maintaining their subprojects. Project investments were visibly improving community wellbeing and the then-limited productive investments, especially goat-herding, were operational, appropriate for local conditions and economically viable.

- However, in mid-2002 the Project was behind schedule physically and financially, with 80% of the Project period elapsed and the Loan 55% disbursed: (a) subproject investments were 64% of the appraisal estimate for the period due primarily to subproject processing having been suspended by the STU in February 2001, with no activity for about 15 months;[12] (b) with one year to go before the original Closing date, only 57 Municipal Councils (56 FUMAC and 1 FUMAC-P) had been established vs. the 156 planned (including 20 FUMAC-P) and some 84% of all subprojects implemented had been processed through the PAC mechanism;[13] and (c) 99% of all approvals were for infrastructure (of which 65% for electricity) despite a more diverse demand profile within the portfolio of registered proposals, suggesting a desire for consistency with the State Government's rural electrification strategy, as much as the acute deficit in rural power services.

- The MTR mission made a series of operational recommendations for STU action which did not require a change of project objectives and/or components. The mission rated Implementation Progress and Project Management as Unsatisfactory in the MTR Project Supervision Report (PSR). The state's response was conscientious and immediate.

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[11] The SAR did not establish a baseline against which to measure "increases", nor establish targets for employment and income improvements. Further, while women's full participation was a focus running throughout implementation, the only specific target was that they be the beneficiaries of 30% of productive subprojects (see Annex 5), which was in practice exceeded.

[12] The objective of the suspension was to permit the STU to process some 1800 community proposals which had been registered over a short period, exceeding the STU's technical and administrative capacity at that time.

[13] PAC is the least participatory mechanism and has been phased out in most participating states. It tends to be included as a safety valve for communities unable for whatever reason, to establish a FUMAC Council.

Main recommendations of MTR: The mission recommended to the State Governor, Secretary of Planning and STU that:

- project implementation be reoriented, with renewed attention to procedures and policies agreed under the Loan Agreement and Operational Manual;
- all subsequent subprojects be processed through the FUMAC Municipal Councils to enhance targeting, cost effectiveness, priority-setting and social capital formation;
- new, more objective criteria be used for the review of housing improvement subprojects;
- subproject demand priorities established by the FUMAC Councils, be uniformly applied;
- community leaders be better informed about basic project operating guidelines;
- an additional 80 FUMAC Councils be established, as envisaged at appraisal, through simplified procedures, and that they be informed of an annual indicative budget for planning/priority-setting purposes;[14]
- approval of electrification subprojects be contingent on limiting their cost to US$500/family;
- all subproject approvals be contingent on inclusion of operation and maintenance (O&M) arrangements.

A. Factors supporting successful implementation

- ***Better project management since 2003:*** In 2003, a new STU Coordinator and managers of high caliber launched a successful program, with close support from the Bank, to recuperate, accelerate, upgrade and intensify project execution.[15]

- ***MTR follow-up:*** Strong follow-up by the STU of all agreed MTR recommendations improved implementation, and this intensified following the pivotal leadership change in 2003. Use of PAC was curtailed sharply; new subproject approvals accelerated (especially through the FUMAC Councils); quantity and coverage of training for FUMAC Councils and community associations was upgraded; more rigorous and simplified internal procedures increased implementation pace and quality; bureaucracy was greatly reduced; and disbursement performance improved.

- ***Bank supervision***: Quality Bank supervision from the outset - under difficult conditions - and especially skilled and frequent supervision following the downgrading of some project ratings in 2002 (see above), had the dual effects of guiding the Project to a satisfactory, fully-disbursed Closing, while further improving the STU's institutional capacity and performance. Rigorous, rolling Action Plans reviewed and updated at short intervals with the STU, had a critical impact on Project outputs/outcomes. (See also 10.1 (b) on supervision performance).

[14] By 2002, several Northeast states including Bahia and Ceará were implementing a new round of CDD projects under the Rural Poverty Reduction Program. Certain innovations including annual indicative budgets for the Councils spilled over to ongoing RPAP projects such as Paraíba and Maranhão.

B. Factors hindering implementation

- ***Institutional turnover***: Repeated changes at the Secretariat of Planning and leadership of the STU within an adversarial political context – the latter turning over five times in the first five years – affected the Project. Bank supervision navigated these changes, simultaneously mentoring new STU managers and seeking ways to maintain momentum and resolve problems as they arose.

- ***Capacity issues***: Some 1800 subprojects processed from February 1998-January 2000 (with a high proportion processed rapidly through the PAC mechanism, without a Council-based set of procedures) created technical/supervisory difficulties for the STU. New approvals ceased for 15 months until the backlog could be reviewed and normal processing and approvals re-initiated. The Bank worked with STU managers throughout this period to speed resolution of these difficulties.

- ***Counterpart funds***: Scarce state counterpart funding in the early years was a factor in the Project's execution. The state's attempts in the earlier period for example, to source counterpart funding for electricity subprojects (65% of all community investments at that time) from the Federal Government's *Luz do Campo* (Country Lights) program, fell through. The State Government was always committed to the Project per se and to taking the necessary steps to find the resources and maintain momentum.

- ***Project management quality***: Uneven quality of project management in the first four years, characterized by excessive bureaucracy, centralized decision-making, disorganized administration and political problems caused, *inter alia*, delays of up to two years in subproject processing/financing and erratic disbursement. As noted, Project Management was downgraded to "U" in mid-2002. Extreme delays in receiving their subprojects/financing also eroded communities' confidence in their associations and FUMAC Councils. As noted earlier, capable new STU leadership from 2003 on, with greater focus on the quality and numbers of Councils and on realigning the Project with its original goals and philosophy, along with strong Bank support throughout, restored the Project to full health.

- ***FUMAC Councils***: By MTR, numbers of FUMAC Councils were fewer than anticipated at appraisal and many were weak.[16] The emphasis on PAC, along with failure of the STU to consistently respect the decisions of existing FUMAC Councils, left some Councils feeling unmotivated to remain operational, while challenging the project principle of community demand-driven investment. The lack of indicative annual budgets also affected Councils' planning and priority-setting. The new STU regime from 2003 on made the Municipal Councils a priority, achieving full coverage of all eligible municipalities state-wide. PAC was terminated, the STU's Regional Offices were reinvigorated to permit closer daily contact with communities/Councils, and training programs for both were intensified**.**

[16] The reason for slow FUMAC creation was ostensibly to ensure, through lengthy preparatory processes, adequate representation and overall quality of the Councils. With the advent of more dynamic STU leadership after the MTR, the limited existing Councils were found to be fragile and needing restructuring. STU action saw FUMAC creation accelerate sharply with excellent quality, and training and restructuring of all existing Councils.

- ***Over-utilization of PAC***: By the MTR, 84% of all subproject approvals were still PAC-based. Heavy use of PAC may explain why a considerable number of subprojects at MTR were either not started, or stalled/incomplete. Subsequent, stronger STU management spent many months resolving all such cases, before re-launching regular project execution.

- ***Size of the Loan:*** In retrospect, the Loan was too large for the state's fiscal/counterpart funding capacity at the time, although relative to its peer states in the RPAP, loan size was consistent, and the counterpart burden was minimized through beneficiary cost-sharing requirements.

2.3 Monitoring and Evaluation (M&E) Design, Implementation and Utilization

Management Information System (MIS): Project Performance Indicators and the Implementation Plan (SAR, Annex H) represented a general framework against which to measure physical achievements, but as stated in the SAR, these were largely indicative given the demand-driven nature of the Project. As foreshadowed, the proportion of total investments financed represented by each main category (infrastructure, social and productive), differed considerably from appraisal. Analysis of Project implementation drew on the MIS database, upgraded at appraisal to include physical, financial and management modules and completely overhauled following the MTR, without changing the PDO or project components. The conceptually sophisticated MIS of appraisal, supporting evaluation, graduation and other elements of project design, was simpler in practice. The MIS was a vital support to the subproject cycle and was upgraded/modernized both post-MTR and again by Closing, in preparation for the proposed repeater project.

Evaluation Program: The STU produced annual physical performance reviews and mid-year project progress reports. Although the STU discussed with the Bank the terms of reference for a mid-term implementation review based on beneficiary consultations, this was not done. Administrative, political and technical conditions did not favor the launching of the evaluation framework conceived at appraisal.[17]

Towards the end of the Project, and to support both the ICR and the preparation of a repeater project, the Borrower's Institute for Municipal and State Development (IDEME/Secretariat of Planning and Development (SEPLAN)) conducted a survey-based study of Project impact on family living conditions and wellbeing. Results are summarized in Boxes, in Annex 5. Also, questionnaire-based case studies of the most common project investments (electricity, water supply systems/cisterns, housing improvement and craftwork) are also summarized in Annex 5 (Barbosa (2007)). These studies and the high benefit-cost ratios (greater than 2.0) for the main productive subprojects analyzed provide an adequate basis for the assessment of Project impact.

[17] Repeated leadership changes in the first five years disrupted project execution. Even after the situation improved in 2003, the intense effort needed to get the Project on track reduced interest in evaluation. Paraíba was considered for inclusion in the multi-state evaluation conducted by the Federal University of Campinas (FECAMP, São Paulo) in 2004, but was excluded due to potential problems in conducting rural fieldwork in the political climate at the time. There were also difficulties in finding a competent, independent entity to do a study, and the financial demands of several possible candidates were reviewed by the Bank and found unacceptable.

2.4 Safeguard and Fiduciary Compliance

Safeguards

- ***Environment:*** The Project was assigned a "B" environmental classification. Mitigation measures were described in the SAR and incorporated in the Operational Manual. The small size of relevant subprojects did not pose serious potential environmental problems and appropriate measures were incorporated consistent with the applicable safeguards at the time.

- The Borrower provided a summary of procedures used for analyzing subproject proposals to comply with Bank safeguards and environmental requirements (Annex 10). Provisions described cover small-scale reservoirs, water supply systems, cisterns, manioc mills, water desalinization and tractors. The list is illustrative and not exhaustive. The experience and lessons learned during the Project are being incorporated into a comprehensive Environmental Management Plan for the repeater project currently under preparation.

- Some 45% of all investments were in rural electrification, not normally associated with environmental effects, but proposals were routinely processed through standardized environmental procedures.

- Another 37% comprised water supply systems. The STU, with specialist support, conducted 320 workshops for over 6,400 participants including FUMAC Municipal Council members, on the Management of Water Supply Systems, including O&M and environmental guidance.

- 10 training events for 250 participants conveyed the environmental and technical elements of fish/shrimp farming.

- ***Indigenous and ethnic groups:*** While project design did not explicitly incorporate indigenous and ethnic groups, the Project did attend them consistent with the broad thrust of the Northeast CDD program to reach and include these groups in culturally appropriate ways. Indigenous and Quilombola groups were actively consulted and supportive of the design of subprojects that covered them, in accordance with the Bank's Indigenous People's (IP) policy. (See section 8.5(a)).

Fiduciary

Procurement:

- The SAR did not include a procurement rating but describes the main elements of community-based procurement. The MIS was used effectively to compare/check similar subprojects for procurement issues, further verified by random reviews during project field supervision and review of subproject documentation.

- Procurement Post-review and Procurement Capacity Assessment missions conducted by the Bank at Closing found that Bank procurement rules had been followed and that institutional performance/capacity were satisfactory.

- About 90% of all funds were applied by the community associations for subprojects using simple procurement procedures: either solicitation/consideration of three supplier proposals and selection of the lowest cost, or Direct Shopping.

- The 10% of total project funds financing the Institutional Development and Administration components were applied by the STU generally for purchases of low value using National Shopping or letter of invitation to bid to a minimum of three suppliers, as foreshadowed in the Loan Agreement.

- Beneficiary communities contributed their minimum 10% cost share in labor in the vast majority of cases. In the few cases involving subproject exceeding the US$50,000 limit, the Bank's no objection was sought. Associations were assisted by the STU in submitting their statements of account for expenditures (*prestação de contas)*.

- Community-based procurement was generally rapid and efficient. Communities routinely formed the required three-person procurement committee to select and contract suppliers, subsequently monitoring subproject execution to conclusion.

- Annual audit reports and Bank supervision missions checked random samples of contracts throughout project implementation, finding no deviation from Bank rules.

Financial management (FM):

- The Project was evaluated by a Bank Financial Management Specialist in 2002, when the Financial Performance (FP) rating was downgraded to Unsatisfactory due to the disbursement lag and counterpart funding issues, but Financial Management was maintained as Satisfactory due to the absence of serious accountability issues. The FP rating was restored to Satisfactory in November 2002.

- The most recent Financial Management Review in 2006 found project staff to be competent professionals, following state accounting procedures with sound recordkeeping and satisfactory financial reporting, budgeting and information systems. Flow-of-funds arrangements were fully satisfactory as were audit provisions and overall accountability.

- Arrangements for financial management improved during project implementation showing commitment from the State Government to invest in the appropriate human resources and institutional capacity. The improved project Monitoring and Information System (MIS2) mitigated FM risks and underpinned the achievement of project objectives.

Audit performance:

- Besides independent auditing, the project was continuously monitored by the State Tribunal de Contas (TCE – State Court of Accounts) which was an additional mechanism for improving internal controls.

- Audit reports were of generally good quality. Six of eight opinions on Financial Statements were Qualified Exception (with no serious accountability issues). On Special Opinions, five of eight opinions were Unqualified. The remaining three were Qualified Exception with no serious accountability issues. Exceptions were generally of an operational nature (listed in the Management Letter).

- The STU responded promptly and effectively to Bank/auditor requests for explanation and/or action in all cases. There are no pending audit issues.

Disbursement:

- The Loan disbursed fully. Disbursements were somewhat uneven (on a quarterly basis) and delayed over time, reflecting periodic counterpart funding difficulties and uneven flow of subproject approvals and hence financing, especially in the first half of the Project period but intermittently thereafter.

2.5 Post-completion Operation/Next Phase

Operation and Maintenance (O&M):

In the context of the CDD program, transition arrangements to regular operations of community subprojects means the official release of the subproject by the State Government to the community association (which, with some exceptions such as electricity, access roads and bridges, legally and technically owns the investment), and launching O&M under pre-established rules and procedures for this phase. The O&M of specific types of investments are summarized below.

Rural electrification (45%):

- As testified by beneficiaries in IDEME (2006), the wellbeing and productive benefits of electricity provide all the incentive needed to pay the charges for measured service and maintenance. One beneficiary noted: "It's cheaper to pay R$20 per month for energy than to purchase five liters of kerosene for precarious lighting and no access to domestic appliances."

- In Paraíba, as in other states, given the technical nature of electricity subprojects, the energy concession firms discount the subproject price by 10% to account for beneficiary contribution. Beneficiaries are also required to excavate post-holes and transport posts, and provide some materials. Unlike most other subprojects, the power concession firm takes ownership of the electricity subproject and assumes full responsibility for O&M.

Water supply (37%):

- Beneficiary communities received training in the O&M of water supply investments and families typically paid/pay around R$5 monthly into an O&M revolving fund which in many cases also covers energy charges to run water pumps. Measured water usage is paid by each family due to the policy (and incentive) of including household connection in water supply subprojects.

- It is common practice for the association to disconnect non-payers, and to communicate this collective decision to municipal authorities. Water is commonly rationed to two peak periods/day, for conservation.

Other:

- O&M arrangements for other investments such as tractors/equipment are routine and well-established: (i) tractor usage is charged by the hour with a higher fee for non-members of the association; the tractor operator is trained and on salary, and also handles maintenance; (ii) access roads, bridges, culverts and fords are typically maintained by municipal

authorities; (iii) productive subprojects have various O&M requirements and training is routinely given in appropriate practices fostering sustainability. The Annex 5 Boxes provide additional details on the O&M of a range of subprojects.

Follow-on operation:

- A Paraíba Rural Poverty Reduction Project (*Cooperar 2*), a repeater SIL of US$20.9 million (total cost US$27.9 million), is under preparation, having been authorized to proceed by the Federal Government's Committee on External Financing (COFIEX) on December 7, 2006.

- While continuing to focus on rural areas, the proposed project would, *inter alia*, scale up the process of integrating other Federal and State programs into the operational framework, with prioritization through the Councils and implementation by beneficiary associations, started under the RPAP project just closed (see section 8.2(c)).[18]

- Investment in productive activities for rural employment and income-generation, with a focus on markets, and on rigorous technical, commercial and environmental feasibility, will have strong priority.

3. Assessment of Outcomes

3.1 Relevance of Objectives, Design and Implementation

Rating: High overall relevance

- Project objectives continue to have high overall relevance for conditions in rural Paraíba, while design and methodology remain appropriate for achieving those objectives. The IDEME study and case studies conducted at the end of the Project support continuation of the CDD approach. The positive impact results available from other participating states which have similar rural poverty conditions and are using the same participatory mechanisms, further support continuation of this approach.

- Thus, the follow-on operation sought by the State Government has similar objectives (but incorporating more advanced themes such as integration and with far greater direct emphasis on job creation and incomes), division of resources among components and geographic coverage, although the smaller loan implies fewer subprojects and beneficiaries. Certain innovations would be mainstreamed and new types of investments introduced; continued demand for water and electricity is assumed but financing of productive activities to generate jobs and income would increase sharply.[19]

- The proposed repeater project is consistent with the current Brazil Country Assistance Strategy (CAS, FY04-07) and with the preliminary indications of the next Country

[18] Integration of complementary programs/resources is another example of the spillback effect of innovations introduced under more advanced CDD projects in other Northeast states.

[19] The target is 40,000 families benefiting from 1,000 subprojects of which 35% productive, 45% basic infrastructure, and 20% social (housing, education, health) and environmental.

Partnership Strategy which suggest that CDD projects under the Northeast Rural Poverty Reduction program would: (i) adhere more closely to the respective state development strategies as a framework guiding investment demand and approval; and (ii) scale up impact by integrating more closely with other federal and state programs, Bank lending and the projects of other donors. Also, the proposed project places more emphasis on productive investment subprojects.

3.2 Achievement of Project Development Objectives

- The State of Paraíba has shown marked, sustained improvement across a range of key indicators of social and economic progress in the past 15 years, although poverty obviously remains serious. The State Human Development Index (HDI) increased from 0.557 in 1996 to 0.661 in 2000, moving the state from the bottom ranking to fourth lowest, a significant achievement in the period. State per capita income grew about 50% in this same period, while the proportion of poor (persons with per capita household income below one-half of the minimum salary) fell from 69% to 55%, a 20% decline.

- Given that the Project attended 80% of the total eligible poor rural population in Paraíba with close to 3,400 investments of which 82% were electricity and water supply, and which included successful productive ventures - some 60% of which were market-targeted - this ICR concludes that the Project has made and continues to make, an important contribution to these improving poverty indicators.

- The following have been taken into account in the ICR's assessment of achievement of PDO: (a) survey-based assessment of the Project in 2006 by the Institute for Municipal and State Development (IDEME, a subsidiary of the State Secretariat for Planning and Development), focusing on improvements in beneficiaries' living conditions. The accounts of beneficiaries (see Boxes, Annex 5) indicate that employment opportunities and incomes are increasing;[20] (b) questionnaire-based case studies conducted and analyzed in February-March 2007 (Barbosa, 2007); (c) study by de Oliveira (2006) assessing the impact of collective action under the Project on honey production – an activity with considerable market potential including international - in semi-arid zones of Paraíba;[21] (d) extrapolation from the Binswanger et al (2006) evaluation; (e) FECAMP evaluation studies in Bahia, Ceará and Pernambuco (2004 and 2005); (f) research of Costa (1994-2006) and Costa and Rizvi (2003); and (g) periodic supervision Aide Memoires, field observations and anecdotal evidence.

- The literature on the region-wide program including Binswanger et al. (2006), FECAMP (2003, 2004 and 2005a and b), Costa (1994-2006), (Costa/Rizvi, 2003) and others, describes a large-scale program with capacity to transform many elements of the lives of poor rural people. The program has funded a diverse set of subprojects and established institutional mechanisms with proven capacity to implement community-level, social and economic works in an efficient, relatively low-cost manner.

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[20] Avaliação das Atividades do Projeto de Combate á Pobreza Rural – PCPR, IDEME/SEPLAN, 2006.

[21] Impactos das Ações do Projeto Cooperar – O associativismo na apicultura contribuindo para sustentabilidade do semi-arido Paraíbano, J. E. De Oliveira/Instituto de Educação Superior da Paraíba (IESP), 2006

- The program – and Paraíba was no exception - has had a major impact on the access of rural poor to electricity and water supply. It is estimated that some 59% and 60% respectively of Northeast households who gained access to these services between 1992 and 2003, did so through the Bank-supported CDD program and that these beneficiaries are unlikely to have gained access through other programs.

- Targeting is being improved by the program over time: studies show that families benefiting more recently tended to have even lower per capita incomes than those who benefited in the past. Far from benefiting "local elites" the program is benefiting poor families. This is pertinent to Paraíba, at appraisal the poorest state in Brazil, with average per capita income of project beneficiaries at US$0.75/day. The FUMAC Municipal Councils are widely regarded as a primary reason for continuous improvement in targeting. As noted below, the Paraíba Project achieved universal coverage of Councils in 222 eligible municipalities.

A. Providing basic social and economic infrastructure and employment and income-generating opportunities for the rural poor.

Basic social and economic infrastructure:

- The Project met this objective, financing 3,373 investments in basic rural infrastructure, productive and social facilities (119% of target), improving the living standards and well-being of some 154,000 rural families (109%) or about 770,000 people (109%) including *Quilombola* and indigenous peoples' communities. Infrastructure investments were 88% of all subprojects (161% of target), focused on electricity (45%) and water supply (37%). Social investments were about 8% of all subprojects (180% of target) and included housing improvements, multi-purpose community centers, day-care centers and support for family agriculture.[22]

- As in all other participating states, communities sought the basics for their immediate impact on daily life and their potential to jump-start employment and income-generating activities. For many types of productive subprojects, reliable access to water and energy are prerequisites (irrigation, commerce, small agro-processing units). Barbosa (2007) found in 100% of cases surveyed, that poor rural communities sought electricity ahead of water due to its being an essential input into a multitude of activities (including pump-driven water supply). Beneficiaries comment candidly and favorably on the impact of water and electricity on community health, education, family comfort and security, productivity, access to services, communication, migration and other elements affecting human development in rural areas. (See Annex 5).

- Binswanger et al. (2006) demonstrate quantitatively that indicators of income, physical asset accumulation and quality of life are positive. However, evidence of increases in incomes is not statistically significant, as higher incomes are probably being consumed rather than invested, and therefore a large part of the effect on income cannot be measured through changes in physical capital. Data results were not significant for accumulation of per capita physical assets, with the exception of specific cases such as the impact of productive

[22] Classified as "social" by STU due to their multiple uses.

subprojects on agricultural equipment or on the acquisition of domestic appliances. Further specific study is recommended for these two elements.

- Binswanger et al. also found significant improvements in quality of life – health, housing conditions and access to services. Infant mortality, diarrhea, parasitic infections, asthma, hepatitis and Chagas disease showed statistically significant declines among the targeted rural cohort in all three states studied due to investments in water supply, electricity and housing. Given that 88% of all investments in Paraíba were in water and energy, and with 150 community housing investments, similar impacts could be expected. The following summarizes the effects/impacts of major investments types financed in Paraíba.

- *Rural electrification investments*, benefiting 312,000 people, deliver numerous benefits: powering homes, schools, streets, small businesses and shops, agro-processing units and irrigation pumps; improving security, permitting night school, food and medicine conservation, improving productivity, promoting access to information and technology. Barbosa (2007), Binswanger et al. (2006), FECAMP (2004) and other studies have found high ratings for quality of life improvements, household comfort, increased food consumption, higher incomes from more complex productive activities, increased use of domestic appliances and increased property values. In Paraíba, Afro-descendent communities, agrarian reform settlements and associations of female lace-makers and dairy producers describe the immediate benefits of electricity as highly positive. See below for job-creation estimates for electricity investments (and see Table 2.4 and Annex 5, Barbosa (2007)).

- *Water supply investments*, benefiting 247,000 people, deliver immediate benefits: normal access to a clean, safe water source; improved household wellbeing; time and cost savings from not having to fetch water from often-distant locations; and lower incidence of chronic gastric and other illnesses, and ability to construct regular hygiene facilities. Basic water supply systems with domestic connection (the majority in Paraíba) and household cisterns registered especially high ratings from beneficiaries surveyed by Barbosa (2007) and FECAMP (2004); and, in a semi-arid state like Paraiba provoked the same reaction regarding health and productive effects (see Annex 5). Small scale reservoirs have important productive effects permitting irrigated farming, animal herding, increased herd size and new crops, but these effects take longer to develop. State and municipal fiscal costs for providing trucked water to dry/drought-stricken areas are significantly reduced by water supply investments. See below estimated job creation potential of water supply subprojects (and see Table 2.4 and Annex 5).

- *Housing construction/renovation*, benefiting 32,000 people replaced the common, deteriorated *taipa* housing (mud and brush) with its attendant health threats, particularly the transmission of Chagas disease, and other indignities. Houses comprising the 150 such subprojects financed, were constructed by *mutirão* (collectively) of cement/tiles, were demanded by the very poorest communities, employed standardized designs/materials and greatly improved family comfort, health, security and privacy. Construction quality was generally excellent. Beneficiaries, having lived in degraded and unhealthy residences for generations, expressed high levels of satisfaction and had been trained by STU technicians and the Municipal Councils in the use and maintenance of their houses (Table 2.4 and Annex 5, Barbosa (2007)).

Employment and income-generating opportunities:

- While productive investments were fewer than foreseen at appraisal, about 5% of the total (vs. 18% estimated), they were diverse, innovative, carefully designed and executed, reflecting the lessons learned region-wide concerning what ensures success and sustainability. Some 60% had a strategic orientation to markets including national and international. Among important types were honey production, integrated dairy plants, fine craft items, tractors/equipment, grains processing, fish farming and flower farming. Women were 37% of the beneficiaries of productive subprojects vs. the 30% target at appraisal. (See Annexes 2 and 5 for quantitative and experiential information). [23]

- *Small-scale agro-industries* have important, measurable impacts including increased and better quality product for sale, self-sufficiency in products normally purchased, processing of materials previously discarded and employment and income generation opportunities. They present inherent challenges at small scale – analytical, technical, commercial and financial – documented by Binswanger et al. (2006), FECAMP and others. Experiences throughout the region including Paraiba represent a road map for a major push under new CDD projects in this program to expand/intensify such investments using more rigorous feasibility standards and organized inputs (credit, TA). Annex 3 provides an economic analysis of types of productive investments typical of the Northeast CDD program including Paraiba. Annex 5 describes specific productive experiences under the Paraíba project. Some examples are summarized below.

- *Honey production*: Formal interviews with 40 honey producers in a project-financed cooperative subproject in the Paraíba Municipality of Jacaraú revealed the following: (i) 75% said their family income had increased even in the short period since production started; (ii) 50% were selling their product locally and 50% outside their region in shops, fairs, markets and exhibitions; (iii) 75% said that honey production in the region was increasing due to multiplier/demonstration effects; (iv) 75% said the honey venture and their satisfaction with it were the main reasons they did not out-migrate; (v) families were able to purchase consumer goods even after just one year; (vi) the activity was considered to be serious and guaranteed family sustenance; and (vii) many member producers planned to expand, including with bank credit, and hoped to diversify and improve quality of the association's products (Annex 5, de Oliveira (2006)).

- *Lace making and crochet subprojects:* The Project financed 21 craft subprojects of which the female-generated and managed Renaissence Lace and Crochet/Embroidery investments in the municipalities of São João do Tigre and Areial benefiting respectively, 500 and 225 people directly (1,500 and 1,250 people indirectly), were notable. The participating associations were located in poor municipalities with HDI below 0.6 (0.527 and 0.599 respectively). These associations have won prominent national prizes for fine craftwork.

[23] As a community demand-driven operation, no targets (numbers of investments, numbers of beneficiaries etc.) were established at appraisal for any specific type of subproject and even the relative percentages of the major categories - infrastructure, social and productive - were indicative only.

- Barbosa (2007) did a brief financial/economic analysis of two of these craft ventures, mainly to demonstrate their sustainability as sources of employment and income-generation:

  (a) São João do Tigre: The initial investments financed by the Project were about R$36,338 (some US$17,725) in structures and equipment. Gross returns in 2006 were around R$ 61,650.00. Input expenses for the year totaled R$5.433.20 and funds taken out by the 40 members totaled R$46,396.80, with some R$9,820 retained as a fund for future replacements/investments. Assuming that these values for receipts and expenses are maintained for a period of 10 years, it is estimated that the Internal Rate of Return (IRR) for the subproject is about 23% per year. This rate is superior to the SELIC rate (actually 13%) and even higher than the return on a bank savings passbook account. This result suggests a fairly high and satisfactory return especially considering the investment capacity of the beneficiary families. Using a discount rate of 10% per year and maintaining the annual net revenue of R$9,820 (discounted for funds retained by the members), the initial investment will be recovered in 5 years.

  (b) Areial: The initial investments financed by the Project were around R$47,560 (about US$23,200) in structures and equipment. The estimated gross annual revenues are R$45,600 and expenses on inputs and retained income of the 25 members amount to R$35,640.60 annually, leaving about R$9,959.40 for investments and a fund for future replacements/investments. Assuming that these values for receipts and expenses are maintained over 10 years, it is estimated that the IRR of the subproject is 15% per year, and the investment will be recovered in 7 years.

- The brief analysis of these two productive subprojects indicates that productive subprojects, better-designed and with greater care taken with their business plans, and with market opportunities identified, have strong potential to contribute to a satisfactory and sustainable level of income.

- They are also financially and economically viable, with differences between the two. Part of the difference is due to the size of the initial investment not being compensated by the difference in productivity (favoring the subproject with the higher initial investment). For further details on these subprojects, see Annex 5, Box 7 and Barbosa (2007).

- *Flower production*: The Flower Producers' Cooperative of Paraiba (COFEP) comprising 21 families and predominantly female, produce and market flowers from one-half hectare which is currently yielding net income of one minimum salary per month (about R$350.00 or about US$162.00) per member for families with few prospects for income generation before the subproject. Female labor is being absorbed productively and self-esteem has burgeoned. COFEP has attracted national and international attention, winning top prizes in national competitions for entrepreneurship (see Annex 5, Box 10).

- *Fish farming*: The ASPIB Association in Lagoa da Matias municipality farms fish for markets both local and in the neighboring State of Rio Grande do Norte. The activity directly involved 22 families and provides employment for 90 people. No income figures are provided but families interviewed expressed high levels of satisfaction with changes in their lives. They now work year-round, have regular incomes, feel optimistic and more secure and have ample fish for family consumption (see Annex 5, Box 8).

- *Production of Rapadura:* Production of this traditional, candy-like food was resumed, with project financing to reactivate 11 mills and construct a central mill with equipment. Partnership arrangements with SEBRAE and others provided training to increase quality. The mills today produce around 350 tons of *mascavo* sugar and *rapadura* with guaranteed markets in the neighboring States of Ceara and Rio Grande do Norte and providing 55 families with direct employment and incomes, year-round (see Annex 5, Box 6).

- *Dairy production*: Sustainable goat raising for milk production is improving the socio-economic prospects of poor rural families in the semi-arid Cariri region. Goats' milk has never been an accepted food product of the region and was never a source of income. However, the Project financed genetically-superior animals, renovated and re-equipped 15 small plants, and strengthened the production chain. The plants are producing for the Milk for Paraiba Program, yoghurt for the school lunch program, and milk for private firms. The total population involved productively in these activities numbers about 700 including milk producers and 10 direct jobs in the central plant in Monteiro. The involved associations maintain partnerships with federal government agencies, mayors, several major banks, SEBRAE, the State Government and research entities (see Annex 5, Box 9).

- *Tractors and equipment* are much sought after and have major direct and indirect benefits. The Project financed just six, although demand was four-fold. FECAMP studies (2004 and other) demonstrate the extent to which tractors create employment, bring additional agricultural land into production, ensure timely preparation of land to exploit rainy periods, increase production, reduce time spent on labor-intensive agricultural activities, increase the numbers of crops per year, create new productive activities and have other economically and socially important multiplier effects (Table 2.4).

- *Job creation potential of rural electrification and water supply investments*: Research captured some data/information on the generation of productive employment by initiatives including greengrocers, stalls, bakeries and processing plants, resulting from the 8 investments in *electric power* studied (Barbosa, 2007). Projections show a total of 2,600 to 3,200 net permanent jobs, with average monthly salaries ranging from R$50 to R$650 (average R$228). Data suggests that investments in rural electricity have potential to generate employment and incomes over time.

- In the case of *water supply,* assuming that the complete water supply subprojects studied (Barbosa, 2007) were typical, and that they represented 90% of all water subprojects financed, with an error of 10% in relation to the average number of connections, it is estimated that between 1,380 and 1,680 commercial and industrial connections were made as a result of the subprojects, with potential to generate additional employment and income. (Data collected do not permit estimates of these latter effects). The O&M function of water supply subprojects also creates employment. With each complete water supply system generating on average, jobs for 3.5 people, 2,000 to 2,500 people are occupied in the O&M of all complete systems financed, administered directly by the associations, generating gross income equivalent to between R$3.6 million and R$4.5 million per year.

B. Decentralizing resource allocation and decision-making to local levels by supporting community-based Municipal Councils and beneficiary associations in investment planning and implementation.

- The Project also met this objective. Some 3,360 community associations (237% of target) linked through representation in 222 FUMAC Municipal Councils (148%), mobilized for collective action, captured resources (including from other state and federal programs/projects) and implemented, operated and maintained 3,373 subprojects for the common benefit of their associations and other community members. At Closing, another thousand community associations had been organized and were poised to participate with proposal for investments.

- The creation and training of FUMAC Municipal Councils in all eligible municipalities fostered the participation/inclusion of diverse groups: municipal mayors/authorities, NGOs and other civil society, member community associations, and women, ethnic and indigenous groups. The result was a more democratic and just distribution of resources, linkages to and partnerships with other entities and programs, and the leveraging of community resources under project cost-sharing arrangements (IDEME 2006, de Oliveira, 2006), and of non-project resources through the participatory Councils.

- The STU and its Regional Offices, backed by SEBRAE and other entities, conducted mass training events to build capacity in the Councils and associations to manage the subproject cycle from the planning and priority-setting stages through implementation and O&M. The quantity of training events delivered and recipients far outstripped original targets. Some 528 separate courses were offered to associations (440% of target), 723 courses for Municipal Councils (154%) and 68 courses for STU staff (190%).

- Development and availability of standard subproject designs helped associations with the technical and financial aspects of commonly demanded investments (e.g., water supply, housing, manioc mills). Benefits include: simplified preparation and evaluation of subprojects by associations and Councils; better quality works, reduced subproject cost and associations' dependence on private firms, and simplified procurement. (See also Annex 4).

C. Leveraging resources mobilized at the community and municipal levels.

- The Project also met this objective. The Northeast CDD program is among the few programs in Brazil which have successfully leveraged resources at the local level. Beneficiary cost-sharing (mostly labor and materials) under the project's matching grant feature totaled US$10.6 million, about 15% of total subproject costs and 13% of total project cost.

- Financial contributions by municipalities were not required by the Project. However, consistent with the practice throughout the region, mayors and other municipal authorities commonly supported the operations of the FUMAC Councils with logistical support in lieu of direct financial (equipment, premises, transportation, food, facilitation). This support was not quantified.

- Integration activities were not contemplated at appraisal. However its successful inclusion as an objective of new, more advanced projects in other states led to its introduction mid-stream in Paraiba. With STU support and using the FUMAC Councils as the forum for discussing

the availability and priority of various federal and state programs, project beneficiaries accessed the following programs: [24]

- ***Leite de Paraíba***: a federal/state-supported milk/nutrition program leveraging a total R$56.0 million and benefiting over 5,400 families (project contribution: R$600,000 (US$277,000) and 977 families);
- ***Paraíba em Suas Mãos***: a state-sponsored craftwork marketing support program leveraging significant additional funds and benefiting close to 4,000 families (project contribution: R$1.6 million (US$740,000) for 795 families);
- ***Luz para Todos***: rural electrification program, through federal/state collaboration with state energy firms benefiting 28,160 families (project contribution: R$108.2 million (US$50.0 million) for 6,782 families);
- ***Ação Emergencial – Camará***: emergency program in 10 municipalities affected by failure of the Camará dam supported by State Government with R$13.4 million state contribution, benefiting 1,800 families (project contribution: R$3.5 million (US$1.6 million) for 595 families); and
- ***Ação Estruturante – Varzeas de Souza***: State Government program providing social and productive support to about 356 families in the Irrigation Perimeter of Varzeas de Souza, with state financing of R$51.4 million (project contribution: R$1.5 million (US$693,000) for 178 families).

- Paraíba thus succeeded in promoting efficiency gains in the allocation and impact of public funds by leveraging through the FUMAC Council mechanism - in addition to beneficiary association contributions averaging 12.5% of subproject cost - parallel, complementary resources totaling US$53.3 million for a project investment of US$11.2 million, a ratio of about 5:1 of outside funds to Project funds.

D. Deepening the creation of social capital initiated by the Reformulated NRDP.

- The creation of social capital was the Project's strongest social achievement. It should be explained that most Northeast rural communities have existing but variable levels of social capital, the result of cultural traditions/practices and coping with adversity. The Project's participatory mechanisms essentially formalized and institutionalized channels for communication, backed by resources allocated under democratic procedures. One of the core ongoing challenges, as defined by over a decade of Bank-supported research on social capital formation under these CDD projects (Costa, 1994-2006), is to build community trust in the state. Each subproject deliberated, implemented, completed and delivering benefits is a positive step in changing traditional relationships.

- Barbosa (2007) found that in a majority of cases studied, <u>after</u> their investment was executed, associations/residents were more active in the community and association, had greater confidence in their leaders and associations and in making additional, new demands to public authorities and in having them attended-to.

[24] Amounts are converted to US$ at end-project rate of exchange. Such integration activities were not contemplated at appraisal in 1997 and thus no financial or other targets were set. The activity was initiated in other states under the follow-on Rural Poverty Reduction Program and introduced mid-stream in Paraíba.

- Similar findings are registered in de Oliveira (2006). Honey producers interviewed saw participation in their association as a positive factor in local growth, delivering ecological and economic benefits to the local honey industry and as essential to their ability to prosper in the market. Members met regularly after their subproject was installed, to discuss and vote on broad issues of importance to the community. Meetings were open and usually joined by partner entities including members of their FUMAC Municipal Council.

- The quasi-experimental study (Binswanger et al., 2006) confirms the positive effects of the Northeast CDD program on social capital, be it in terms of inputs (motives for acting collectively and institutional arrangements that facilitate collective action) and outputs (participation in community activities, civil participation and the reconfiguration of relations between the community and government, or relations of governance).

- This study used econometric methods to quantify changes in social capital in communities and municipalities, and controlling for effects external to the Program. The study shows significant growth in levels of trust, solidarity and cooperation among residents of poor rural communities and between residents of one community and others, and government authorities and agencies. Communities exercise social control over the state and take on responsibilities and duties as citizens.

- FECAMP (2003) showed that the change in structural social capital occurs more intensively in communities which have implemented subprojects. Attaining immediate, concrete benefits is indispensable to maintaining the organizational goals of the community association beyond subproject completion.

- Costa and Rizvi (2003) found that when compared with community associations without subprojects, associations benefited by the Program were more capable of: responding to communal demands; resolving internal conflicts; effectively advocating for their members; mobilizing financial and human resources; and, solving local problems for the community.

- Buainain and Fonseca (FECAMP 2005) concluded that the Northeast CDD mechanism is the correct one from a long-term perspective and that remarkable progress had been made in building social capital in poor rural communities. They also concluded that program rules and distribution of resources through the Councils with large public attendance: (i) take material resources out of the hands of political actors; (ii) encourage political equality and participation; (iii) empower representatives of community associations and weaken their personal dependence on political leaders; (iv) establish obligations to be transparent in decision-making and to make information on the Program widely available; and (v) promote a climate of mutual checks and balances since it is in the interests of each association to be ready to receive new investments.

- The Project's institutional and governance structure provided women and ethnic minorities with opportunities for growth and empowerment (see 3.5(a)).

3.3 Efficiency

The following summary analysis applies to Component A Community Subprojects, which comprised 86% of total project cost.

Cost effectiveness: Several aspects of project design help to ensure that subproject investments represent the least-cost, best alternative.

- Demand-driven subproject selection helps ensure that resources flow where they are most needed and chosen subprojects are the best alternatives for targeted communities.

- Standard technical designs (*projetos padrão*) and cost parameters for the most common forms of subprojects help ensure that community associations employ least-cost models for subproject implementation. Cost-sharing requirements even for poor communities create an incentive to use least-cost alternatives.

- Delegation of subproject implementation directly to community associations generates cost savings - from 30-40% - compared to similar type/quality works implemented by public sector agencies (Van Zyl et al. 2000).

Benefit-cost ratios are high (greater than 2.0) for the main productive subprojects analyzed and analysis also suggests that investments are generally financially sustainable. Although beneficiary associations do receive a one-time matching grant, the investments tend to be sustainable because cost recovery through user fees by the average beneficiary association is normally adequate to cover both O&M and replacement of original investments before the end of their useful economic life.

The Project's ***direct fiscal impact*** depends on what the State would have done in the absence of the Project. If the State had attempted to provide the basic services through traditional delivery mechanisms, the fiscal savings are significant (see cost effectiveness discussion above). Evaluations across the Northeast CDD program also indicate the cost savings associated with the reduced need for state and local governments to provide certain services, due to project investments. These projects also reduce the dependency of municipalities on central and state government transfers by strengthening local public authorities to take responsibility for their economic and social development. Finally, Subproject O&M costs are typically paid by the beneficiary communities (with few exceptions, e.g. electricity) reducing the fiscal burden on municipalities and states

Finally, in terms of ***revenue generation***, direct impacts are modest, but indirect impact could be significant. Much of the incremental production of subprojects is self-consumed, not liable to taxation, and/or circulates in informal markets where tax is rarely paid. But it can imply a significant increase in ICMS (Tax on Circulation of Goods and Services) collected within poor municipalities due for example, to the large increase in the purchase and use of domestic appliances associated with communities' new access to electricity, increasing the ICMS revenue to municipalities. (See 3.2(a) and Annex 5 for honey and crafts examples; and Annex 3).

3.4 Justification of Overall Outcome Rating

Rating: Satisfactory

- Investments financed exceeded the appraisal target (116%), many more FUMAC Councils and community associations were established than estimated (161% and 237% respectively) and women and ethnic/minority groups were reached successfully, albeit over a longer period.

- Evidence (see Section 3.2 Objectives) suggests that the types of investments financed had a marked impact on family and community wellbeing, on social capital formation and in specific cases cited, on jobs and incomes. Time is needed to intensify productive activity and evaluate outcomes/impact.

- Initial, successful efforts to integrate complementary programs and leverage parallel complementary funding through deliberations of the FUMAC Councils paved the way for stronger efforts under the next phase.

3.5 Overarching Themes, Other Outcomes and Impacts
(a) Poverty Impacts, Gender Aspects, and Social Development

***Poverty Targeting**:*

- In general, project poverty targeting parameters worked well. The Project reached some 770,000 people on <US$1.00/day in 222 municipalities (161% of target) and including women, ethnic groups and indigenous peoples. As noted earlier, key indicators including HDI, average family income and indicators of inequality of income suggest that poverty has been declining in Paraíba since the early 1990s and that the Project was a positive, contributing factor.

- There is a growing tendency for participating states to demand that key elements of their development strategies - rural electrification and water supply in the case of Paraiba for example - are heeded by the projects.[25] Far from being a dilution of "pure" CDD or looming re-centralization, this development in Paraíba is viewed as advancing the participatory approach. Councils are increasingly consulted in the development of additional state and local rural investment priorities which may not initially be seen as priorities by desperately poor communities but which are essential for sustainable development and to break the poverty cycle (see Annex 7, Borrower letter).

- Systematic graduation as described in the SAR did not occur, being an unrealistic design feature for Paraíba, given the massive level of deprivation in rural areas. In any case, a form of natural graduation is typical of these CDD projects, with the Councils distributing subproject approvals on the basis of relative need, e.g., communities which have not yet participated have precedence. The ratio of associations assisted to subprojects financed under this project, demonstrates this principle.

Gender:

- For historical and cultural reasons, women are highly proactive in their communities in Paraíba. Their leadership and participation in the associations and Councils had a strong impact on transparent governance and on the overall success of subproject investments.[26]

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[25] New projects under the Northeast CDD program explicitly discuss and seek adherence to, through the FUMAC Council decision-making and approval process, state rural poverty strategies. Councils are being informed of and trained to ensure that subproject approvals are broadly consistent with those frameworks.

[26] Women in Paraíba are accustomed to being active in their communities, state and local politics, and business. The STU is essentially run by women. Community mobilization efforts by the Project saw women actively engaged, but

- Some 37% of all productive investments went to women's associations and associations with dominant female membership, compared to the 30% appraisal target.

- Water supply and housing subprojects were commonly proposed by women (with ownership of the latter registered in the female head of household's name, where relevant).

- Priority was given to subprojects with significant numbers of female-headed households. Women had dominant representation in certain kinds of subprojects including productive.

- The Project demonstrated the capacity of the Northeast CDD model to both include and empower women, contrary to the view that women participate but have no power. At Closing, of 222 Councils, 34 (15%) had female Presidents and 67 (30%) had female Secretaries. Of 3,360 associations, 625 (19%) had female Presidents and 2,352 (70%) had other female officeholders.

- There was a strong emphasis on ensuring women's participation in training events and in delivering technical assistance to female-headed subprojects, especially productive. Women's leadership positions in the associations and Councils also implied their automatic inclusion in special forms of training required to fulfill those roles.

***Social Development**:*

- Social capital formation is the greatest social achievement of the Project and is summarized under Objective D above.

- Successful experiences in organizing, technically enhancing and marketing high quality traditional craft items such as the rich experience with "Renaissence Lace" as described in Box 7, Annex 5 is emblematic of how well-designed and delivered technical assistance, consultation and training can convert an otherwise moribund, low-level activity to wide recognition, increase incomes, promote and conserve rich cultural practices, and build self-esteem.

- ***Indigenous groups:*** The Potiguara indigenous group numbering about 10,837 persons distributed in 32 small settlements occupying contiguous territory of about 34,000 ha in the *Litoral Norte*, is the only legally-recognized grouping in Paraíba. While not explicitly targeted at appraisal, its three *Terras Indigenas* (Potiguara, Jacaré de São Domingas and Potiguara de Monte-Mór), were attended by the Project through 15 subprojects - mostly electricity - in 13 of the settlements.

- Field verification showed that these investments were developed with strong participation of beneficiaries, promoted by local leaders and in their FUMAC Councils. Experience in Paraíba and other participating states shows that these communities are clearly capable of expressing their needs, defining priorities and administering resources received.

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even without this stimulus, such participation is common. Their leadership of associations is not restricted to mothers' groups or similar, but to mainstream, multi- and general-purpose associations.

- Access to electricity has seen an increase in the numbers of better-quality houses in indigenous settlements – substituting for the often unhealthy mud and stick (*taipa)* construction - installation of health posts, of water supply systems by FUNASA and increased productive activity, financed by external entities and private residents.

- ***Quilombola communities:*** The Project effectively served some 162 *Quilombola* (Afro-descendant) families lacking water supply, surviving on subsistence-level agriculture and the production of ceramic craftworks, and with poor access roads limiting even minimal attempts to market their product. The Project financed electrification, a small-scale reservoir, plus a ford and access road improvements permitting the passage of vehicles and people with greater security and convenience.

- Innate cultural characteristics promoted positive responses to the Project's associative, participatory methodology. Communities organized rapidly, participate in the FUMAC Councils and operate/maintain their investments communally.

- As noted in 2.4 above, indigenous and *Quilombola* groups were actively consulted and supportive of the design of subprojects that covered them, in accordance with the Bank's IP policy.

(b) Institutional Change/Strengthening

- The Project made massive inroads into a traditional local governance structure by increasing the overall number of FUMAC Municipal Councils from 58 at appraisal to 222, 161% of the targeted 136 and blanket coverage of all project-eligible municipalities; and by renovating or establishing 3,360 community associations, 237% of target.

- From 2003 on under stronger STU leadership, the training and strengthening of FUMAC Municipal Councils and associations had top priority. The results of training for Councils for example, can be seen in the over US$50.0 million in additional, complementary resources from other federal and state programs mobilized by the Councils for poor communities, using participatory decision-making and oversight to ensure accurate targeting and cost-effective investments.

- STU technical staff benefited from training in key operational and administrative subjects/issues (Annex 2). The STU was restructured and its administrative, information technology, financial management and procurement capacity bolstered. The Regional Offices were reinforced and provide critical technical and administrative support in the countryside. The institutional growth registered by the Project bodes well for the new, follow-on operation.

(c) Other Unintended Outcomes and Impacts (positive or negative)

- Integration activities through the Councils, not included at appraisal, were introduced successfully.

- Partnerships organized by the State Government between the Project, the Federal Government and the Secretariat of Education and Culture, and the Brazilian Confederation of Women – and consistent with the state's strategy for reducing illiteracy – saw literacy training for 1,295 youth and adults conducted by local, trained instructors.

- Afro-descendent and indigenous peoples' groups were included successfully in the Project.

- The plan to systematically graduate communities with adequate levels of infrastructure using progressively higher cost-sharing requirements and subsequent elimination from eligibility was unworkable and did not occur.

- The planned, formal evaluation program was not established (see 2.3).

- Several of the more advanced FUMAC-P Councils were established but ultimately devolved to FUMAC, as has occurred in most other participating states. Communities and State technical Units tend to agree that FUMAC Councils are fully satisfactory for project purposes.

3.6 Summary of Findings of Beneficiary Survey and/or Stakeholder Workshops

Evaluative activities of limited scope were conducted, intended to indicate project outcomes (see also Annex 5) and recommending in key aspects such as incomes and employment, further work:

- IDEME (2006) interviewed 397 beneficiary families in 74 communities, in 16 randomly-selected municipalities representing 8% of all project-covered municipalities and some 10% of all subprojects in each selected municipality. The survey covered six priority regions of the state and sampled 279 subprojects comprising: 241 infrastructure, two sanitation, 12 water cistern, 23 productive and one social. See results in Boxes, Annex 5.

- A series of case studies (Barbosa, 2007) were prepared based on questionnaires administered to subproject beneficiaries and community leaders representing 18 Project-financed electrification, water supply/cistern, housing improvement and craftwork investments. The sample was not statistically representative but enabled important, preliminary conclusions about subproject gestation, impact on wellbeing, employment and incomes and on social capital effects. See results, Annex 5.

- A study (de Oliveira, 2006) assessed the benefits of associative action in Project-financed honey production subprojects. Pertinent findings are also in Annex 5.

4. Assessment of Risk to Development Outcome

Rating: Low or negligible

The longer-term sustainability of project outcomes is fostered by:

- strong indicators of sound operation and maintenance practices and/or arrangements by beneficiary associations for a high proportion of project investments;

- the fact that 100% of subprojects decided, approved and financed are now emerging from 222 FUMAC Municipal Councils, blanket coverage of project-eligible areas;

- stronger likelihood that the Councils themselves will be sustainable, through their integration activities, filtering/leveraging complementary resources for their members for

faster poverty impact using democratic decision-making and targeting practices, and more recently through their activities in consortia;

- strong, pent-up demand for the new operation, designed to deepen poverty impact through more intense focus on productive activities, given the numbers of communities which now have electricity and/or water supply.

5. Assessment of Bank and Borrower Performance

5.1 Bank Performance

(a) Bank Performance in Ensuring Quality at Entry

Rating: Satisfactory

- Project design was simple in its overall framework but somewhat more complex in the details. Design took account of the lessons of the R-NRDP, and was flexible enough to incorporate along the way, lessons and innovative elements emerging from states with more advanced projects such as Bahia, Ceará and Pernambuco.

- The Project Team was experienced, understood the Project's genesis and potential and enjoyed a strong relationship with the STU and state authorities. While the Loan turned out to be larger than desirable, it was consistent in relative terms with RPAP loans to other participating states. The Borrower was able to disburse fully over a longer period.

(b) Quality of Supervision

Rating: Satisfactory

- Project supervision was challenging from the outset, as reflected in Aide Memoires and the ICR. Successive leadership changes in the early years, with divergent political philosophies/attitudes, uneven commitment to the project methodology, and different capacity levels implied a complex task of keeping the Project on track.

- The supervision team's dedication to high quality is evidenced by: (i) candid assessment, recommendations and follow-up from the MTR; (ii) a decision to downgrade Project Management, Implementation Performance and Financial Performance to Unsatisfactory in 2002; (iii) insistence on rigorous, monitorable Action Plans and frequent onsite follow-up to restore quality performance; (iv) regularly monitoring fiduciary performance at supervision with consistent focus on environmental aspects; (v) fostering successful integration of programs through the FUMAC Councils, activities already mainstreamed in other states; and (v) supporting the state's innovative amalgamation of FUMAC Councils into consortia for deliberating a wider range of regional/area development issues.

(c) Justification of Rating for Overall Bank Performance

Rating: Satisfactory

- Project design took incorporated lessons learned with clear objectives and components appropriate to conditions in rural Paraíba. The Project Team steered the Project to a satisfactory conclusion – full disbursement, main targets exceeded and objectives achieved – under difficult conditions, while assisting the state to prepare a new operation.

5.2 Borrower Performance
(a) Government Performance
Rating: Satisfactory

- The State Government struggled periodically to provide adequate counterpart funding, a function of its fiscal status, size of the Loan and uneven pace of Project execution. State authorities were generally receptive to Bank proposals for improvement, worked proactively with the Bank to establish a workable schedule of counterpart funding, welcomed innovations such as integration through the FUMAC Councils of other federal and state programs complementing Project resources, and were serious about achieving agreed, time-bound Action Plans designed to improve/recoup performance.

(b) Implementing Agency or Agencies Performance
Rating: Moderately Satisfactory

- The Secretariat of Planning and Development, representative of the Borrower and the STU's parent institution, had a broad oversight role but minimal operational contact with the Project.

- The STU was able - despite repeated turnover of leadership and managers, and periods of chronic managerial dysfunction with negative effects on the Project in the first four years – to land the Project on its feet, exceeding key targets.

- This result is attributed to skilled and experienced STU leadership from 2003 onwards, the steady, committed performance throughout the eight years of STU line technicians and administrative personnel, and the efforts of the Regional Offices in the first four years to carry on even when their role was diminished by re-centralization at STU headquarters in the State's capital.

- However, given the first-half experience which saw unsatisfactory project management, implementation and financial performance, persistent focus on PAC to the detriment of FUMAC and, significant subproject and FUMAC Council quality problems which required protracted remediation and delayed regular execution, the rating of Moderately Satisfactory is appropriate.

(c) Justification of Rating for Overall Borrower Performance
Rating: Satisfactory

- Despite many negative influences and performance issues in the first half, the Borrower brought this project to a satisfactory conclusion and is committed to a new operation with important, innovative features.

6. Lessons Learned

- ***CDD mechanisms can improve the quality and targeting of non-project public resources while leveraging complementary, parallel funding and deepening the investment stock***

needed for faster poverty reduction: Early indications are that channeling/integrating other, complementary federal and state programs through the Municipal Councils in Paraíba has the potential to accelerate and intensify poverty reduction effects. The follow-on operation will expand and intensify this approach, working with selected programs.

- ***Electricity and water supply investments have immediate impact on quality of life and are an essential component of productive and many other activities/functions.*** Poor rural communities universally pursue these types ahead of all others, understanding their powerful transformative capacity; there is also a marked tendency to demand power ahead of water supply even in drought-prone, semi-arid areas, given its role (among many) in permitting more complex, pumped water systems including household-connected and small-scale irrigation. As noted by the Borrower's letter, the longer-term success of this project is enhanced by the focus on these investments.

- ***CDD can be an effective mechanism for productive investments which integrate small-scale producers with markets:*** Experiences in the production of honey, dairy products, fish farming, *rapadura*, specialized craft items and flowers demonstrated that organized "clusters" of producers with common productive interests/goals and appropriate technical and commercial support, can tailor their products to the needs of more sophisticated markets, add value and have a marked impact on family incomes. The difficulties of the gestation, preparation and operational phases demonstrate that such subprojects are highly individual and require specialized forms of support over extended periods.

- ***Political, bureaucratic and financial impediments to implementation require astute supervision with clear objectives:*** Risk mitigation solutions devised at appraisal may need to define measures/benchmarks for resolving such situations. Action Plans require frequent monitoring and progress-related calibration. Teams should have no hesitation downgrading project performance ratings as long as there is an agreed plan for restoring the project to full health within a reasonable period, say one year.

- ***Systematic impact evaluation requires more intensive focus:*** Ideally, evaluation programs designed at appraisal should be launched at Effectiveness as a priority element of project execution and Bank supervision. A timely baseline study and follow-up/repeater survey with control panels should be completed within the project's lifetime. However, alternative, simpler, but methodologically valid forms of evaluation should be explored if "heavier" frameworks prove unworkable or unacceptably costly to the client. Parallel training can build political and technical support for evaluation.

- ***CDD can effectively target and empower poor rural women:*** Experience in Paraíba and elsewhere shows unequivocally that demand-driven institutional mechanisms not only enable women to access the benefits of community investments, but provide important leadership/learning opportunities for women through the associations and Councils.

- ***CDD is appropriate for ethnic groups and indigenous peoples:*** The project showed that participatory, demand-driven mechanisms are consistent with the cultural practices of these groups and that they can manage the subproject cycle, including its participatory mechanisms, effectively.

- ***Loan size should be calibrated to Borrower fiscal capacity:*** This general lesson has already been learned, by the Federal Government in its application of the Fiscal Responsibility Law,

and by the Bank and the State of Paraíba, where the proposed new loan of US$20.9 million approved by the Federal Government's Commission on External Financing (COFIEX) is more carefully dimensioned in relation to the planned implementation period and especially the Borrower's fiscal capacity.

- ***Successful projects require in-country leadership and managers of high caliber:*** The trajectory of project execution reflected this lesson at every stage. While appointments to head secretariats of planning and project technical units frequently reflect party-political preferences, the Bank can intervene up-front with authorities to help define the leadership profile required. This approach has succeeded in other Northeast states recently initiating new CDD projects.

7. Comments on Issues Raised by Borrower/Implementing Agencies/Partners

(a) Borrower/implementing agencies

- The Borrower's letter of March 21, 2007 (Annex 8) commenting on the Bank's draft ICR concurs in broad terms with the Bank's assessment of the Project which does take into account, along with diverse other documents, findings of the Borrower Completion Report prepared by the STU.

- However, the Borrower takes issue with the rating of Moderately Satisfactory for performance of the primary executing agency, the State Technical Unit, on the following grounds that: (i) problems in the first half of the implementation period resulted from political decisions outside and beyond the control of, the STU; (ii) that this did not affect the quality of performance and commitment of line technical and administrative staff; and (iii) with a changed political climate and the return of STU leaders and managers with prior experience of the Project (2003), performance improved, delays were recovered and targets were exceeded (facts also noted in the Bank's draft). The Borrower requested that this rating be restored to Satisfactory but the ICR believes that the reasons for the Moderately Satisfactory rating remain valid (noted clearly in the draft ICR (5.2(b)).

- The Bank concurs with government that after 2003 performance of the STU was superb, but that on average over the time period, the appropriate rating is Moderately Satisfactory for Project Management by the STU.

The Borrower letter also asserts justifiably that:

- the strong focus on electricity investments was highly positive for the success of the Project including longer-term and that many forms of vital activity are impossible without energy investments;

- even closer adherence by the Councils and by inference, the associations, to state sector strategies and the now mandatory state multi-year development plans when approving community proposals does not represent a dilution of a "pure" CDD approach. On the one hand, government is increasingly obliged to filter its plans and strategies through the participatory, transparent mechanisms established by the Northeast CDD program; and, on the other, government can feed into the decision-making equation, types of investments which maximize development but which may not occur to the communities when starting the investment process.

(b) Cofinanciers

Not applicable.

(c) Other partners and stakeholders Not applicable.[27]

Annex 1. Project Costs and Financing

(a) Project Cost by Component (in USD Million equivalent)

Components	Appraisal Estimate (USD millions)	Actual/Latest Estimate (USD millions)	Percentage of Appraisal
Community Subprojects	71.00	70.66	100.5
Institutional Development	4.80	4.92	102.5
Project Administration, Supervision, Monitoring and Evaluation	3.20	6.20	194.0
Total Baseline Cost	**79.00**	**81.78**	**103.5**
Physical Contingencies	0.60	0.00	0.00
Price Contingencies	0.40	0.00	0.00
Total Project Costs	**80.00**	**81.78**	**102.2**
Project Preparation Fund	0.00	0.00	0.00
Front-end fee IBRD	0.00	0.00	0.00
Total Financing Required	**80.00**	**81.78**	**102.2**

(b) Financing

Source of Funds	Type of Cofinancing	Appraisal Estimate (USD millions)	Actual/Latest Estimate (USD millions)	Percentage of Appraisal
International Bank for Reconstruction and Development		60.00	60.00	100.0
State/Municipal Government		12.90	11.20	86.8
Beneficiaries		7.10	10.58	150.0
TOTAL:		**80.00**	**81.78**	**102.2**

(c) Disbursement Profile

Automatically pulls disbursement graph from ISR/SAP

[27] The views of beneficiaries were sought through the surveys of IDEME and the Barbosa/Cooperar questionnaires for case studies, summarized in Annex 5.

Annex 2. Outputs by Component

Component A: Community Subprojects (US$70.67 million, 99% of appraisal and 86% of total cost)

Community subprojects are investment proposals identified, executed, operated and maintained by the beneficiary communities, acting through their legally-constituted associations.[28]

- Component A absorbed US$70.67 million, about 86% of total project investments when State and beneficiary counterpart funds are added, and consistent with the appraisal estimate.

- ***Subprojects:*** The project financed a total 3,373 subprojects. ***Infrastructure*** represented a dominant 2,964, 161% of the appraisal estimate for this type and 114% of total expected investments. ***Social*** subprojects took up 255 investments, 180% of the appraisal estimate and 8% of all investments. Finally, some 154 ***productive*** ventures/facilities were financed, 18% of the appraisal estimate and 5% of all investments. Given that poor communities typically opt for basic infrastructure such as electricity and water supply without which productive activity is difficult, and the massive deficits in both at appraisal, demand for productive subprojects was over-estimated at appraisal.

- ***Distribution***: Appraisal anticipated that 1,420 community associations would be benefited with 2,849 subprojects, i.e. that each association would get two investments (with the potential for stronger poverty impact, depending on the type of investment). In practice, 3,360 community associations received 3,373 investments, or just over one per association. While subproject distribution was democratic, it was not deep. Nevertheless, as shown by Barbosa (2007), a majority of communities in the cases studies have access to other public investment programs which they had either already accessed before their subproject or planned to access after.

- However (i) with close to 3,000 infrastructure investments, of which a high proportion were water supply and electricity, the basic conditions for productive activity are much more promising; and (ii) there are important, complementary, state and federal programs available for rural areas and the Project was quite successful in leveraging parallel resources from several of them, through the FUMAC Councils (see 3.2 C above).

- The proposed follow-on project will increase the extent/depth of coverage, intensify the leveraging of complementary resources through the Councils, and scale up the focus on productive activities. The objective is to improve the state's Human Development Index through more intense efforts to reduce poverty.

- ***Demand*****:** Community demand registered by the STU was a massive 7202 proposals, or 214% of subprojects actually approved/financed. The project financed about 54% of total demand for infrastructure compared to 32% for productive facilities and 21% for social investments (Table 2.2).

[28] A community association does not necessarily cover/include all members of the community.

- As noted by the MTR and the BCR, rural electrification (45% of total subprojects) was a top priority of the State Government and of poor communities. Data suggest a similar situation for water supply, not surprising in a state with 80% of its territory within the Northeast "drought polygon". Some 64% of demand for electricity was approved, 50% of proposed water supply systems and 68% of proposals for water cisterns. However, only 7% of demand was approved for small-scale dams/reservoirs, evidently for environmental and technical reasons.

- ***Subproject Cost*:** Average subproject cost was about US$21,000 compared to the appraisal estimate of US$25,000. The Project financed 1,856 FUMAC/FUMAC-P subprojects (55%) and 1,517 PAC (45%). The Average cost of FUMAC subprojects was US$19,413 and for PAC – which does not use the Municipal Council mechanism for resource allocation, targeting and priority-setting - was US$23,000 confirming the general tendency for FUMAC investments to be more cost effective. Subproject cost per family averaged overall R$1,192 (US$523), close to the appraisal estimate of US$504.

Component B: Institutional Development (US$4.9 million, 101% of appraisal and 6% of total cost)

- Component B utilized US$4.9 million of total project costs, on par with appraisal.

- ***Training*** was a strong component of project activities for the associations and FUMAC Councils, which absorbed most Component B resources. Training was diverse in content, extensive in coverage and involved numerous events.

- Courses, seminars, workshops and onsite training covered local and sustainable development, mobilization and organization, procedures/rules for communities' submission of accounts, literacy training, partnership formation, technical/managerial and organizational courses appropriate to specific subproject types (e.g., water supply, fish/shrimp farming, flower production, local tourism, animal herding, honey production and crafts/lace-making), O&M, information/experience-sharing.

- Women participated frequently and prominently in training events designed for both managerial/leadership and productive subproject development.

- Similarly, training of STU personnel included financial and procurement management, the project MIS and Operational Manual and diverse technical/operational functions.

- ***Technical assistance*** (TA) was included as a component of subproject cost and is not shown as a separate expenditure. The Operational Manual permitted associations to use up to 8% of subproject cost for direct contracting of technical assistance.

- Most associations used about 3% for TA for subproject preparation (design, documentation). There was little need to contract outside TA for the subproject operational stage because: (a) the STU had six Regional Offices, each with about six technicians - engineers, agronomists and veterinarians - available to the associations; (b) SEBRAE (Brazilian Service for Assistance to Small Enterprise) and EMATER (State Agricultural Extension Service) were available to give direct TA when needed. Subprojects using the full 8% allowance usually required specialized services, e.g., water supply, irrigation, flower production, fish farming and specialized crafts.

- Women's productive subprojects received intensive and sustained technical support, including during the operational phase, from specialized TA providers including SEBRAE, and female-led associations and those with dominant female membership were targeted for TA attention - as required - by the STU.

- As noted earlier, the envisaged technical assistance for "reform of the state" activities included in the SAR were withdrawn at negotiations due to the State Government not wishing to finance them with Loan funds.

Component C: Project Administration, Supervision, Monitoring and Evaluation (US$6.2 million, 194% of appraisal and 7.6% of total cost)

- This component financed the incremental costs (excluding salaries) for Project administration and coordination. Some 11,000 supervision and monitoring visits were financed, to subprojects under installation. Also financed were several major information dissemination campaigns via diverse media outlets and in formats appropriate to stakeholders.

- Evaluation activities and performance studies included in this component did not eventuate. Several simpler evaluative exercises were conducted after Closing (see Annex 8). Component costs were almost double the appraisal estimate, a function mainly of the additional time required to complete the Project, the marked intensification of project supervision, monitoring and related activity from 2003 onwards, and preparation of the follow-on operation.

Table 2.1: Project Performance Indicators - Appraisal vs. Actual

Components and Activities	Unit	Appraisal Estimate	Actual at Closing	%
A. Community Subprojects	No.	2,840	3373	119
- Infrastructure	No.	1,846	2,964	161
- Social	No.	142	255	180
- Productive	No.	852	154	18
Beneficiaries ('000)	Families	141	154	109
	People	705	770	109
- Women as % of productive subproject beneficiaries	%	30	37	123
Community associations benefited	No.	1,420	3,360	237
Municipalities benefited with PAC subprojects	No.	na	na	na
Municipal Councils created				
- FUMAC	No.	136	222	161
- FUMAC-P	No.	20	1	5
B. Institutional Development				
Preparation annual program, TA and Training				
- STU	No.	5	8	160
- Municipal Councils	No.	409	1,009	247
Community Mobilization: *				
- Beneficiaries	Seminars	40	na	na
- Local leaders	No. partic.	1,560	na	na
No's training courses offered to:				
- Beneficiary assns.	No.	120	528	440
- All Municipal Councils	No.	468	723	154
- FUMAC-P**	No.	60	na	na
- STU Staff	No.	36	68	190
Technical assistance:***				
- Subproject implementation	SP attended	2,840	154	5
- Municipal Councils	Contracts	156	0	0
C. Administration, Supervision, Monitoring and Evaluation				
Supervision				
- Subprojects	No. visits	5,680	10,119	178
- Municipal Councils	No. Visits	818	888	109
Annual Operating Plans (POA)				
- Prep POA for FUMAC-P**	No.	55	na	
- Consol/Prep. Project POA	No.	5	8	
Information Campaign	na	na	5	
Evaluation Studies				

- Physical Performance Reviews	No.	5	0	0
- Impact Evaluation	No.			
(a) Baseline		1	0	0
(b) Mid-term		1	0	0
(c) Final		1	0	0
- Graduation study	No.	1	0	0

Source: STU/MIS * Included under next item, training courses offered; ** FUMAC-P discontinued
***See explanation under Component B - Technical Assistance.

Table 2.2: Subprojects, Demand and Beneficiaries

Year	Demand	Implemented	Families	Associations	Communities
1998	1,642	459	16,280	459	460
1999	1,091	449	25,377	444	452
2000	707	833	35,669	829	844
2001	1,217	32	2,033	32	34
2002	840	365	15,933	365	419
2003	903	275	10,625	275	317
2004	602	783	31,963	779	915
2005	158	153	14,566	153	204
2006	44	24	1,540	24	24
TOTAL:	**7,204**	**3,373**	**153,986**	**3,360**	**3,669**

Table 2.3: Community Subprojects – Costs and Financing (US$ million)

A. Expected at Appraisal

Community Subprojects	Bank	State Government	Beneficiaries	Total
All types:	**53.20**	**10.70**	**7.10**	**71.00**
- FUMAC	33.20	6.70	4.40	44.30
- FUMAC-P	5.30	1.10	0.70	7.10
- PAC	14.70	2.90	2.00	19.60

B. Actual at Completion

Community Subprojects	Bank	State Government	Beneficiaries	Total	% of Appraisal
All Types:	**53.01**	**7.06**	**10.60**	**70.67**	**100%**
- FUMAC	26.40	3.51	5.27	35.18	79.4
- FUMAC-P	0.64	0.08	0.13	0.85	12.0
- PAC	25.98	3.46	5.20	34.64	177.0

Table 2.4: Principal Investments, by Category

Subproject Type	Demanded	Financed	% Demand Financed
Total:	**7,202**	**3,373**	**47**
A. Infrastructure:	**5,533**	**2,964**	**54**
Electricity	2,390	1,523	64
Water supply	1,988	971	49
Cistern	386	264	68
Small-scale reservoir	229	17	7
Household sanitation	287	92	32
Culvert	180	78	43
B. Productive:	**478**	**154**	**32**
Grains processing equipment	107	28	26
Manioc mill	42	18	43
Craftwork	29	21	72
Community irrigation	34	4	12
Honey production	18	12	67
Goat herding	31	7	23
Fish farming	35	8	23
Tractor and equipment	21	6	29
Dairy plant	28	14	50
C. Social:	**1,191**	**255**	**21**
Housing improvement	841	150	18
Multi-use center	229	53	23
Community day care center	43	17	40

Annex 3. Economic and Financial Analysis

The SAR (Annex J) provided a financial and economic analysis utilizing ex post data on subprojects completed under the Reformulated NRDP. Productive subprojects analyzed as part of that exercise are taken from the earlier NRDP, i.e. when the community-based methodology was a still a small, but successful, pilot. The ICR has not attempted to update that analysis due to lack of appropriate data. The analysis below was conducted in 2000 based on extensive field interviews in a majority of the participating states.

Summary of Benefits and Costs: Investments executed under the Northeast CDD projects are decided by communities during implementation. It is thus not possible to know *ex ante* how available resources will be allocated among types of subproject investments or to forecast cost-effectiveness, rate of return and associated fiscal impact. However, it was expected that the types of subprojects financed under this Project would be generally similar to those financed under previous and ongoing community-based rural development projects in Paraiba and across the Northeast region, although not necessarily the relative proportions of each major category. Based on accumulated program experience, the following aspects of project investments were assessed: (i) cost-effectiveness and sustainability of infrastructure and social subprojects; (ii) financial viability of productive subprojects; (iii) fiscal impact of the program; and (iv) aggregate impact of the program.

Cost Effectiveness and Sustainability of Infrastructure and Social Subprojects

The bulk of investments under the Northeast CDD program have been of the infrastructure type (about 75%), followed by productive (about 20%) and social (about 5%). Most of these subprojects are in the realm of core public services (water, electrification, sanitation, social investments). Numerous studies show that these basic services provide benefits that justify their universal provision (World Bank 1998). The cumulative experience of the program has shown that the CDD approach to rural infrastructure and service delivery targeted to the poorest can work in a cost effective manner in the Brazilian Northeast.

Several aspects of project design help to ensure that the program's mechanism for delivering communal infrastructure and social investments represents the least-cost, best alternative.

(a) ***Demand-driven nature*** of each subproject permits scarce resources to flow where they are most needed. Community participation, under the direction of the project Municipal Councils, ensures that the chosen subproject is the best alternative for a particular community. Furthermore, the Project has, in the Municipal Councils, a democratic mechanism to set priorities for the use of municipal resources.

(b) ***Use of standard technical designs*** (*projetos padrão*) for the most common types of infrastructure and social subprojects (including corresponding cost parameters) ensures that community associations employ least-cost models for subproject implementation. These standard designs also decrease search and information costs for community associations by providing established patterns for initiating and completing a subproject. Experience shows that the technical quality of these investments has been good.

(c) ***Delegation of subproject implementation*** directly to the community associations generates cost savings, compared to works of comparable type and quality, implemented by the public sector. The Project Operational Manual requires direct contracting through competitive processes for all subprojects: the community association solicits three bids for the subproject and chooses the least-cost bid, contributing to the cost-effectiveness of subprojects financed.

Analysis of a random sample of subprojects (including ten categories which collectively represent some 80 percent of the types of subprojects financed region-wide), found that, for infrastructure and social subprojects, costs under the program (both RPAP/RPRP) were 30-40 percent cheaper than state-financed projects of similar type/quality. State-level evaluation of the program in Sergipe, Bahia, Ceará, Pernambuco, Piauí and Rio Grande do Norte examined investments in terms of the materials used, overall finish, and operation. In all states surveyed, the majority of subprojects were technically satisfactory and of good quality. Beneficiaries expressed their satisfaction with subproject quality and regarded more than 90 percent of all investments as being satisfactory overall.

Operation and maintenance (O&M): O&M of infrastructure and social subprojects has been good, with community associations charging user fees sufficient to operate and maintain the investments or making appropriate arrangements for O&M by other entities where relevant. The overall evaluation study of the Northeast RPAP program, (Van Zyl et al. 2000), reviewed a sample of 8,123 subprojects funded by the R-NRDP in 1995 and RPAPs in 1997/98, finding that 7,240 of them, or 89 percent, were fully operational in March 2000. Furthermore, the same study found that there was no substantial difference in terms of sustainability across infrastructure, productive and social subprojects. Of 6,064 infrastructure, 1,820 productive and 239 social community subprojects, 89%, 87% and 88%, respectively, were fully operational at the time of the study.

Financial Viability of Productive Subprojects: Benefit-cost ratios are high (greater than 2.0) for the main types of productive subprojects analyzed.[29] Analysis of selected productive subprojects also suggests that the investments are generally financially sustainable (Table A). Although beneficiary associations received a one-time investment grant for productive subprojects from the RPRP, financial sustainability is promoted by cost recovery through user fees, generally adequate to cover both O&M and replacement of the original investment long before the end of its useful economic life.

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[29] A recent analysis, carried out by the State Technical Unit of Bahia (CAR/Bahia, 2004), based on methodology developed by DESENBAHIA, confirmed these high benefit-cost ratios for the main types of productive plus infrastructure subprojects, which vary from 1.44 to 2.07, according to the scenarios utilized. These same estimates would be even higher (varying from 1.73 to 2.50) if additional benefits, such as savings from reducing or eliminating the use of *carros-pipas* (water trucks) and reduction of non-worked days due to disease, both benefits derived from better quality water supply, are added.

For illustrative purposes, twelve productive subprojects representing some of the most typical productive investments carried out under the RPAPs and RPRPs - and consistent with a cross section of productive investments under the Paraiba project - were selected for financial analysis. Activity models were constructed for these subprojects, based on field interviews with the managers of the subprojects and consultation of standard project designs (*projetos padrão*) prepared by the STUs. The subprojects analyzed were:

Communal Tractor. Tractor of 75 HP, plus trailer, grain husker, grader and other equipment, including a garage. The tractor benefits an association of some 65 farming families. The tractor works for both members and non-members, providing land preparation, grain shelling and transport services. It works approximately 1,700 hours per year serving some 300 ha. User fees for association members are lower than fees commonly charged by private tractor owners to the communities and fees charged by the association to non-members. The subproject employs a full-time motorist hired by the association.

Manioc Mill. Middle-size construction equipped with mill, press, oven and other equipment required to process cassava into flour. Investments include a pack animal to transport produce to and from the plant. The mill serves a local community of some 30 to 40 farming families. The plant operates for around 100 days per year processing some 120 tons of cassava into approximately 30 tons of *farinha* and 4.8 tons of starch employing one person to operate the plant during those days. Farmers are charged a users' fee of 15 percent of output. Association members normally pay a smaller fee than non-members.

Small Irrigation 1. Purchase of 18 localized irrigation kits for 38 families to pump water to irrigate a total of some 29 ha (0.8 ha per family). The irrigation is accompanied by the introduction of a new technical package and two new cash crops, *chuchu* and *quiabo* (two high-price Brazilian vegetables with good local markets), which replace the existing traditional cultivation of corn, beans and bananas, providing a very good return.

Small Irrigation 2: Sprinkler irrigation system to irrigate 10 ha of previously uncultivated land with water pumped from a permanent water source, benefiting 10 farming families. Most of the irrigated land is used for traditional subsistence crops, corn and beans, although a cash crop--watermelon – is planted on one-third of the new area. Two crops are obtained per year.

Goat Production. Production of goats by a group of some 30 farmers, with an investment consisting of 120 breeding females and 4 breeding males. A pen, a fence and other facilities are constructed and 85 ha of improved pastures are installed. Income is derived from the sale (or self-consumption) of incremental animals and the sale (or self-consumption) of milk.

Animal Feed Production Equipment. Grinding machine and complementary equipment to produce animal feed from crop residues, together with a small construction to shelter the machine. Farmers pay a small amount (R$1.5) per hour to use the machine. From these payments, electricity and maintenance costs are covered and a small fund is formed. The machine works approximately six months per year. Raw materials and labor to operate the machine are supplied by users. The organization and supervision of machine use is freely supplied by association leaders.

Honey Production. Purchase of 340 beehives plus 2 decanters, 2 centrifuges and other apiculture and honey processing equipment to benefit an association of some 23 members with no previous apiculture experience. Training is provided along with the equipment. The beehives, located in 8

sites, are maintained by association members. They yield an annual output of some 8,200 kg of honey which is sold wholesale.

Local Bakery. Middle-size construction (120 sq. m) equipped with a gas oven and other baking facilities to produce various types of bread, with an average output of 130 kg of bread per day. Employs a master baker and two full-time workers. Bread is sold locally in the surrounding communities.

Fish Farm. Five fish ponds of 2,200 m^2 each, with a capacity for 8,500 tilapia fish each. Ponds are rotated, with 4 ponds being permanently used at a time. Two harvests are collected per pond in a year, with a total output of 24,000 kg. of fish. Output is sold locally to middle-men. One person is employed half-time to feed the fish and another is employed half-time as watchman. Part-time labor is used to harvest the fish.

Cashew Processing Plant. Middle size plant plus equipment to process cashew nuts. Some 200 tons of cashew nuts are processed annually into 46 tons of roasted and packed cashew almonds, which are then sold wholesale. It operates during ten months of the year, employing around 6 operators. Cashew nuts are bought from surrounding farmers serving some 150 farmers with 1 to 5 ha of cashew trees each.

Jam Production Plant. Plant to process various local fruits into different types of jams and other confectionery products, producing an average of 175 kg per day of these products. Fruit and other inputs are bought by the plant. Products are sold retail locally and also wholesale to retailers. Employs a plant manager and three permanent workers.

Small Dairy Plant. Middle size plant (155 sq. m) equipped with a pasteurization kit, cooling chamber and other facilities to pasteurize milk, with a capacity of 1,200 liters per day. The plant is supplied by around 400 cows with an average daily output of 3 liters per cow belonging to some 60 dairy farmers within a radius of 6 km. Employs a plant manager and 4 permanent workers.

The results of the financial analysis are summarized in Table A.

Table A: Financial Analysis of Selected Subprojects

Type of Activity	Investment (R$)	IRR (%)	NPV (at 10%)	Net Annual Income (R$)	Years to Recover Capital Invested
Communal Tractor	39,752	37.6	35,141	18,075	2.4
Manioc Mill	18,450	15.8	5,377	3,970	5.6
Small Irrigation 1	44,054	>50	327,366	90,781	0.9
Small Irrigation 2	28,311	28.1	23,573	15,238	3.3
Goat Production	43,346	16.5	16,925	12,180	5.8
Feed Production Equipmt.	6,730	15.4	1,831	1,149	5.9
Honey Production	26,102	16.8	9,112	7,252	5.5
Local Bakery	43,352	35.0	56,868	29,575	2.8
Fish Farm	46,104	15.6	13,739	13,162	5.6
Cashew Processing Plant	64,964	>50	288,790	72,195	1.1
Jam Production Plant	41,123	41.7	69,062	35,008	2.4
Small Dairy Plant	62,583	19.7	30,223	34,591	4.7

Internal Rates of Return: The investment cost of the subprojects ranged from around R$7,000 to R$65,000, which was typical for RPAP productive investments. All subprojects showed satisfactory internal rates of return, some of them very high. Less than six years were needed to recover the investment in all cases and less than 3.5 in half of all cases. The net incremental annual income or value-added generated by the subprojects (at full development) ranged from R$1,149 for the feed preparation equipment to R$90,781 in the case of one of the irrigation subprojects, with an average value of around R$28,000 for an average investment of around R$39,000. The IRRs of the subprojects compared favorably with the real cost of borrowing to the Brazilian Government. The IRRs also compared favorably with the interest rates that would have to be paid in concessionary rural credit programs, like those of the *Banco do Nordeste* and *Banco do Brasil*. Only two subprojects - the cashew processing plant and one of the irrigation subprojects - would be able to pay the high interest rates charged by commercial banks for term lending.

To complete the financial analysis of productive subprojects, a weighted average was calculated of the IRRs of the activity models included in the sample. The shares of each of the twelve types of illustrative models (which were taken to represent other, similar ones) in the total amount invested in community subprojects in the RPAP program were used as weights. The resulting average IRR was 30.2 percent. This figure is indicative of the profitability of productive subprojects commonly financed under the program.

Fiscal Impact

There are two possible assumptions for estimating the fiscal impact of the program on the budget of the State Governments of the Northeast Region: (i) In the absence of the program, State Governments would not carry out the type of investments financed, devoting those resources to other uses; and (ii) Without the program, State Governments would carry out the investments using a different targeting and disbursement mechanism. The latter is the most plausible assumption, particularly for the infrastructure and social investments, in view of their absolute priority, the social and political pressure from the rural population and municipal authorities in favor of these investments, and the sustained interest shown by Northeast Governments in the program. It is noted, however, that if the investments were not carried out, the resources saved by the State Governments would not significantly alter their overall fiscal position. Under the second assumption, the direct impact of the program on government earnings derives both from savings in government costs and from the generation of incremental government revenue.

Tangible government savings are associated with the community-driven design of the program. As mentioned above, evaluations have shown that the cost of investments implemented by communities (either directly or contracted) were significantly lower than prices paid by public authorities for similar works. There are also budgetary savings associated with the decreased need for state and local governments to provide some essential services for which need is reduced by program investments, i.e., government costs for water distribution using *carros pipa* (water trucks) to communities without drinking water in critical periods. Provision of better quality, more reliable water also has less quantifiable but nonetheless significant impacts on health, reducing public health costs of Municipal Governments. Subproject O&M costs are also typically paid by the beneficiary community, reducing the fiscal burden on municipalities and states (except for electricity and some types of water supply, commonly maintained by state agencies and operated on a fee-for-use basis.

With respect to revenue generation, direct impacts are likely to be small but indirect impacts could be significant. The incremental revenue on the sales tax (ICMS) will be small because much of the incremental production of the subprojects is either self-consumed, not liable to taxation or circulates in informal markets where tax is rarely paid. Infrastructure subprojects, however, can have big one-time indirect benefits. Experience shows that there is typically a surge in the purchase and use of domestic appliances when electricity became available. Incremental ICMS revenue from electrical equipment is also associated with the purchase of items such as agricultural machinery and irrigation pumps.

Aggregate Impact of the RPRP Program on Employment, Income and Cultivated Area

The July 2000 impact evaluation study of the RPAPs in eight Northeastern States (Van Zyl at al, 2000), estimated the aggregate impact on employment, income and cultivated area of the infrastructure, productive and social subprojects included in the program. The study, based on a sample from the most representative types of subprojects in each of the States, with an error of less than 20 percent, calculated summary figures for incremental jobs created, incremental income generated and incremental number of hectares cultivated per unit invested in productive subprojects. Using these unit-level summary figures from the RPAP and multiplying them by the investment in productive subprojects expected/known under the RPRP, a gross approximation of the aggregate benefits of the entire program (at that point) was estimated, with the following results (rounded figures):

Total investment in community productive subprojects:	US$362.0 million
Incremental employment created:	40,000 jobs
Incremental net annual income/savings generated:	US$80.0 million
Incremental cropped area:	40,000 hectares

Several caveats apply to these estimates: the level of significance of the sample is not big and the representative subproject mix under the RPAP was not precisely replicated under the RPRP. Further, the estimates reflect not only the direct impact of the investments on employment, income and cultivated land but also some indirect impacts, for example, the expansion of cultivated area, employment and income derived from the introduction of a tractor or a *casa de farinha* (manioc mill) in a certain community. The above figures should be taken therefore as an indication of the order of magnitude of the benefits involved.

Sensitivity Analysis/ Switching Values of Critical Items:

To examine the financial robustness of the subprojects, a sensitivity analysis was carried out on the illustrative activity models. Three scenarios are considered. In the first one, production is assumed to be 20 percent below the base case, because of, say, marketing problems. A 20 percent decrease in output causes a 20 percent decrease in revenue, but this is, to some extent, matched by a reduction in the use of inputs and hence in variable costs. In the second scenario, the price decreases 20 percent and revenue also decreases by the same proportion without any compensating element. Finally, in the third scenario, an increase of 20 percent in the price of variable costs is assumed. The results of the sensitivity analysis are shown in Table C.

Table C - Results of the Sensitivity Analysis

Type of Subproject	Base Case	Scenario 1	Scenario 2	Scenario 3

		- 20% output	- 20% price	+ 20% costs
Manioc Mill				
IRR (%)	15.8	11.5	10.1	14.4
NPV (R$)	5,377	1,385	132	4,124
Communal Tractor				
IRR (%)	37.6	17.2	< 0	16.8
NPV (R$)	35,141	10,836	-23,602	10,221
Small Irrigation 1				
IRR (%)	>50	>50	39.4	>50
NPV (R$)	327,366	163,375	77,015	154,646
Small Irrigation 2				
IRR (%)	28.1	7.4	4.6	13.0
NPV (R$)	23,573	-2,965	-6,057	3,546
Goat Production				
IRR (%)	16.5	12.8	11.5	15.2
NPV (R$)	16,925	7,097	3,847	13,395
Feed Production Equipment				
IRR (%)	15.4	11.2	10.2	14.4
NPV (R$)	1,831	397	62	1,496
Honey Production				
IRR (%)	16.8	10.0	7.2	11.6
NPV (R$)	9.112	42	-3,635	2,162
Local Bakery				
IRR (%)	35.0	20.1	< 0	15.8
NPV (R$)	56,868	22,451	-21,559	12,859
Fish Farm				
IRR (%)	15.6	9.3	< 0	< 0
NPV (R$)	13,739	-1,732	-39,886	-26,024
Cashew Processing Plant				
IRR (%)	>50	> 50	48.3	>50
NPV (R$)	288,790	210,642	132,561	201,015
Jam Production Plant				
IRR (%)	41.7	24.0	< 0	12.7
NPV (R$)	69,062	29,690	-33,720	5,652
Small Dairy Plant				
IRR (%)	19.7	2.0	n.d. (*)	n.d. (*)
NPV (R$)	30,223	-23,493	-138,697	-84,981

(*) IRR not defined; net benefits are negative all years.

Annex 4. Bank Lending and Implementation Support/Supervision Processes

(a) Task Team members

Names	Title	Unit	Responsibility/ Specialty
Lending			
Luis O. Coirolo	Sector Lead Specialist/Team Leader	LCSAR	Agric. Economist
Tulio Barbosa	Consultant	LCSAR	Agric. Economist
Raimundo Caminha	Consultant	LCSAR	Agric. Specialist
João Barbosa de Lucena	Consultant	LCSAR	Agric. Specialist
Antonio Rocha Magalhaes	Consultant	LA1BR	Agric. Economist
Loretta Sonn	Consultant	FAO/CP	Agric. Economist
Edward Bresnyan	Consultant	LCSAR	Agric. Economist
Anna Roumani	Consultant	LCSAR	Rural Dev. Specialist
Alberto Costa	Consultant	FAO/CP	Anthropologist
Klaus Deininger	Peer Reviewer	PRDDR	Economist
Johan van Zyl	Consultant	LCSAR	Agric. Economist
Enzo de Laurentiis	Procurement	LCSAR	Procurement Spec.
Morag van Praag	Senior Finance Officer	LOAG	Disbursement Off.
Alberto Ninho	Counsel	LEGLA	Lawyer
Supervision/ICR			
Jorge A. Muñoz	Team Leader	LCSAR	Senior Land Special.
Tulio Barbosa	Consultant	LCSAR	Agric. Economist
Joao Barbosa-De Lucena	Consultant	LCSAR	Agric. Specialist
Edward William Bresnyan	Consultant	LCSAR	Agric. Economist
Alberto Costa	Consultant	LCSAR	Anthropologist
Raimundo N. Caminha	Consultant	LCSAR	Agric. Specialist
Luis O. Coirolo	Consultant	SASAR	Agric. Economist
Jose C. Janeiro	Sr Financial Management Specialist	LCSFM	Fin. Man. Specialist
Claudio Mittelstaedt	Consultant	LCSFM	Fin. Man. Specialist
Anna F. Roumani	Consultant	LCSAR	Rural Dev. Specialist
Luciano Wuerzius	Procurement Analyst	LCSPT	Procurement Spec.
Fatima Amazonas	Operations Officer	LCSAR	Operations Spec.
Regis Cunningham	Senior Finance Officer	LOAG	Disbursement Spec.

(b) Staff Time and Cost

Stage of Project Cycle	Staff Time and Cost (Bank Budget Only)	
	No. of staff weeks	USD Thousands (including travel and consultant costs)
Lending		
FY96		56.58
FY97		183.27
FY98		31.18
FY99		0.00
FY00		0.00
FY01		0.32
FY02		17.64

FY03		1.50
FY04		0.00
FY05		0.00
FY06		0.00
FY07		0.00
Total:		290.49
Supervision/ICR		
FY96		0.00
FY97		0.32
FY98		9.50
FY99		12.84
FY00	11	32.97
FY01	13	35.10
FY02	12	39.55
FY03	10	34.51
FY04	10	54.44
FY05	13	31.76
FY06	10	53.47
FY07	5	42.26
Total:	**84**	**346.72**

Annex 5. Beneficiary Survey Results

The following is derived from: (a) results of the IDEME (2006) survey of beneficiaries; (b) analysis of formal questionnaires applied to project beneficiaries and local leaders regarding investments in electricity, water supply, housing and craftwork (Barbosa/Cooperar, 2007); and (c) conclusions of the de Oliveira (2006) study of collective action in honey production subprojects in Paraíba.

A. IDEME (2006):

Box 1: Infrastructure

Municipality: Santa Luzia
Quilombola (Afro-descendant) Communities: Talhado, Pinga and Picotes

This subproject improved the lives of some 162 families distributed in three isolated *Quilombola* (Afro-descendent) communities on the Talhado Plateau. Lack of water, subsistence agriculture and production of ceramic articles are typical of these groups. Marketing of their ceramics was inhibited by precarious access to/from their communities. The Project financed rural electrification, a small reservoir, a ford and improvements in access roads in two key areas of the plateau permitting more convenient, safe transport of people and product.

Most notable have been the actions and experiences of the Community Association of Louceiras Negras which, in just one year of operation, has already established important partnerships with Brazilian Service for Support to Small Business (SEBRAE) and CENDAC to train involved families to improve and add value to products such as bowls, dishes, clay ovens, vases, and other ceramic utensils in which this community specializes.

Some 20 women are producing 1,500 pieces/items per month, and these are now being transported to markets in Patos, Juazeirinho, Campina Grande and Santa Luzia. The Federal Government's Palmares Foundation, through partnerships, is also providing resources to promote social inclusion of these groups through folkloric events, music and promotion of Afro-descendant traditions.

Box 2: Electricity and Water Supply

Municipality: Curral de Cima
Communities: Laranjeiras, Torrões, Rio Seco/Campinas, Açude de Mato, Estacada and Outeiro de Miranda

Some 800 families in several communities benefited from project-financed subprojects in electricity and water supply. Communities told of immediate improvement in health and wellbeing from clean,, treated water, lower infant mortality and incidence of parasitic diseases and diarrhea; better public health and hygiene; elimination of laborious, time consuming transport of water by animals and by female family members. With electricity and water, these communities can use pumps for small-scale irrigation of food and other crops, and use domestic appliances.

Notable improvement in living conditions of 84 families was observed in the INCRA agrarian reform settlement of Outeiro de Miranda which had existed since 1999 with few basic services. With six ha each, families subsisted on a range of crops and/or worked in local plants and the municipal center. At the outset, the lack of basic infrastructure caused many to consider moving away. The investment in water supply and energy was the turning point in consolidating the settlement and providing a sense of future.

Families told IDEME that they now have household and public lighting, better security and water piped directly to homes. Women are doing sewing and study at night, can cook for the next day before going to work in the fields, and families have conditions for leisure activities including at night. Respiratory problems caused by kerosene lamps in enclosed areas have disappeared. Use of domestic appliances is

now possible. Women told how they are now able to produce lace pieces using electric sewing machines, earning enough to purchase sound systems, television and DVD. The community President, Snr. Manual Victor da Silva noted how security had improved at night, fans could be used, that "*life has arrived with the light*" and "*it is cheaper to pay around R$20.00 monthly for energy consumption than to purchase five liters of kerosene for precarious lighting and no appliances*". Water supply means that women do not need to walk several miles twice a day to obtain water from unhygienic sources, and carrying cans of up to 20 liters each. Laundry in the river is no longer needed. People can bathe/launder at home.

Municipality: Curral da Cima
Community: Estacada

The rural community of Estacada, with 710 inhabitants, situated 12 km from the municipal center, obtained investments in water supply and electricity benefiting 192 families. Residents describe main impacts as better quality of life and social wellbeing with access to clean, treated water piped to the house, fewer infant deaths and cases of parasites and diarrhea, better hygiene and overall health, elimination of the need to transport water for animals and the expenses associated with this. Electricity has brought new agricultural activities, ability to use domestic appliances, better local security and opportunities to study at night.

Box 3: Health Benefits of Water Supply

Municipality: Rio Tinto
Community: Taberaba

The Project financed piped water to all 128 families in this community. Families are occupied in family agriculture, farming sweet potato, potato, and sweet cassava sold in local fairs; they also work in local processing plants and/or survive on pensions and/or work for municipal authorities. The community conscientiously operates and maintains its new system, each family paying a monthly fee of R$5.00 (total community payment per month averages R$700.00 – R$800.00) which covers energy costs for the pump and supports a rotating fund for repairs and spare parts. Evidencing significant social capital formation, the community has agreed that water be supplied twice daily in set periods for conservation purposes including of energy. Non-payers are dropped after a reasonable period and this collective decision is relayed to municipal authorities as the only way to "keep things functioning correctly".

According to community leaders interviewed, there has been a marked reduction in infant diarrhea and registered cases of schistomiasis have dropped by 50% due to families no longer needing to perform basic functions in and obtain water from the river, which is also polluted with agro-chemicals from local sugar cane production. As narrated by a Family Health Agent and resident of this community, this could fall to zero except that some people are habituated to bathe in the river, do their laundry there and even wash dishes. Education is needed to build broad awareness that this is unhealthy. However, registered cases of diarrhea in children >5 years, previously averaging 20 per month, now average two.

Box 4: Domestic Sanitation

Municipality: Santa Luzia
Community: Sitio de Gonçalo

This community is endowed with basic facilities such as health post, school, and a small reservoir and its farmers work irrigated tomato fields. The project financed 20 household sanitation systems.

As told by residents, sanitation facilities have significantly reduced the incidence of chronic illness due to constant contamination of soil and water destined for human use and for the tomato plantations. Residents say how previously there was a high incidence of insect infestations and parasites transmitting illness in the community with particularly serious effects on children, and that these have been dramatically reduced.

Box 5: Milk Processing Plant

Municipality: Passagem
Community: Barra do Aba

The Association of Barra do Aba was established to improve their community's living conditions and incomes. It proposed a productive activity for project financing based on members' familiarity with the activity and its suitability to local/natural conditions – known elements of success - and designed to promote genetic improvements in the goat herd.

The main subproject activity was establishing the dairy plant *Cabralac*, following installation of electricity by the Project. *Cabralac* is an integrated milk processing plant also producing meat and hides. Electricity also stimulated other productive activities - household vegetable plots, fruit trees, irrigation of pasture for the goat and cattle herds - all destined for local marketing. Other rural producers in the area came in, including some who had migrated to other regions and returned, attracted by the possibility of gaining access to the goat subproject. Founded 10 years ago, the association has 20 members and installed a plant for processing of milk and derivatives with a capacity to process 20,000 liters/day, successfully absorbing and marketing the production of the municipality and other, neighboring communities.

The management model is anchored by principles of confidence, partnerships and exchange of ideas, becoming an efficient and effective methodology which can serve as a reference not only for other associations, but also other regions. The quality of this management style has attracted partnerships with World Vision, Christian Veterinary Vision and the Federal University of Campina Grande.

This successful experience of associative management in the semi-arid zone of Paraíba, with climatic and soil conditions similar to Guinea Bissau (Africa), attracted a mission from Africa to *Cabralac*, resulting in an invitation to *Cabralac* personnel to visit Africa and help prepare/install a similar plant.

Box 6: Production of Rapadura

Municipality: Conceição
Communities: Canoas, Garubas, Maria Soares, Monte Alegre, Campos Velhos, Campos de Doripos, Ladeira Vermelha and Cardoso

In the Municipality of Conceição, traditional producer of *rapadura***,** the project supported a resumption of this activity, with the reactivation of 11 inactive sugar mills (small scale), creating opportunities for the direct employment of and incomes for 55 families. Conditions for resuming this activity were openly and fully debated with representatives of the eight communities involved, who concluded that this business would only be viable through a condominium-style management model.

The project financed construction of a central mill with all needed equipment. Partnerships established with SEBRAE and CNPq provided the training needed to improve the quality of the sugarcane and its cultivation (e.g., increased sucrose levels), resulting in a higher quality end product. Today, 11 mills produce around 350 tons of *mascavo* sugar and *rapadura*, with guaranteed markets opened up in Ceará and Rio Grande do Norte, and with families occupied and stimulated by the vision and reality of a more dignified, decent life.

Box 7: Craftwork - "Renaissance Lace"

Municipalities: Camalaú, Monteiro, Zabelé, São João do Tigre, and São Sebastião do Umbuzeiro

The art of "renaissance" lacework has been practiced for many generations and transmitted empirically from generation to generation by women of these municipalities. This art craft has succeeded informally in occupying female labor, but failed to provide them with a decent life. Project support envisaged significant change, starting with awareness-building, mobilization, organization and physically structuring productive units/groups. Craftwork was seen as an alternative means of generating employment and income, and with Project support, the culture associated with this craft was seen as a key development factor.

These organizations had at the time, about 334 members who were taken into account with the construction of a marketing and training center, with four houses for the lace-makers, supplies, furniture and equipment needed to perform this activity at a higher level. All work was accompanied by a systematic process of consultation, assistance and training. Today, their production is being absorbed by regional, national and international markets under renowned brand names in fashion and hand embroidery.

Previously, working with this type of embroidery gave these women a source of work but a very low income. Prices varied from R$4.00 to R$7.00 for each *novelo de linha tecido*. To better understand this price structure it is important to remember that the value of production is determined by the quantity of *novelos* utilized in each piece. Thus, a piece with five *novelos de linha* got a maximum of R$35.00 from middle-men, or at the municipal fairs in Porção, State of Pernambuco.

According to the lace-makers, they worked but had no motivation to use this craft as a major source of income because it was not valued by buyers. The Project, working with SEBRAE and the Paraíba Handicraft Program, provided training to improve the product, innovate designs, rationalize cost of production and definition of prices, management, motivation, sales and the dissemination of the product at fairs, craft galleries and through the media. In this way, their products came to be supplied based on market needs. Continuing with and monitoring these actions, the lace-makers have come to understand the principle of associative/collective action and the preservation of popular culture through the use and maintenance of their arts.

The combined actions have resulted in an impressive improvement in income of the women. Each *novela da linha*, previously R$5.00, is now R$30.00, depending on how urgently the work is needed. This value represents a growth of 500% in the monetary value of their pieces, while their costs to produce one *novela de linha tecido* are around R$15.00. Previously, these women lived in extreme poverty, lacking even adequate food. This has completely changed. Their living conditions and wellbeing have improved due to higher incomes. They can now contribute to the family budget, assuming responsibility for food and for part of their families' education. Self esteem is markedly better and helping support their families has given them confidence.

All the involved associations have a reserve fund to cover maintenance expenses, consisting of a contribution of R$1.00 per member/month. Some 10% of the value of sales also goes to the association which has established a rotating fund for purchase of materials by members. The associations also maintain a stock of lace items reserved for local sales and participation in fairs, craft galleries and large orders, such as the *Cavalera* and *Algapartas* brands, the latter launching a new line of sandals in January 2006 with the trademark "Paraiba Lacework". Orders are distributed fairly among all association members via meetings of the Management Committee (comprising representatives of all lace-makers in the five municipalities and project partners), and non-members can also participate. Orders are analyzed and all delivery timetables are rigorously adhered-to, with technical and managerial support. This means that a sustainable model is being built for local productive arrangements, evidenced by the degree of structure achieved in this work.

This strategy certainly suggests high performance and an advance in craftwork in Paraíba, projecting their values and artists into the national and international context, at fairs and events in South America and Europe, e.g., Argentina, Peru, Bolivia, Portugal, France, Italy, Holland and the United States. In recognition of their achievements in quality and organization, the lace-makers have competed in various prizes, with the five involved associations winning the Top 100 (SEBRAE) prize in 2006.

Box 8: Fish Farming

Municipality: Santana dos Garrotes
Association: Associação dos Pescadores Profissionais

A project-financed fish farming subproject – initially benefiting 21 families - was implemented in this community in 2004, with capacity to produce five tons of fish in each production cycle, using an intensive

production regime for which the Project financed technical assistance and training. Quality became more consistent and suited to local and regional markets, and traditional fish production and handling practices were changed. Productivity improved and the fish were more consistent with consumer requirements for size and weight. Partnerships with SEBRAE and EMPASA supported training for groups of fishermen in breeding and handling, presentation and transportation to markets.

Experiences in the local Queimadas reservoir at the time the subproject was initiated indicated strong prospects for success and the venture was carefully monitored by subproject partners. However, the subproject has more recently experienced difficulties in its maturation phase notably in respect to the acquisition of fingerlings, rations and other inputs needed to continue production. Statements by beneficiaries during the survey point to internal management issues including the loss of interest by some members of the association. Members feel they need to deal with this phase by re-initiating discussions about the original subproject proposal and objectives and with the presence of SEBRAE and EMPASA so that they can all jointly find a solution to re-invigorate the venture which has significant potential for sustainability and success.

Municipalities: Bananeiras and Borborema
Community: ASPIB Association, Lagoa da Matias; ASCOSA Association, Samambaia

In *Lagoa da Matias*, 35 association members benefited from a project-financed fish farming subproject and maintain good relations with the surrounding community and with the mayor's office. Production is vigorous for markets both locally and in the State of Rio Grande do Norte. The activity involves directly some 22 families and provides employment for 90 people. Participating families openly expressed their satisfaction with changes in their lives. They now work year-round, have regular incomes, feel optimistic and more secure, and have ample fish for family consumption.

In *Samambaia*, the Project also financed a fish farming venture benefiting 16 families who previously existed precariously from subsistence agriculture. The subproject was installed to handle some 15,009 fingerlings in 42 tanks, administered by the association with family labor, trained by the Project. Management and development of this subproject is described by beneficiaries as satisfactory. The subproject is generating sufficient income to purchase fingerlings and other inputs and to maintain a revolving fund for O&M needs. Members also pay a small fee to maintain their association which meets regularly with excellent member turnout.

Box 9: Dairy Production

Carirí Region, Paraiba
Goat Raising Associations

Project-supported productive investments in the semi-arid Carirí region are improving the socio-economic prospects of poor rural families. The case of goat raising is an important example designed to promote sustainable activities in this region. Goat's milk has never succeeded in becoming an accepted, alternative source of protein for families of this region and has not been a notable source of income. However, the Project supported the herders in acquiring new, genetically superior animals, with installation or renovation of processing plants for milk and derivative products, cooling tanks, strengthening of the production chain, adding value to the product and increasing the incomes of subsistence family producers. Of the 22 plants now functioning, 15 were project-supported.

With better facilities, equipment and understanding of productive processes, producers have come to believe in the product as an alternative for the region. The milk producers understand that they can stay in rural areas because opportunities are available to market the milk. In parallel, negotiations have resulted in their product being marketed to the Milk of Paraíba program which is taking a high proportion of their production. The Monteiro plant is also making yoghurt for CONAB, purchased for the school lunch program. Due to their total capacity, the plants are also processing milk for private entities, in this way expanding their overall level of activity and demonstrating the multiplier effects in an economically fragile region.

The Monteiro plant has an installed capacity of 8,000 liters/day and Zabelé plant, 2,000 liters/day. Excess production from the municipalities of Amparo, Zabelé, Gurjão and Camalaú is pasteurized in Monteiro and delivered to the municipality of Boqueirão. The total population involved in this activity numbers around 700 persons, besides 10 direct jobs with signed employment cards, in Monteiro. The energy and dynamism of the Monteiro plant is evident from the tremendous amount of activity starting at 6 am each morning, with deliveries of milk. Further, the product is of high quality because the plants fulfill all state sanitary requirements.

Under the management model, plant members contribute a monthly fee of between R$5.00 to R$10.00 into the association's capital fund and, for each R$1.40 paid per one liter of milk by the program to the producers, R$0.40 is deposited into the association's account to build a rotating fund. These resources are used to pay all the plant's expenses including personnel costs, raw materials, water, light, maintenance and equipment/parts. The general perception is that the dairy production chain in the region is being re-ordered, which has made not only the market more dynamic but also the consumption of milk and derivatives and above all, the occupational outlook - formal and informal - in this region.

The involved associations maintain partnerships with the Federal Government, mayors, Bank of the Northeast, Bank of Brazil, Bank of Brazil Foundation, SENAR, SEBRAE, UFPB and the State Government. Contact with the communities is frequently made through rural development agents (ADR) who give technical support to the producers and meet with them monthly.

Box 10: Flower Production

Municipalities: Pilões, Borborema, Bananeiras
Communities: Multiple

The successful experience in flower production by the Flower Producers Cooperative of Paraíba (COFEP) in the municipality of Pilões is notable. COFEP was established in 1999, initially comprised only women, and was supported by SEBRAE. Some 21 families produce and market flowers on one-half hectare which is currently producing net income of one minimum salary per month, per member (about R$350/month or about US$162/month) for families previously without any prospects of income generation. Self-esteem has grown, female labor is being absorbed in income-generating activities and additional family members are joining this effort.

Major factors of success, as recounted by beneficiaries, include transparent management of production planning, marketing and resources derived from product sales. COFEP has attracted national and even international attention and competed successfully in the "Social Entrepreneur 2006" prize awarded by the Folha de São Paulo in partnership with the Schwab Foundation. COFEP also won the SEBRAE Female Entrepreneur award in 2006 and has been represented in numerous public events and books/articles.

2. Results and Impact of the Rural Poverty Reduction Project - State of Paraíba Projeto Cooperar[30] (Barbosa, 2007)

A. Presentation

1. The Cooperar Project, concluded in June 2006 contributed decisively to improving the level of community wellbeing of the poorest rural communities, by providing access to investments in basic social and economic infrastructure, and increasingly, opening up productive opportunities capable of generating income.

2. The Project financed 3,373 community subprojects, benefiting 153,986 families, distributed in 222 municipalities, in 3,670 communities organized in 3,360 community associations represented in some 222 Municipal Councils. Of the 3,373 community subprojects financed and implemented, 1,523 were rural electrification, 1,252 water supply (including 264 cistern subprojects financing 5,077 cisterns). Water and electricity, the project hallmark, represented 82.3% of the total, and 72.6% of the families benefited.

3. This note investigates, rapidly but in detail, what have been the results and/or principal impacts of Project-financed subprojects, analyzing rural electrification, water supply, housing improvements and craftworks.

Methodology

4. A case study approach was adopted, based on the main types of subprojects and the communities and associations demanding, executing and operating the investments financed. A sample of subprojects was selected compatible with the distribution profile of subprojects financed. Statistical extrapolations for the entire universe of subprojects financed were not intended, but there was a certain comfort level in exploring the results obtained for three basic reasons: (i) the apparent homogeneity of the units comprising the universe by type of subproject; (ii) the intentional decision to include in the case samples, subprojects considered by knowledgeable people to be moderately successful, that is, the sampled units were not limited exclusively to very successful subprojects; (iii) the STU took care to select subprojects considered "typical"; and (iv) the communities composing the samples had to be geographically-dispersed. Based on these rules, the Project STU selected 18 subprojects/communities, described in Annex 2 and distributed as follows:

Subproject Type	Total Subprojects Financed	Distribution %	Sample Size
Electrification	1,523	52.0	8
Water Supply	971	33.2	6
Cisterns	264	9.0	1
Housing Improvement	150	5.1	1
Craftwork	21	0.7	2
Total selected:	2,929	100.0	18
Total financed	**3,373**	**86.8**	

[30] The study upon which this note is based counted on the strong participation and collaboration of the Cooperar Project State Technical Unit (see list in annex to this note). The author is grateful for the stimulus provided by Jorge Muñoz, Raimundo Nonato Caminha, Anna Roumani, Fatima Amazonas, João Barbosa de Lucena (World Bank) and especially on the comments of Alberto Costa (Consultant Anthropologist).

5. A technical team from the STU conducted the field research from February 26-March 21, 2007, interviewing beneficiaries and community association leaders, those knowledgeable about the subprojects and their histories. Questionnaires (see Annex 3) were used, tailored to the nature of each subproject type studied, with many questions permitting both open and closed responses. Results of the analyses are presented in the following sections according to the following structure: (a) **Case Studies** (i) rural electrification; (ii) water supply; (iii) productive subprojects: craftwork; and (iv) social subprojects: housing improvement; and (b) **Summary of Conclusions**.

Case Studies

(a) Rural Electrification

"Life was all suffering, we had nowhere to conserve food, our light came from kerosene lamps. The community had to cut up the animal rations with a knife and today we have a forage processor. There were no domestic appliances". (Testimony registered in the Estivas Community, municipality of Sapé).

"Everything was very difficult, principally in relation to health, since the smoke from the lamps caused many respiratory problems. Another difficulty was the storage of medications (insulin), which need to be conserved in the fridge; and we also lacked any means of communication; and always lost perishable items". (Testimony of Jitó Community, municipality of Areia).

"*Before, the population used lamps. No-one had a refrigerator, so families dried and salted meat so it wouldn't spoil. One part of the village had already received electricity through FUNAI (National Indian Foundation) resources and because of this the population not yet attended was very unsatisfied, until the subproject came"*. (Testimony of São Miguel Indigenous Village of Baía da Traição).

6. Rural electrification occupied a prominent position among subprojects financed by the Project. As was expected and is documented in these case studies, access to electricity took precedence in community demand, including over water supply. The case studies took 8 beneficiary communities with electricity (see list, Annex 1). The electricity group contained indigenous communities, two of which were financed through PAC, that is, without the intervention of a Municipal Council.

7. **Characteristics of the beneficiary communities and their associations:** The communities analyzed have a population averaging 167 families living on average 7.8 km from their respective municipal centers, which are considered poor with average HDI-M of 0.63. According to the survey, the communities vary a lot in terms of economic and social facilities; while electricity is available today in all of them, there is still a major deficit in coverage of basic social investments such as schools, health posts and water supply.

8. The study revealed that 75% of the communities had not had any type of other subproject financed by the Project up to that time but 62.5% of these associations, before obtaining their electricity subproject, had obtained benefits and/or investments from other programs outside the Project. After the electrification subproject, 50% of the associations gained access to financing from a wide range of state and federal programs including PRONAF B and C credit. Data reveal that a majority of these associations are actively seeking benefits for their communities from various sources.

9. The evidence does not corroborate the view that associations are formed exclusively to receive Project financing. All the associations studied were established substantially before they obtained financing for electricity, with an average waiting period of about 4 years. Associations have a membership averaging 61.5 active members, an average considerably lower than the average number of families (167), that is, only 37% of families in the communities are active members of their associations.

10. **Factors contributing to obtaining the electricity subproject:** As in the case of other subprojects analyzed, various factors were acknowledged by interviewees as having influenced positively the obtaining of the subproject: examples of other communities (75% of cases), mobilization of the community once they knew there was the possibility of financing (75%), community unity (75%), active leadership in the community (62.5%) and in 25% of cases studies, the influence of political figures was acknowledged.

11. **Characteristics of the subprojects:** The principal characteristics of the subprojects are summarized below:

Average extension of the high tension line	3.7 km
Average extension of low tension line	3.9 km
Tri-phasic line	37.5 % of cases
Mono-phasic line	75% of cases (some have both)
Average duration of subproject execution	8.1 months
Operating normally	100% of cases
Contribution of communities to financing	87.5% of cases
Project prepared and executed by contracted firms	100% of cases

12. **Principal results of the subprojects**

Results	**Average**	**Total**
Families directly benefited	61.3	62,500*
Persons benefited	306	312,000*
Houses connected	62.3	63,600
Streets illuminated	0.9	918
Commercial and industrial connections	2.75	2,800
Schools connected	0.5	510
Social centers	0.4	408
Manioc mills	0.1	102
Hydraulic pump	2.3	2,350
Health posts	0.3	306
Forage processing machines	1.5	1,530
Day care centers	0.1	100
Water conveyances	0.1	100
Churches	0.1	100
Green kits	0.1	100
Compressors	0.1	100

* Numbers registered in the MIS, effectively observed, not estimated or projected. These numbers, compared to the respective averages in the sample, permit the conclusion that sample averages are 33% above the actual averages. The 33% overestimation was deducted to obtain the totals for the remaining results in the last column.

13. The results shown above have a high potential to produce impacts as much economic as social. Examples are cited below. The availability of electricity in homes not only increases the level of family wellbeing by permitting, among other benefits, better processing and conservation of food, development of important activities at night (e.g., study and reading)

and leisure. It also permits the development of productive activities such as home sewing. Street lighting significantly improves community security. Commercial and industrial power connection has immediate impact on generation of productive employment, as seen further on. Schools with access to power can now initiate learning via television and night school sessions, especially for adult literacy programs. Health posts with access to electricity can conserve vaccines and other medications. The use of other electricity-powered equipment can increase agricultural productivity.

14. The following table presents a list of the principal goods and equipment acquired by families in the communities studied.[31]

Goods/Equipment	**% Households who Acquired**	**Projections for all Electricity Subprojects Financed**
Radio	100	28,400
Parabolic antenna	87.5	22,900
Refrigerator	100	23,570
TV	100	26,130
Sewing machine	62.5	530
Freezer	100	8,520
Electric iron	100	11,360
Sound equipment	87.5	5,000

* Projections based on 67% of the average acquisition goods/family of Timbó Community.

15. Assuming that all beneficiary families acquired new equipment with the availability of power and considering the average price of goods for which projections were made (see table above), it is estimated that the fiscal receipt of ICMS (Tax on Circulation of Goods/Services) would be around R$9.6 million, a minimum estimate since other goods on the list are not included.

16. Another especially relevant result is the creation or establishing of new commercial businesses and/or industries with the arrival of power, which are instrinsically opportunities to generate productive income and employment. In the context of the subprojects/communities, the commercial/industrial openings are shown below.

Initiatives	**% of the Communities**	**Projection***
Mechanized manioc mill	25.0	250
Bars, stalls and other	87.5	900
Greengrocers, grocers and similar	62.5	640
Bakeries	12.5	130
Gas depository	12.5	130
Construction materials depot	12.5	130
Milk and derivatives processing plant	12.5	130

* Done on the basis of the expectation that the percentage incidence verified in communities studied would be valid for the universe of cases, admitting an error on the low side of 33% in relation to verified percentages.

17. **Job creation and incomes**: The research captured some data and information related to the generation of productive employment by some types of initiatives, e.g., bars, greengrocers,

[31] Communities also acquired DVD (87.5%), blender (75%), cell phone (37.5%), fan (87.5%), electric oven (25%), washing machine (50%), vaporizer (12.5%), Computer (25%), air conditioner (25%), mixer (12.5%), microwave (12.5%), internet access (12.5%), telephone (12.5%). No projections were made to the total project for these items.

stalls, bakeries and processing plants. Projecting the average number of net jobs for the three types of initiatives from subprojects analyzed, it is estimated that they generated (see error estimate, footnote to para. 23) a total of 2,600 to 3,200 permanent jobs, with average monthly salaries ranging from R$50 to R$650 (average R$228). Beneficiaries interviewed revealed plans to make further investments in the near future, all of them requiring the electricity now available. Data suggests that over time, investments in rural electricity will bear fruit in terms of employment and incomes.

18. Other impacts included: (i) in 87.5% of cases, the water supply systems came after electricity; (ii) in at least 37.5% of cases, community schools began to offer night sessions with literacy courses benefiting an average 44 adults per subproject; (iii) in 75% of communities, an average 27 new houses were constructed and another 30 renovated; and (iv) in 25% of communities studies an average of around 5 agricultural producers refined their small-scale irrigation systems with areas varying from 2-5 ha, with each subproject generating permanent employment: farmers produced fruit, vegetables, beans, maize, manioc, forage for animals and sweet potato.

19. **Social capital in communities benefited with irrigation subprojects:**[32] Communities and associations already, before the subproject, maintained a relatively high level of interaction between their members through meetings. This way, in 75% of cases analyzed, the same level of meetings was maintained after the investments, as before. In 25% the members began to meet more regularly, of which 87.5% were meeting once per month and only 12.5% were meeting every three months regularly or whenever needed.

20. Active participation before the subproject is attested by the evidence that 62.5% of associations analyzed obtained financing for other investments (infrastructure, productive and social), but one half of them did not succeed in obtaining other financing after the electricity. However, after the subproject (i) 87.5% were convinced that residents' confidence in their leaders and associations had grown while the rest maintained their same levels; and (ii) 100% confirmed that the degree of community confidence in seeking new investments/making new demands from public agencies and being attended, had grown.

21. **Beneficiaries say:**

> "*The electricity subproject brought a better life to all members of the community in relation to the generation of income, social promotion and education of youth and adults with the installation of two classrooms for night school. Besides making it possible to use machinery and domestic appliances, it also made communication possible, leaving the community better-informed about what is happening in the world. After electrification, 6 families purchased electric pumps to bring water to their residences. Also, the Municipal Mayor's Office installed a simple water supply system for the rest of the families*". (Testimonial registered in the Timbó Community, municipality of Jacaraú).
>
> *"Implementation of a productive subproject brought jobs to the community. Access to domestic appliances facilitates people's lives. Access to the means of communication*

[32] For a more detailed treatment of social capital in the communities studied by this paper, see section on water supply subprojects.

keeps the community informed; makes it possible for family members who migrated to find work, to return to the community; the realization of some dreams; a stimulus for young people and adults to return to study/learning; introduction to new technologies; technical training for persons involved in the productive processes at the plant". (Testimony registered in the Sítio Barra do Aba Community, municipality of Passagem)

(b) Water Supply:

"The community lived in a calamitous state. Residents woke at dawn to collect water from a source which did not function during dry periods/drought. In this period, the Army sent a water truck and the neighboring municipality of Macaparana also helped us periodically. There were many cases of diarrhea, parasitic and skin infections". (Testimony from interview with the representative of Feira Nova Community, Municipality of Salgado de São Felix)

"The difficulties were enormous. We got water using donkeys with packs, or cans carried on our heads. Sometimes the water was so scarce that many times women of the house went out at 2 in the morning to find water in water holes/springs. In these periods, clothes were washed in the neighboring municipality of Santa Luzia, by hitching rides. Water to drink was also purchased in the same municipality and we still had to pay freight. Due to lack of water, our field production was minimal. Only when it would rain. (Testimony from interview with members of the Community of Vale do Exú, Municipality of Junco do Seridó).

"Families crossed Route BR 101 to collect drinkable water from the School Group on the right hand side. For domestic consumption, we pulled contaminated water from the stream. We spent a lot of time collecting limited quantities of water. We had no water for bathing at night when we returned from our fields". (Testimony from interview with members of Tabatinga Community, Municipality of Pedras de Fogo).

22. **Community organization:** Beneficiary communities included in the sample are located in municipalities with very low Municipal Human Development Index (HDI-M, 2000), varying between 0.551 and 0.603 (67% of which below 0.59). The population of these communities averages around 95 families and all are situated relatively far (average 14.7 km) from the municipal center, without access to municipal water supply systems.

23. All subject communities are organized and represented by their respective associations. Water supply subprojects are seen as the result of a long period of activity by associations, their leaders and members. In 100% of cases investigated, foundation of the association preceded the water supply subproject by an average 5.7 years. In 33% of cases, the project itself financed rural electrification before the water supply investment. The data does not support the often-voiced comment that the associations were established exclusively to obtain subproject from the Bank-supported project.

24. Analysis of the organizational and participatory life of the communities reveals that the number of active members of associations represents a significant portion of the population, averaging 65%. The percentage participation does not vary in relation to the size of the community population and at the level of HDI-M, which suggests that it depends on other factors, such as quality of local leadership, level of information available, among others.

25. The tendency for electricity investments to preceed water supply is notable: in 100% of cases analyzed, the communities already had electricity before their water supply subproject (there were few cases of simplified systems pre-existent). This result might reflect: (i) greater priority given by communities to obtaining the multiple benefits of energy; and/or (ii) energy is recognized as a pre-condition to make water supply systems viable (e.g., running pumps); and/or (iii) it is easier to obtain financing for electric energy subproject versus water supply (e.g., availability of counterpart funding from Luz para Todos, the Federal Government's Light for All program).

26. The communities studied have a reasonable endowment of social and economic infrastructure and now have water supply, but oft-times they lack basic social services/infrastructure such as a school and health post. The existence of this infrastructure could indicate the results of action of community associations. In 50% of the communities analyzed, the water supply subproject represented the second subproject financed by the Project (electricity and simplified water supply subprojects were the first).

27. **Origins of the subproject:** Deciding factors contributing to getting the subproject were essentially internal to the community, its leaders, their associations and the Municipal Councils. Data reveal a high level of appreciation of the value of unity, common objectives of community members and recognition of the role exercised by local leaders. In none of the cases did the interviewees recall: (i) any influence from political leaders in obtaining the subproject; and (ii) any inducement based on local development plans. Further in 100% of cases, the decision of the community to choose the subproject was made in an assembly, with the full participation of beneficiaries; and, within the Municipal Council, the decision was taken by vote of Council members. Here too, external political leaders were not seen as having had any influence in the selection and approval of the subproject.

28. **Characteristics of the subprojects:** In 67% of the cases analyzed the water supply systems were classified as complete, that is, with household distribution. In the 33% of remaining cases, communities opted for a simplified system (*chafariz*, with access to water via public storage tank with faucet). Complete systems involved household access with connection to other units, and with additional potential benefits including commercial and industrial connection; and school, health post and church connection.

29. Assuming that the complete water supply subprojects studied are typical, and that they represented 90% of all subprojects financed, with an error of 10% in relation to the average number of connections, it is estimated that between 1,380 and 1,680 commercial and industrial connections have been made as a result of the subprojects, thus with potential to generate additional employment and income. Data collected do not permit estimates of these latter effects.

30. **Beneficiaries:** Water supply subprojects benefited directly, on average, 89 families (430 people). In 67% of cases, the families benefited included those which had association members and others which don't have members, that is, in only 33% of cases, beneficiaries are restricted to those families with members in the association. In many cases, associations function as a mechanism for legal representation and a forum for decision-making, covering the community as a whole and not only those who are members of associations.

31. **Works and community counterpart:** The subprojects were executed in an average period of 7.5 months (ranging from three months to a maximum one year). In 100% of cases the

beneficiary communities helped finance the systems (equivalent to 10% of total subproject cost), mostly in the form of labor, but, in some cases, through the contribution of food to the stoneworkers and laborers, offering literacy courses to youth and adults and, acquiring component materials for the household connections. In some cases, the mayors participate, providing machinery, equipment and subproject preparation services.

32. **Technical Assistance for Subproject Preparation:** In 100% of cases, the associations accessed technical assistance to prepare subprojects, whether through consultants contracted by the associations (33%), from the STU technical team (50%) or from the mayor's office and local EMATER (Technical Assistance and Rural Extension Company) office (17%).

33. **Execution, operation and maintenance of subprojects:** In 100% of cases, associations opted to contract firms/construction contractor to execute their works. This result is not surprising given the specialized services required, e.g., drilling of wells and construction of elevated water tanks. It was confirmed that water supply systems – especially complete systems with household connection - financed by the Project are operated and maintained by the associations and by the beneficiaries. Beneficiary families pay a user fee varying from R$7 – R$12 per family/month. Default levels are low: less than 1.45% in 75% of cases. However, default can be up to 13% in the remaining cases.

34. In regard to simplified systems of water supply (elevated tank with public faucet – *chafariz*), charging a user fee is not feasible. For their operation and maintenance the associations use resources collected as a monthly fee paid by members or they resort to the mayors who assume the expenditures associated with such systems.

35. Employment generation through O&M: The complete systems ended up being a source of employment for members of the community: the research revealed that such systems generate, on average, jobs for 3.5 people who are members of the association, ranging from 2 to 5 jobs. With an error of plus/minus 10% from the average, it is estimated that, of the total, 2,000 to 2,500 people are occupied in the operation and maintenance of all complete systems financed, administered directly by the associations, generating gross income equivalent to between R$3.6 million and R$4.5 million per year.

36. **Results of subprojects**

a) **Water quality:** The systems are providing water classified as good quality in 100% of cases for complete systems, in 75% of which the water is being treated. In obe-quarter of cases, the water was naturally good. The picture is less consistent for simplified/simple systems: water quality varies between regular and poor (salty water). Results confirm that complete systems, with household connection, although a little more expensive, have many advantages compared to simplified systems, in circumstances where community population is concentrated, the water sources are good quality and supply is sufficient to attend consumer demand.

b) **Coverage and capacity of systems:** As a rule, the complete systems analyzed have extensive coverage: in the majority of cases, all homes are connected to the system. In 100% of cases, interviewees confirmed that the systems implemented have capacity to benefit all homes in the community.

c) **Interdependence of investments:** In over 80% of cases analyzed, the water supply systems came after electricity, or, in a few cases, arrived jointly. Data confirm that with few exceptions, water supply systems depend on the availability of electricity.

d) **Water usage:** Except in the case of low quality (salty), the water is destined for human and domestic consumption; in the majority of cases it is also used for animal consumption and for business and industrial needs. Several cases were identified where the water is utilized for the irrigated production of fruits and vegetables.

In the community of Vale do Exu, municipality of Exu, with the water available, two producers are irrigating an area of 0.5 ha to produce papaya and passionfruit for sale in local and regional markets. The gross monthly revenue is R$120.00 from papaya and R$75.00 from the passionfruit.

e) Changes brought by water supply subprojects: Before the subproject, communities depended on precarious sources of water: public dams, private reservoirs, water trucks, rivers, streams and springs**.** Fixed sources of water can be at distances of > 3 km from homes, demanding time and involving costs to obtain water. In the case of water trucks used in 50% of cases, costs can be relatively high when it is provided by private suppliers and free when supplied by the mayors, the State or the Army.

In the community of Vale do Exu, municipality of Junco do Seridó, water supplied by water truck occurs only in during the 8 month dry season, and when the supplier is private, they have to pay R$90.00 per truck with capacity of 8,000 liters. Each family received 150 cans (each of 18 liters, or 2,700 liters) per month. The cost per family was R$30.00/month.

In the community of Feira Nova, municipality of Salgado de São Felix, supply comes from watertrucks brought by the Army over a three-month period and is free of charge. However, each family had the right to only 960 liters/month.

f) Water provided by Project-financed systems was considered of good quality in 100% of cases where the system is complete (with domestic connection) and regular in 50% of the simplified systems.

g) **Time and cost savings:** Water supply investments bring savings in time and improved conditions in family wellbeing once families stop having to walk distances to fetch and carry large amounts of water. Transport of the water is done, on average by three persons per family (1.3 adults, 1.7 children) dedicating on average, 1.5 hours per day. With an error of 10%, it is estimated that between 101,000 and 121,000 adults and from 132,000 and 162,000 children/adolescents dedicated 1-1.5 hours per day in fetching water in all communities benefited by water supply subprojects. Considering only the adults, an 4.5 to 5.7 million equivalent days of work/year have been saved. Assuming that women's domestic work were valued the same as a man's work in the fields (R$5/day) and that all would be working were they not collecting water, time savings of adults would be equivalent to between R$22.5 million and R$28.5 million per year. In five years, the saving is equivalent to over R$100 million. If only half the adults were working, the saving, in financial terms is still high: at least the equivalent of R$50 million in five years.

h) C**apacity of installed systems:** According to beneficiaries interviewed, the systems in the dry season, were adequate in 100% of cases, attending to at least human and animal demand; of these systems, 33% were also considered sufficient to attend to demand of small-scale irrigation systems. Further, in no case analyzed were water trucks still needed or did beneficiaries have to return to other tradional sources. If one assumes that one-third of communities were supplied by private water trucks for 8 months per year, the annual total saving is estimated to be around R$3.1 million.

i) Impact on the incidence of water-borne disease: As seen earlier, water provided by the systems was considered of good quality, including with treatment, in 100% of cases of complete systems. The most common illnesses before the Project were diarrhea, worms (including schistomiasis) and dengue fever. Interviewees revealed sharp reductions in incidence, as follows: 60% - 80% in the case of children, 70%-90% in the case of adults and 60% - 90% in the case of the elderly. Lack of data concerning distribution based on the age of beneficiaries, frequency and duration of disease incidence as well as the associated medical costs, prevents at this time, estimates of the savings resulting from a reduction of water-borne disease.

j) Impact on increased commercial and industrial initiatives: Due to the relatively short period between the conclusion of the execution of subprojects and the moment whan this study was conducted (an average 20.4 months), only a modest surge in commercial activity was registered: in one-third of cases studied, involving the installation of bars, small grocery markets and small-scale irrigated production (papaya and passionfruit). The impact on production and income from water supply subprojects demands more time on observation and more detailed analysis.

k) **Social capital development:** Interviewees revealed not only the pre-existence of social capital in the communities, but also its formation was positively influenced by obtaining subprojects, but it constitutes a complex social process – it does not accumulate definitively and it can suffer setbacks.

(a) After the subproject, in 67% of cases, association members met with the same regularity as before or more regularly.

(b) The level of activity or engagement of members in actions promoted by the associations was also positive. After the subproject, members were more active than previously in 50% of cases and in 16% there was no change.

(c) A majority of associations do not limit themselves to actions under the Bank-supported project. Before the subproject, 83% of associations had already carried out activities benefiting the community including with other sources of funds. After the subproject, 67% obtained financing for other community investments.

(d) After receiving their subproject, the confidence of residents in regard to their associations and leaders increased in 83% of cases. The contribution of members to resolving community problems was easier or remained stable in 67% of cases. In 83% of cases, the communities were more confident about making new demands to public entities and in having them attended.

Beneficiaries say:

"Installation of the subproject reduced the risk of accidents because residents don't have to cross BR-101 to fetch water; quality of life in the locality improved; the time and cost associated with water was reduced; our homes increased in value; women's self-esteem increased; the incidence of sickness decreased." (Testimony from the Tabatinga Community, municipality of Pedras de Fogo)

"The community is satisfied and very thankful to Cooperar for the subprojects installed. Greatest benefits are: reduced sickness; generation of jobs; before, it was a desert here; there were no plants because no water; today, nature has changed because there are various species of plants; the community is more green; access to water makes people's lives easier; quality of life has improved contributing to a reduction in the rural exodus". (Testimony heard in Community of Vale do Exu, municipality of Junco do Seridó)

Water supply: cisterns

37. Cisterns are a water supply system which is simple but extremely useful for the collection and storage of rainwater in sparsely settled areas/communities and/or lacking adequate supply sources, where more complex systems are not viable. The Project financed 264 cistern subprojects, benefiting 5,077 families, organized into 263 associations in 83 municipalities.

Cistern in the Sítio do Saco Community: An Exemplary Experience

The **Community of Sítio Saco do Imbé e Sítios Adjacentes, in the Municipality of Cuité**, has a population of 90 families living in single-family residences. Municipal HDI is very low (0.588). The community is situated 6 km from the municipal center. Residents are represented by an association, established in August 1995 and, has 31 active members. Besides the cisterns, the community has electricity, but lacks basic social infrastructure such as a school, health post, social or community center. The electricity was also financed by the Project.

According to residents interviewed, the situation before the project caused much suffering. Drinking water had to be obtained from the neighboring municipality (Nova Floresta) and transported on donkeys laden with barrels. It was also difficult to bathe or wash clothes. The effort required was huge: they had to leave the house at dawn, many times carrying the youngest children, to obtain water from streams and springs. Access was difficult because the region is rocky and the animals had frequent accidents, making the return journey especially difficult. The community, motivated by these difficulties and having the President of the association (a very active leader) learning, via the Municipal Council, of the possibility of financing a subproject, mobilized itself with support from the Council. The proposal was submitted and approved by the full association and subsequently by the Municipal Council.

Each cistern of the approved and executed subproject had a capacity to store 16 cubic meters of water. As the number of cisterns was insufficient to attend a greater number of families, the association decided to substitute five cisterns with a well to expand coverage to 23 families of the 90 in the community. These 23 were selected based on the following criteria demanded by the assembly: permanent resident, not possessing any type of water storage facility, and participated in the actions of the community. Among the beneficiary families selected were both members and non-members of the association.

Beneficiaries contributed labor and provided food for the stone-workers during execution. A standard subproject design was used and execution was done directly by the association. Execution took seven months. Two rainy seasons have passed and the cisterns are functioning normally. Beneficiary families received training in the use and management of the cisterns, provided by the Project STU and by the Army. Water quality is good and is treated; every six months the cisterns get a general cleaning (under the guidance of a health agent). The water stored is sufficient to supply the consumption of one family for six months; there is none for other uses and traditional means must be are accessed.
Before the subproject, an average three people/family were devoted to fetching water for three hours/day, time taken from domestic business, feeding of animals and fieldwork. After, families reported an 80% reduction in the incidence of diseases such as diarrhea, dengue fever and worms. According to residents, the cisterns have changed families' lives for the better. Overall health is better, obtaining water involves far less work and hygiene has improved; solidarity between beneficiaries has grown and the community is well-informed regarding the use and care of the water.

Productive subprojects (Craftwork)

38. The Project financed 21 craft subprojects, of which 10% were subject to case studies, described below: (i) Renaissence Lace, produced in the municipality of Sao João do Tigre, and (ii) hand crochet/embroidery in the Areial municipality.

39. **Targeting:** Confirming the tendency observed with other types of subprojects analyzed, associations were located in poor municipalities with HDI below 0.6 (0.527 and 0,599 for São João and Areial, respectively). The associations benefited grouped together persons with common interests, representing, not surprisingly, a relatively small fraction of the populations of the two municipal seats: 25 of 1,700 in Areial, and 100 of 4,729 in São João. In both cases, the community associations preceded the financing of the craft subprojects.

40. **Motivation for seeking and reasons for getting, the investment**: The motives for seeking financing of subprojects derived from their experience with craft activities which had already been developed but were understood to be unsatisfactory and non-sustainable: the craft workers lacked primary materials, their pieces were sold in other cities for poor prices, the workers had low self-esteem and put no value on the activity; they produced Renaissence lace without worrying about quality (São João) and members worked individually with orders/commissions and raw materials provided by intermediaries (Areial).

41. The main factors contributing to obtaining the subproject in Areial were: community unity, mobilization of the community once they became aware of the possibilities, active community leadership and support of the Municipal Council while in São João - besides the factors present in Areial - included inclusion of the subproject in the municipal development plan. Subproject execution took considerable time in both cases due to technical and other complexities: 3 years in São João and 1 year and 4 months in Areial, but the effort has been rewarding.

42. The two subprojects ultimately benefited a large number of people: 1,500 and 1,125 (of which 500 and 225 directly), in S. João and Areial, respectively, incorporating members and non-members of the associations. The subprojects are administered, operated, maintained by the associations (in São João, with a management committee formed by association presidents, treasurers, member lace makers and representatives of SEBRAE, the Project, Municipal mayors office, Bank of Brazil, Bank of the Northeast and the Craft Association Paraíba in Your Hands). All beneficiaries were trained in matters related to the operation, production, design and marketing in events organized by SEBRAE and the Project.

43. **Economic and financial analysis**:

(a) São João do Tigre. The initial investments financed by the Project were of the order of R$36,338 (approximately US$17,725) in structures and equipment. Gross returns in 2006 were around R$ 61,650.00. Input expenses for the year totaled R$5.433.20 and funds taken out by the 40 members totaled R$46,396.80, with some R$9,820 retained as a fund for future replacements/investments. Assuming that these values for receipts and

expenses are maintained for a period of 10 years, it is estimated that the Internal Rate of Return (IERR) for the subproject is about 23% per year. This rate is superior to the SELIC rate (actually 13%) and even higher than the return on a bank savings passbook account. This result suggests a fairly high and satisfactory return especially considering the investment capacity of the beneficiary families. Considering a discount rate of 10% per year and maintaining the annual net revenue of R$9,820 (discounted for funds withdrawn by the members), the initial investment will be recovered in 5 years.

(b) Areial. The initial investments, financed by the Project, were around R$47,560 (about US$23,200) in structures and equipment. The estimated gross annual revenues are R$45,600 and expenses on inputs and retained income of the 25 members amount to R$35,640.60 annually, leaving about R$9,959.40 for investments and a fund for future replacement investments. Assuming that these values for receipts and expenses are maintained over 10 years, it is estimated that the IERR of the subproject is 15% per year, slightly higher than the SELIC rate. Considering a discount rate of 10% the total investment will be recovered in 7 years.

44. The brief analyses of these two productive subprojects shows that they are *financially and economically profitable,* with differences between the two. Part of the difference is due to the size of the initial investment not being compensated by the difference in productivity (favoring the subproject with the higher initial investment). It also indicates that productive subprojects, better-designed and with greater care taken with their business plans, with market opportunities identified, have a high potential to contribute to the generation of a *satisfactory and sustainable level of income.*

45. **Social capital:** Interviews reveal, also, that productive initiatives such as crafts, which demand the joint efforts of members in one location and with decisions frequently taken jointly, accentuate the development of social capital, evidenced by: (i) more frequent and regular meetings, monthly and/or weekly (including when they receive orders/commissions, visits and consultations); (ii) association members have become much more active; (iii) obtained subprojects after the subproject in question; (iv) increased the confidence of members in relation to the associations and their leaders; (v) after the subproject it was much easier to get members to contribute to resolving community problems; and, (vi) they have more confidence to make new demands to public agencies and be heard/attended.

46. In the voice of the beneficiaries:

"Employment and income increased. We are the national market reference for crochet work. We won the Top 100 prize, putting us among the 100 best associative companies working in crafts in the country. Today we are aware of the associative process and we know that together we are strong and can achieve much more. Our strength comes from our unity". (Testimonial from the Association of Crochet Specialists of Areial – Mothers' Club, municipality of Areial)

Housing improvement

47. Among the social subprojects financed by the project, housing improvement is notable: 150 were financed, benefiting 6,440 families organized in 150 associations. As in the case of cisterns, a subproject considered "typical" was selected for analysis, that of the Bebelândia

Community, located in the municipality of Santa Rita, whose history is registered in the Box below.

Housing improvement in the Community of Bebelândia

Bebelândia is a community in Santa Rita, with a population of 493 families, living in 444 houses. Due to the proximity of João Pessoa, the capital, the HDI of this municipality is one of the highest in the state, around 0.659. Even so, this community 8 km from the municipal seat exhibits many social deficiencies, lacking a school, and with a precariously functioning health post, but it does have access to water and electricity.

In terms of housing, the community shows serious deficits, with families risking their lives in the rainy season. Homes have no bathrooms or septic tank, living conditions were poor and the families in despair. In this context, the community decided to establish an association in January 2002, a little before submitting and obtaining approval for a subproject to improve 32 houses in the worst condition, that is, of taipa (mud and sticks/brush), with mud floors, straw roofs, and a weak wood structure.

It was and continues to be the first and only subproject financed by the project in the community. The association has 85 active members. Community members affirm that various factors contributed to obtaining the subproject: the community was always united, knew about similar subprojects financed in other locations, and this knowledge led the community to mobilize. The community has active leaders and the Municipal Council is committed to the development of the community.

The subproject consisted of building 32 new houses with an area each of 32.08 m^2, distributed in 5 rooms, with a bathroom and septic tank either inside or outside the house (optional) and with improvements such as cement floor, plastered walls, piped water within and outside the house, electricity outlets and tile roof. Of the 32 beneficiaries, not all were association members. Community counterpart was in the form of labor. A standard subproject design was used, supplied by the Project, and construction of the houses was done directly by the association which contracted stoneworkers and employing beneficiaries as helpers.

In their move to the new houses, families received guidance concerning the use and maintenance of the building, from the Project team, the Municipal Council and from the leaders of the association. The quality of the houses was considered good by beneficiary families and considered in condition to serve their needs and expectations in a satisfactory manner. Families assert that with the new houses, the incidence of illnesses such as diarrhea, dengue fever and worms has been reduced. Reductions were most marked in the case of the elderly (75%), followed by adults (60%) and children (40%).

The impact of housing improvements was notable: families desire to make further improvements and extensions, and to acquire domestic appliances (refrigerator, TV etc). With the subproject, the community: (i) meets more regularly (monthly); (ii) members are more active; (iii) they have already received more investments (street paving, access road to the highway and improved water supply system); (iv) residents' confidence has increased in relation to their leaders; and (v) community members always contributed to resolving community problems; now, this tendency has grown.

B. Summary and Conclusions

48. Each group of subproject types sampled was taken as a case, and described based on averages and extremes (inferior and superior) of the evidence collected during the visits to the communities comprising the group, registering their views through comprehensive, pre-prepared questionnaires. While the samples were not statistically determined and the communities/subprojects selected were not randomly sampled, "projections" were made for the total cohort of subprojects financed by the Project in each group, admitting generous scope for "error", that is, the projections were made based on the hypothesis that the real averages were within limits of 10% each side of the averages estimated/presented. The projections however, should be taken only as a probable indicator of the "size" of the results or impacts derived from implementing the subprojects and not as statistically secure values in terms of representation.

49. **Main results**:

- The demand profile of approved, financed and implemented subprojects was markedly dominated by electricity and water supply investments; communities only turn to other types of subprojects, productive and social, once needs for basic infrastructure are met.

- There is a marked tendency for demand for electricity to precede demand for water supply.

- Few communities, having been benefited with electricity and water supply subprojects, have had other types of subprojects financed by the Project; other investments were in many cases obtained through non-Project Financing.

- The vast majority of beneficiary communities are located in poor municipalities with low HDI;

- Associations benefited with Project-financed subprojects were in all cases established considerably earlier than the date of subproject financing, contradicting the frequent assertion that associations are only formed to obtain project financing.

- Active association members Tend to represent only part of the community population, indicating that the associations are above all, a form of political representation of the communities before the public agencies; associations tend to grant access to subproject benefits to the entire community, not just members;

- Selection of the subproject by the entire community is due notably to unity (pre-existing social capital), demonstration effects in other communities, access to information about the Project and its potential, and the active role of local leaders. Contrary to assertions, external interference of political figures in community choices was practically non-existent.

- As a rule, subprojects analyzed were executed by firms contracted by the associations, which supplied counterpart contribution in the form of labor and other forms (e.g., providing food to workers);

- Virtually all subproject visited and analyzed are functioning in a regular manner some months after their conclusion. Only one exception was identified among the 18 cases studied. This was possibly the result of the sample selection process – which openly selected successful and moderately successful examples. It also highlights the importance of projections based on an ample margin of error.

- Data and evidence confirms that the subprojects analyzed are resulting in improved quality of life (well-being) of beneficiary families, e.g., time and financial savings from no longer collecting water, reduction of certain illnesses, increased number of school sessions, food conservation, medicine conservation, access to leisure, information, and equipment which facilitates domestic tasks, among others.

- *Cistern* subprojects (normally one cistern per family) have had a huge impact on family wellbeing because they represent virtually the only viable method in some areas for storing rainwater for use in dry periods.

- *Housing* improvement subprojects benefiting the neediest families, have immediate effects on well-being (*inter alia*, better hygiene, more space, privacy, reduced illness and greater comfort).

- *Electric energy* subprojects and water supply, besides the immediate impact on quality of life, have indirect effects on creating opportunities for productive employment and income (e.g., irrigation, processing of products, commercial activities); these indirect effects take time to materialize.

- The *productive* subprojects analyzed (craftwork) show a high potential for expansion and have important economic and financial results/possibilities. The cases analyzed show rates of return in the order of 15%-23%, with recovery of the initial investment in 5-7 years. All participants in these subprojects are currently netting income of about R$100/month.

- All communities analyzed were already organized prior to subproject financing. Member's level of activity/engagement in association actions shows a positive trend. In the majority of cases, association members are more active than they were before the investment.

- A majority of the associations do not limit their activities to the Project. Before the subprojects, the vast majority had already carried out activities which benefited the community, including with resources beyond the Project.

- After the subprojects, various associations obtained financing for other community investments, while the research identified a small reduction in some associations' activities after execution of the Cooperar subproject;

- After obtaining the subprojects, the confidence level of residents in regard to their associations and their leaders increased in the majority of cases studied. However, with subproject installation, in the majority of cases, members' contribution to resolving community problems was easier or stayed the same because members had always cooperated. Some internal political problems had a deleterious effect on community

participation in some water supply subprojects. Communities in the vast majority of cases, have more confidence in making additional new demands from public agencies and in being attended by them;

- The results obtained, promising in most respects, encourage a more detailed study, even though such studies will be limited because baseline studies are not available for the closed Project. Nor are there sufficient elements to permit the use of a quasi-experimental methodology (propensity score matching). It is essential that Terms of Reference be defined and decided for more rigorous impact evaluation studies under the new project to follow the recently-concluded Cooperar Project.

Projeto Cooperar field research Team:

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3. Associative Honey Production in the Zona da Mata, Paraíba (de Oliveira, 2006)

This study[33] analyzed the performance and consolidation of the collective (in associations) production of honey – a productive activity with considerable potential in semi-arid Paraíba - financed by the Project in the Municipality of Jacaraú. The selected municipality is some 84km from the state capital, with a rural area of some 7,000 inhabitants and a low HDI of 0.555.[34] Economic activity in rural areas is limited to subsistence agriculture, livestock raising, sugar-cane and honey production.

With organizational and technical assistance from EMATER (State Rural Extension and Technical Assistance Service) and Bank of the Northeast, producers formed an association with about 40 members and the objective of expanding honey production in the municipality in a professional and less rustic and informal manner. Some 75% of members had over 5 years prior experience with honey production. A Municipal Council was also established. The subproject financed a honey-processing plant and associated *casa de mel* with modern machinery and equipment. Partnerships were also established with SEBRAE, National Rural Learning Service (SENAR), Federal University of Paraíba (UFPB), State Agro-livestock Research Company (EMEPA) and NGOs.

[33] Impactos das Ações do Projeto Cooperar – O associativismo na apicultura contribuindo para sustentabilidade do semi-arido Paraíbano, Jose Estrela de Oliveira/Instituto de Educação Superior da Paraíba, 2006

[34] About 10 honey producers from 3 neighboring municipalities were also included.

The objective was to add value to honey products in the Zona da Mata region of the state, make the product more competitive and acceptable to markets both locally and further afield with the end-goal of improving employment and incomes and promoting economic independence. Honey production is seen as consistent with the social, economic and environmental elements of sustainability, being an economic activity with low environmental impact and with potential for permanent, sustained use of local natural resources.

Method: The study applied questionnaires and interviews to 40 beneficiaries and to technical support personnel and the Project STU in 2006. In the case of beneficiaries, questions focused on organization, impact of the subproject on family income, out-migration, honey production and marketing, and environmental aspects. The study describes important socio-economic outcomes, and the potential for this activity using the associations and Councils established by the Project.

Results are summarized as follows:

- 75% of interviewees said their family income had increased even in the relatively short period since they commenced production.
- Majority of interviewees said their association had a sufficient level of organization to benefit subproject performance and resolve operational problems.
- 75% said the honey production subproject was the main reason they did not out-migrate.
- Multiplier effects were evident in the upsurge in numbers of honey producers who perceived that in organized form, the activity provided positive economic incentives.
- 75% of interviewees said that honey production had increased in the region;
- 50% were selling their product locally and 50% outside their immediate region in shops and at fairs, markets and exhibitions.
- Beneficiaries reported however, that sales further afield are being hampered by the bureaucracy involved in getting Ministry of Agriculture inspection certification as well as the bar code for commercial packaging.

Interviewees responded as follows to open questions:

- Quality of life had improved from the moment the activity started. Beneficiaries believed the Bank-supported project stressed improved quality of life.

- Incomes rose and it was possible to acquire consumer goods even after just one year of participation. The activity was serious and guaranteed family sustenance. Even though apiculture was a secondary activity for many, it supplemented income. Many producers planned to expand, including with bank financing, and wanted to improve quality and diversify the products of the association.

- Interviewees spoke of participating actively in association discussions about organization, production and marketing of honey and related products. Participation in the association was viewed as a positive factor in local growth, delivering ecological and economic benefits to the local honey industry. The association was seen as essential to the producers since the market resisted products without quality guarantees. Improved quality and proper certification for national and international markets were immediate association objectives.

- Members met monthly to resolve problems and discuss issues of interest to the community, and put decisions to a vote. Meetings were usually joined by partner entities

including members of the FUMAC Municipal Council and other bodies with an interest in the honey venture.

On environmental questions, interviewees responded as follows:

- The vast majority saw environmental preservation as essential for their success and sustainability as honey producers.

- A majority saw an important responsibility to prevent the clearing of native scrublands.

- However, since the vast majority of producers have only 1-5 hectares, there is considerable economic pressure to clear land, independent of honey production.

- Sugar cane cultivation in surrounding areas is expanding and the use of agro-chemicals is polluting the local environment and killing the bees.

- Beneficiaries are aware of the need for reforestation; about 25% had already engaged in it. Education is required - through partnerships with the Institute for Environment and Natural Resources (IBAMA) and Superintendence for Environmental Administration (SUDEMA) – to achieve greater prominence for this issue.

Conclusions: This activity has considerable potential, especially in national and international markets. The Bank-supported program needs to leverage successes already registered in Paraíba. Various actions are needed: (a) stronger organization of honey producers; (b) access to an adoption of new technology; (c) quality standardization; (d) access to credit; (e) training to produce other honey-related products with value-added potential.

Annex 6. Stakeholder Workshop Report and Results

Not applicable

Annex 7. Summary of Borrower's ICR and/or Comments on Draft ICR

A. Borrower's Executive Summary of its Completion Report. (Full Completion Report is in IRIS4).

RURAL POVERTY ALLEVIATION PROJECT, PARAÍBA (PCPR-PB)

COMPLETION REPORT

EXECUTIVE SUMMARY

Introduction:

The Paraíba Rural Poverty Alleviation Project (PCP-PB) – known as the COOPERAR Project – was an initiative of the State Government of Paraíba to reduce rural poverty and its consequences in the state through: (a) provision of basic economic and social infrastructure, employment and income opportunities for poor rural laborers; (b) decentralization of the resource allocation and decision-making to local sectors and support to community associations and municipal councils in the planning and implementation of investments; (c) increasing the return on resources mobilized at the community and municipal levels; and, (d) intensifying efforts to create social capital in the poorest rural areas.

The State of Paraíba is one of the nine states comprising the Northeast Region of Brazil. Its geographic area is dominated by semi-arid eco-systems, characterized by long dry periods and periodic rains concentrated in a few months of the year, and by the *caatinga* biomass made up of sparse, low-lying vegetation/scrub, subject to historical and permanent environmental degradation.

Indicators of quality of life position Paraíba among the poorest states in Brazil. In 1990, Paraíba had the lowest Index of Human Development (HDI) among all Brazilian states. In 1996, this index was 0.557, rising to 0.661 by 2000, improving the state's position in the national ranking to the fourth lowest HDI among the 27 states.

Low indicators of quality of life reflect the lack of basic infrastructure and public services, and policies for sustainable development appropriate to regional and local conditions. This situation is most critical in the rural zone, where subsistence agriculture on small landholdings predominates, there is little opportunity for salaried employment and access of the population to their essential rights as citizens to health, housing, education and other services, is precarious and limited.

Problems in the rural space are aggravated by the prevalence of adverse agro-climatic conditions (poor soils, scarce natural resources) as well as limited technical assistance and low adoption rates of new production technology, all factors which limit labor productivity and restrict a wide range of income-generating activities.

Recent studies and statistical data show that indicators of quality of life have improved as a consequence of government programs and private initiatives to reduce social inequalities. But they are surely only incipient when confronted by the predominant poverty and population growth.

The COOPERAR project was much more an integrated effort of the State Government, public and private institutions and of the rural population to combat the causes and consequences of poverty in the territory of Paraíba.

The project was possible through financing from the Loan Agreement no. 4251-BR, signed on February 16, 1998 between the State Government of Paraíba and the International Bank for Reconstruction and Development – IBRD (World Bank). Total resources to be financed and invested, as intended at appraisal were US$80.0 million of which the Bank would participate with US$60.0 million (75%), State Government with US$12.9 million (16.1%) and beneficiaries US$7.1 million (8.9%).

Project execution was intended to take five years, Closing in June 30, 2003, but was extended by three years to end-June 2006. General coordination was the responsibility of the Secretary of Planning and Management (SEPLAN), and to manage execution, a te4chnical Unit was established. Associations and Municipal Councils acted as co-executors.

Project Components and Strategy:

The COOPERAR Project comprised three components: Community Subprojects, Institutional Development and Project Administration. The first and most important, with 88.7% of total Project resources, consisted of providing community associations with non-reimbursable resources (grants) to finance infrastructure, productive and social subprojects. This component had three subcomponents corresponding to different levels of decentralization and different implementation processes: *Community Support Program (PAC); Municipal Community Funds (FUMAC); and Pilot Municipal Community Funds (FUMAC-P).*

The execution strategy would be based on the mobilization of communities to take local decisions about needed investments. Communities would be stimulated to discuss their problems and needs and define their demands, and to form associations to bring their requests and participate in their planning, implementation and maintenance of community subprojects, so that they would be sustainable and create social capital. .

Subprojects had to be prepared, approved/selected, contracted, executed and evaluated based on a set of regulations, recommendations and criteria established in a Project Operational Manual.

The area of project reach encompassed 222 municipalities, excluding only the totally urban municipality of João Pessoa.

As its main target, the COOPERAR Project was to attend some 141,000 families or around 705,000 people with the financing of 2,840 subprojects to improve quality of life.

The principal beneficiaries or target population of the project would be the poorest inhabitants of rural communities and municipal centers of the state with up to 7,500 inhabitants, including indigenous populations. The Project would specifically ensure conditions for the full participation of women whether in traditional or new activities.

To guarantee the indispensable conditions for execution, resources were allocated and effort made in institutional development and project management including actions in training, technical assistance and consultants for the community associations, Municipal Councils and the personnel of the State technical Unit, as well as investments in modernizing the operational capacity of the STU.

Project Results and Impact

With project execution completed, the results obtained show that most targets were exceeded and benefits and impacts were beyond expectations, even though it is still relatively early to infer benefits from investments realized.

The principal physical target, which was to implement 2,840 community subprojects, was exceeded with the approval and execution of 3,373 subprojects, about 20% higher than expected. This number corresponds to attending 47% of all investments demanded (about 7,202 proposals).

Of the total subprojects approved and executed, 2.964 (88%) were investments in infrastructure, 255 (7,5%) were social investments and 154 (4.5%) were investments in productive activities. The total value of these investments was R$183.5 million, an average cost per subproject of R$54,400.

All municipalities of the state were attended. Investments directly benefited 154,000 families, equivalent to 770,000 persons or about 80% of the rural population of the state, including 1,060 indigenous families and 162 Afro-descendent families.

Infrastructure: Infrastructure subprojects alone attended more than 125,000 families. Consistent with the major needs of the rural population, the largest grouping of subprojects was in rural electrification (1,523) and water supply (971). Electric energy is the essential complement for the pumping of water for domestic consumption and an indispensable input for establishing productive ventures which generate income. Over 62,000 families acquired electricity connection to their homes with the support of the COOPERAR Project, which invested R$108.0 million in this type of subproject.

Confronting the problem of water scarcity required the construction of 17 small-scale subterranean dams and 264 cistern subprojects benefiting 6,300 families. Cistern subprojects resulted in the construction of 5,077 separate water-retention structures each with capacity to store 16,000 liters of clean water.

Complementary to the provision of drinkable water is the concern with reducing the population's health problems, resulting in the financing of 92 household sanitation subprojects serving 2,754 families.

Social: Within the category of social investments, the most notable was the financing of 150 housing improvement subprojects involving construction of 6,442 homes benefiting more than 30,000 people. Also notable, the project financed 17 community crêches benefiting over 2,000 families, creating the conditions for mothers of small children to be occupied in productive activities and generating opportunities for employment of women to manage the crêches.

Some 53 multi-use and cultural centers were built in 53 locations. In addition, another six subprojects supported education and culture, including actions to rescue cultural traditions, strengthen folkloric groups and promote reading through traveling libraries.

Productive: In regard to productive investments, it can be observed that they were made possible/viable principally through prior investments in rural electrification. The financing and acquisition of 28 grain processing machines is benefiting 1,500 families. Even more important for the local, municipal and state economies, and even though the numbers of families directly

benefited was lower (1,336), the financing of 14 plants for processing of milk and derivatives is injecting new dynamism into the state dairy industry.

Another 1.250 families were benefited with the installation of 18 manioc mills. Another 12 subprojects supporting various productive activities are benefiting a furthert 1,000 families. Complementing these investments, seven storage facilities were financed to shelter and further process product before its discharge to markets.

As an incentive to expand the work of craft producers in Paraíba, an activity dominated by women, and placement of their products in markets, the project also financed 21 craft subprojects benefiting directly over 800 families.

Integration with Other Programs: The COOPERAR Project integrated with and supported other government programs for poverty reduction in the State, developing complementary actions to increase the potential of investments and expand the reach and numbers of beneficiaries. Some R$24.3 million were invested in the following programs: *Leite da Paraíba, A Paraíba em Suas Mãos, Luz para Todos, Ação Emergencial Camará e Ação Estruturante Perímetro Irrigado das Várzeas de Sousa.* Besides these, the project supported the *Programa de Alfabetização Solidária*, which in three years, successfully made literate some 1,295 persons.

Institutional Developmement: All these results correspond to an intense work with the community associations, Municipal Councils and the project State Technical Unit in an integrated effort to mobilize communities, encompassing: publicizing the Project and its mechanisms for participation, the definition and delivery of demands or proposals, and the execution and operation of subprojects.

Some 3,360 community associations were organized (or reactivated) and benefited, double the number estimated at appraisal. The Project also organized or restructured some 199 Municipal Councils, about 50% more than foreseen.

Impact

The investments carried out and the successes obtained by communities produced immediate effects which are still multiplying and have positive outcomes/repercussions in locations directly assisted, in the municipalities and for the state. Improvements introduced in the countryside and in villages and hamlets, as much in terms of infrastructure works as social and productive ventures, have already significantly modified living conditions of the population and contributed to raising principal indicators of human development of the State of Paraíba.

Rural Electrification and Water Supply: With the contribution of the COOPERAR Project, the State of Paraíba has doubled its supply of energy in the countryside. This access to energy has made possible the capture, pumping and distribution of water in villages and hamlets previously lacking any supply. About 1,000 communities now have potable water. Before, the scant water available was collected manually from far-distant springs and waterholes used equally by animals and contaminated with their residues, and requiring long journeys on foot. Generally transported in cans on the head or on donkeys and used for drinking, cooking, laundry, watering of plants in household field and for personal bathing, the poor quality of this water was always associated with sickness such as diarrhea, worms, amoebic infections, allergies and the deaths of children and adults.

Electric light and potable water has contributed to reducing the incidence of disease and the infant mortality rate in Paraíba, which fell more than 30% in the past ten years. With electricity, people have come to acquire electrical appliances to better conserve and prepare food, as well as to diversify the basic food "basket" with fruits, vegetables and fresh meat, which can now be kept in refrigerators. Family diets have improved and hygiene habits also.

Electrification in the countryside has permitted night classes in schools, bringing in new groups of students, the implementation of new series of classes, and increase in education and/or opportunities for study in poor communities.

Education: Complementary investments in educational support have provided opportunity for literacy courses for youth and adults and improved learning in general. In the period from 1997 – 2004, the number of illiterates aged 15 and above fell more than 11%. Youth also gained access to information technology equipment and to training for electronic computing, expanding in this way their chances of obtaining work.

Access Roads: Improvements in access roads helped to lift communities out of isolation, facilitating and making more rapid their movement to and from city centers. The previous precariousness of the roads made it difficult, for example, to transport a sick person for treatment and for the flow of small-scale agricultural and craft production to markets. The recuperation of roads is also contributing to a great flow of people between neighboring villages, improving the integration of communities and social interchange.

Productive Subprojects: The economy of the villages, hamlets and municipal centers has become more dynamic, above all with the productive investments which generate income. For the installation and maintenance of productive subprojects, machinery, implements, inputs, irrigation equipment and many other materials are required. The demand for these products has stimulated local business/commerce which has also started to re-sell some of these. The increase in local production and of marketing has expanded the relationships of exchange and the flow of transport vehicles between cities and the countryside, whether to bring items to the countryside or bring local production to the city markets.

Application of part of the additional income to new productive activities, in new commercial facilities and the refinement or improvement of physical and social structures created with support of the COOPERAR Project is feeding into a virtuous circle and increasing social capital.

The actions carried out, the results and effects obtained and the changes in process in rural areas of Paraíba show that the COOPERAR Project achieved its objective of contributing to the reduction of rural poverty in Paraíba. The increase in the state's Human Development Index (HDI) incorporating reduced incidence of sickness and infant mortality, expansion of basic services such as water supply and electricity, reduced illiteracy, increased incomes, reduced percentage of indigents and other indicators, are the principal evidence for this. It is, the motivation of beneficiaries to preserve and expand what they have achieved and seek new achievements that evidences gains in social capital, and is perhaps the strongest and most impressive evidence of project success.

B. Borrower's Letter Commenting on Bank's Draft ICR

GOVERNO DA PARAÍBA

SECRETARIA DE ESTADO DE PLANEJAMENTO E GESTÃO
PROJETO COOPERAR

João Pessoa, 21 de março de 2007

Prezado Dr. Jorge Muñoz,

Ao tempo em que cumprimentamos Vossa Senhoria, reportamo-nos à versão preliminar, que tivemos a satisfação de receber, do Relatório Final de Implementação e de Resultados (ICR) do Projeto de Combate à Pobreza Rural (Projeto COOPERAR), encerrado em 30 de junho de 2006, com desembolso integral dos US$60,00 milhões oriundos do Acordo de Empréstimo, firmado entre o Banco Mundial e o Governo do Estado da Paraíba (Acordo 4251-BR).

Inicialmente, cumpre-nos ressaltar que, em linhas gerais, o ICR reflete os eventos principais que marcaram a execução do Projeto COOPERAR durante os oito anos. Ficamos também gratificados em notar que os dados, as informações e as conclusões constantes do ICR coincidem, em sua grande maioria, com aquelas apresentadas no Relatório de Conclusão preparado pela equipe técnica do COOPERAR. Adicionalmente, constatamos o uso extensivo das informações contidas nos documentos fornecidos pela nossa Unidade Técnica, como subsídio para a preparação do ICR. Ressalte-se que parte desses estudos encontra-se transcrita nos anexos desse documento, com especial destaque para os depoimentos dos beneficiários, registrados no estudo de "Avaliação dos Impactos do Projeto", realizado pelo IDEME(Instituto de Desenvolvimento Municipal e Estadual da Paraíba).

A partir da análise detalhada que fizemos, registramos que o documento em questão, entre outras conclusões positivas, ressalta que a) o Projeto Cooperar atingiu de forma satisfatória os seus objetivos de desenvolvimento; b) os problemas de implementação ocorridos nos quatro primeiros anos foram corrigidos, conseguindo-se ao final, fazer com que o Projeto, não somente alcançasse, mas superasse as suas principais metas; e, c) como conseqüência das conclusões anteriores, o ICR afirma peremptoriamente, *"Dado que o Projeto atendeu 80% do total da população pobre da zona rural, através de cerca de 3.400 investimentos comunitários, dos quais 88% foram de eletrificação e abastecimento de água, incluindo os investimentos produtivos, dos quais, 60% são iniciativas orientadas para mercados mais competitivos, este ICR conclui que o Projeto COOPERAR fez e continua a fazer importante contribuição para a melhoria dos indicadores sócio-econômicos do Estado"*, particularmente o IDH.

Vale ressaltar que o êxito acima descrito, em nossa opinião, decorre dos seguintes fatores fundamentais:

a) O status de absoluta prioridade dado ao Projeto COOPERAR pelo Governo do Estado, principalmente a partir de 2003, em termos de oportuna e suficiente provisão da

contrapartida, estrito cumprimento dos compromissos acordados com o Banco Mundial; sinergia positiva dos recursos decorrente da integração com outros programas governamentais; e sistemático acompanhamento pessoal do Governador aos principais eventos do Projeto. O grau desta importância culmina com a recente iniciativa do Governo do Estado para obter um novo empréstimo que dará continuidade às ações exitosas desenvolvidas no contexto do Projeto encerrado.

b) A permanência da equipe técnica e administrativa do COOPERAR, cuja competência e diuturna dedicação foram – e continuam sendo – de importância crucial para o alcance dos sucessos avaliados e constatados no ICR, tendo contado com todo o respaldo do Governo.

c) O estreito e permanente relacionamento com o Escritório do Banco Mundial em Recife, cuja equipe técnica, além do trabalho regular de supervisão e acompanhamento, nos brindou com aconselhamentos e orientações, que foram seminais para a "correção de rumos" e o alcance dos resultados.

Torna-se oportuno, ainda, consignar a nossa concordância com as "notas" ou "ratings" dados aos diversos itens que compuseram a avaliação, a saber: **Alta** para o item "Relevância dos Objetivos, Desenho e Implementação do Projeto; **Satisfatório** para os itens "Alcance Global dos Objetivos de Desenvolvimento do Projeto", "Desempenho Global do Banco" e "Desempenho do Governo da Paraíba".

Por outro lado, com respeito à classificação de **Moderadamente Satisfatório** dada ao desempenho das Agências Executoras, – particularmente a Unidade Técnica (COOPERAR) – tomamos a liberdade de registrar os seguintes comentários:

a) Que os problemas ocorridos na primeira metade da execução do Projeto decorreram de decisões políticas possivelmente equivocadas, tomadas ao nível de esfera superior. O relatado "turn-over" de pessoal se deu, basicamente, nas posições de comando, não se originando, portanto, do desinteresse nem da incompetência da equipe técnica e administrativa. Muito pelo contrário: mesmo no mencionado período de dificuldades, conforme registra o ICR, essas equipes deram demonstração de interesse e compromisso para manter as diretrizes do Projeto.

b) Tão logo as orientações superiores mudaram - e com o retorno de parte da equipe com experiência anterior -, a Unidade Técnica mostrou-se hábil em reativar e reorientar a execução do Projeto, recuperando o atraso, inclusive com superação das metas previstas, como acima mencionado.

c) Durante a execução do Projeto, os relatórios de Auditoria aprovaram os procedimentos adotados com relação aos controles financeiros e processos de licitações realizados.

Isto posto, a nossa opinião é de que a classificação acima deveria ser revista para **Satisfatória,** pelo fato de que os aspectos positivos relacionados ao desempenho das Agências Executoras – extensivamente listados no ICR e, conclusivamente, resumidos no item 5.2 (a) e (b) – superam e até mesmo anulam os problemas enfrentados na primeira metade do Projeto.

Com relação a aspectos mais pontuais do Relatório, gostaríamos de tecer os seguintes comentários, todos eles à guisa de esclarecimentos complementares:

a) O fato de haver uma forte concentração de investimentos em eletrificação foi altamente positivo para o sucesso do Projeto. Na verdade, a experiência de campo demonstrou que esta é a demanda básica e inicial de qualquer comunidade pobre, quando desprovida deste benefício. Na sua percepção, que nos parece correta, a energia é o investimento primordial, imprescindível para viabilizar outras ações vitais, tais como, abastecimento de água, melhoria do ensino, acesso aos meios de comunicação, pequenos negócios e aumento da auto-estima da comunidade. Portanto, queremos reafirmar que a prioridade dada à energia e ao abastecimento de água representa a mais evidente demonstração da total adesão deste Projeto à abordagem CDD, pactuada com o Banco Mundial.

b) Merece comentário a assertiva, registrada no item 3.5 do ICR, de que há uma crescente tendência dos Governos – inclusive da Paraíba -- em demandar que elementos-chaves de suas estratégias de desenvolvimento sejam incluídos nos Projetos CDD. A nossa opinião é de que esta etapa representa um avanço na abordagem participativa e não uma "diluição da sua pureza" ou um retrocesso centralizador. Isto porque, uma vez criados os Conselhos Municipais em todos os municípios, estabelecidas milhares de associações comunitárias e atendidas as necessidades primárias, o Governo agora é instado a avançar, propondo e discutindo com essas instâncias participativas ações adicionais que podem não ser percebidas como necessidades pelas comunidades, em razão da sua própria situação de pobreza, mas que são essenciais ao desenvolvimento auto-sustentado e imprescindíveis para romper o ciclo de pobreza. É o caso, por exemplo, da proposta a ser desenvolvida no próximo Projeto no sentido de articular os pequenos produtores com os mercados globais.

Vale mencionar que, dados os resultados positivos do Projeto, o Governador do Estado decidiu alocar toda a capacidade fiscal de endividamento do Estado para uma única operação de crédito, visando o financiamento do Cooperar II. Tendo em vista que essa capacidade, inicialmente definida em US$ 20,9 milhões, se apresenta aquém das necessidades, o Governo do Estado está presentemente promovendo gestões junto ao Governo Federal, visando o aumento desse valor.

Por fim, em nome do Senhor Governador do Estado, do Secretário de Estado de Planejamento e Gestão e da equipe do COOPERAR, apresentamos congratulações a Vossa Senhoria e à equipe do Banco responsável pelo Relatório, que representa um documento de inegável importância informativa e, certamente, constituirá uma referência obrigatória na concepção do COOPERAR II, bem como para outros programas, visando a redução dos níveis de pobreza no Estado.

Reiterando protestos de distinto apreço, subscrevo-me

Atenciosamente,

Sonia Maria Germano de Figueiredo
Coordenadora Geral

Annex 8. Comments of Cofinanciers and Other Partners/Stakeholders

NA

Annex 9. List of Supporting Documents

Staff Appraisal Report (SAR), Report No. 16757-BR, October 23, 1997

Decentralized Rural Development, Enhanced Community Participation and Local Government Performance: Evidence from Northeast Brazil, van Zyl, Sonn and Costa, July 2000

Can Community-Driven Infrastructure Programs Contribute to Social Capital – Findings from the Rural Northeast of Brazil, Costa and Rizvi, May 2003

Projeto Produzir – Funcionamento e Resultados Imediatos: Estados do Bahia, Ceará e Piauí– Relatórios de Consultoria Técnica, FECAMP 2005 (separate, similar studies)

Projetos Renascer (PE), Produzir (BA) e São José (CE) – Perfil Socioeconomico da População Beneficiaria - Fase II, Relatorio de Consultoria Técnica, FECAMP, 2004

Borrower Completion Report, /Secretariat of Planning and Development/Projeto COOPERAR, January 2007

Avaliação das Atividades do Projeto de Combate á Pobreza Rural – PCPR, IDEME/SEPLAN, 2006

Rural Poverty Reduction Program (RPRP): Evaluation, Binswanger et al., Preliminary Report, June 2006 (forthcoming, 2007).

Notas sobre os Resultados e Impactos do Projeto de Combate á Pobreza Rural do Estado da Paraíba – Projeto Cooperar, T. Barbosa, March 2007

Impactos das Ações do Projeto COOPERAR – O associativismo na apicultura contribuindo para sustentabilidade do semi-arido Paraíbano, de Oliveira, 2006

Supervision and MTR Aide Memoires and PSRs/ISRs, 1998-2006

Project Audit Reports, 1998-2006

Annual Progress Reports

Annex 10. Environmental Assessment Measures – Selected Subprojects

GOVERNO DO ESTADO DA PARAÍBA

SECRETARIA DO PLANEJAMENTO

DEPARTAMENTO DE MONITORAMENTO - DEMIG

SUB-PROJECT ANALYSIS OF ENVIRONMENTAL IMPACT

Presented below is a brief summary of procedures and measures adopted during the preparation and installation of subprojects under the Rural Poverty Alleviation Project (4251-BR), consistent with World Bank environmental safeguards and protection of the environment. The examples are illustrative, not exhaustive.

Even though subprojects financed are of small scale, with reduced capacity to impact the environment, measures were consistently taken to reduce negative impacts, incorporating protection, recuperation and conservation, and adopting criteria for preservation and improvements in eligible subprojects.

Procedures adopted were initiated from the analysis to approval phases and into the installation and management stages. In the initial phase, technical, economic and environmental viability are analyzed, based on the criteria, guidance and monitoring factors summarized below:

1 – Subproject: Construction of Dams and Reservoirs

Subproject analysis is done in partnership with AESA.[(1)], the entity responsible for managing the multiple use of water (Analysis, Opinion and Licensing):

- Control of location – number of dams already existing in the same hydrographic basin;
- Land clearing – siltation, flooding, preservation of fauna and flora.
- Exploitation of Jazidas – soil degradation.
- Flood plain area - micro-climate, fauna and flora.

Measures adopted:

- Removal and shifting of vegetation residues to an appropriate location
- Campaign of reforestation
- Preservation of animal species
- Control of the use and handling of the reservoir
- Monitoring and evaluation is done by UFPB[(2)] /ATECEL[(3)]

2 – Subproject: Water Supply

Analysis is done in partnership with CDRM[(4)]/PB, the entity responsible for development, sustainability and exploitation of subterranean mineral and water resources.

- Nature of the source where water is captured - capacity to service requirements and proximity to sources of contamination.
- Water quality – drinkability/potability
- Conveyance and distribution – form of conveyance
- Reservoir – water treatment

Measures adopted:

- Quantitative control of sources of water capture
- Conveyance controls – to avoid installation in the open air
- Distribution – to avoid proximity to polluted channels
- Native vegetation - preservation
- Training for the adequate management and use of the system installed, in partnership with CDRM
- Preparation of educational brochures
- Training of the multi-disciplinary team to assist the process of managing and preserving water supply systems.

3 - Cistern

Analysis:

- **Location** – proximity to sources of contamination
- **Sealing cap for the cistern** – quality of the seal
- **Water entry filter, manual suction pump, and tiled overflow** – existence

Measures adopted:

- Education of the community in the handling and use of the water
- Mobilization, awareness-building and guidance on the use and handling of the system installed.

4 - Manioc Mill

Analysis is conducted in partnership with EMATER/PB, entity responsible for technical assistance and rural extension.

- **Location –** Proximity to residences, sources of water and electricity
- **Projects are approved which have:**
-
    1. Use of the electricity lines to avoid land clearing
    2. System for the treatment of effluents.
    3. Chimneys which can filter pollutants

Measures adopted:

- Hygienic practices in the use and handling of equipment
- Projects are approved which use the electrcity network, to avoid land clearing.
- Installation of water tank and faucet to promote cleanliness
- Construction of a tank for liquid residues

- Training for the utilization of liquid and solid residues, envisaging their use in fertilizers and animal rations/feed, respectively
- Maintenance and management of the subproject

5 – Subproject: Desalinization Equipment

Analysis:

- Physical and chemical analysis and water flow
- Technical and economic viability of the subproject
- Definition and feasibility - economic and financial – for the utilization of waste-water in fish farming, kitchen gardens etc.
- Maintenance and management of the facility.
- Project analyzed and evaluated through consultation with UFPB[(2)]

6 – Subproject: Tractor and Equipment
Analysis:

- Soil compaction and thickening
- Actions foreseen under the subproject which do not provoke erosion of the type referred to as *heólicas, laminar, sulcos, vossorocas* and land clearing.

Measures adopted:

- Preparation of the surface layer of the soil
- Crop rotation
- Inter-cropping areas to be cultivated
- Soil preparation in contour curve
- Training of tractor operators in the adequate utilization and handling of the tractor and its equipment, and in practices for soil conservation.

ASSOCIATED ENTITIES

(1) AESA – Executive Agency for Water Management
(2) UFPB – Federal University of Paraíba
(3) ATECEL – Scientific-Technical Association
(4) CDRM – Mineral Resources Development Company

Other entities working in consortia:

- **EMATER** – Technical Assistance and Rural Extension Company
- **DFA** – Federal Delegation of the Ministry of Agriculture and Supply
- State and Municipal Secretaries of Agriculture