



1. Project Data:		Date Posted : 02/04/2002	
PROJ ID: P006453		Appraisal	Actual
Project Name: Northeast Irrigation Project	Project Costs (US\$M)	465	398.4
Country: Brazil	Loan/Credit (US\$M)	210	141
Sector(s): Board: RDV - Irrigation and drainage (90%), Central government administration (10%)	Cofinancing (US\$M)		
L/C Number: L3170			
	Board Approval (FY)		90
Partners involved :	Closing Date	06/30/1995	12/31/2000
Prepared by :	Reviewed by :	Group Manager :	Group:
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2. Project Objectives and Components

a. Objectives
There were two: i) increase agricultural production in the drought-prone area of the Brazilian North East, through the development and irrigation of 51,000 ha; and ii) strengthen institutional arrangements for irrigation development by promoting increased farmer involvement through the creation of user-governed irrigation districts and by improving public agency performance. At the request of the GOB, the project was restructured in 1995, but its main objectives were maintained.

b. Components
There were three:

- construction of six public irrigation schemes in three NE States - Bahia, Ceara and Piaui;
- operation of new private irrigation districts including agricultural extension; and
- provision of technical assistance to the executing agencies - CODEVASF in Bahia, DNOCS in Ceara, and DNOS in Piaui.

The 1995 restructuring involved:

- the irrigated area target was trimmed to 32,300 ha by excluding the civil works and implementation of agricultural development in two irrigation schemes in the State of PIAUI, however their detailed designs would still be funded;
- the addition of the emergency rehabilitation of the Itiuba irrigation project, severely damaged by floods, in the State of ALAGOAS.

In May 2000, agricultural development activities were extended to include : i) "specific interventions" in the Araras Norte project CEARA; ii) the Jaiba project in MINAS-GERAIS; and iii) the Baixo Acu project in the State of RIO GRANDE DO NORTE.

c. Comments on Project Cost, Financing and Dates
Project cost, initially estimated at US\$ 465 million, was substantially revised (following restructuring in January 1995) to US\$ 309 million. Protracted international procurement, appreciation of the Real and institutional problems resulted in considerably increased expenditure so that estimated final completion cost - US\$ 430 million - was significantly higher(40%) than revised estimate. Finally, even though the loan implementation period was "mistakenly" reduced from 7 to 4 years at appraisal, it took more than 9 years before the project was closed - and it is still not fully completed. The loan agreement was amended five times, loan proceeds were reallocated six times and loan closing date was extended three times by a total of five and a half years .

3. Achievement of Relevant Objectives:
Objectives were partially achieved. At completion, 6,977 ha (21% of revised target) were fully operational in BAHIA State and this was expected to increase to 15,900 ha (50% of target) by the end of 2001. The ICR states that the risk of not completing the remaining 14,000 ha in CEARA State is "considerable." Despite this, the ICR projects that full production will be achieved in the whole area by 2009 and that the ex-post ERR will be 18% compared with 16% at appraisal. Institutional performance was mixed. Technical assistance and agricultural extension appear to be

satisfactory in BAHIA although cooperatives for marketing have been abandoned in favor of farmer Associations . In CEARA, organization and training of farmers is on-going and the final outcome is unknown . An innovative youth training program (Projeto Amanha) developed under a preceding Bank project is being implemented in CEARA and BAHIA. Attempt to improve public agency performance was singularly unsuccessful at the federal level due to reorganization and agency intransigence (e.g DNOS). Conversely, CODEVASF and CEARA State irrigation and agriculture development showed substantial improvements in effectiveness .

4. Significant Outcomes/Impacts:

- Regarding the physical component, the most significant outcomes are limited to the completion of infrastructure for the two irrigation sub-projects in BAHIA (11,300 ha). 7,600 ha has been allocated to medium and large farmers and 3,700 ha has been earmarked for settlement by small farmers . 90% of the major hydraulic infrastructure and irrigation systems for the two sub -projects in CEARA is complete .
- From 1995, greater emphasis was placed on institutional development : the creation and training of user-governed and managed irrigation district, user training, and the provision of agricultural development services to small farmers. In BAHIA, the irrigation districts are active and all the small farmers who settled are receiving technical assistance and agricultural extension services . In CEARA, the irrigation districts are being organized, new irrigation techniques have been introduced - together with new cropping methods - and a consortium of international and domestic firms is providing technical assistance .
- No information is provided about the outputs or outcomes related to the implementation of the sub -projects added to the components at the time of reformulation .

5. Significant Shortcomings (including non-compliance with safeguard policies):

- Appraisal of such a complex project was less than satisfactory . Risks related to instability of the economic, political and institutional environment were underestimated, public sector funding ability was overestimated, and managerial capacity was inadequate .
- Engineering components were not sufficiently appraised and design weaknesses led to significant cost overruns. Average irrigation costs were \$ 14,020 per ha in Bahia and are projected to be \$ 11,590 in Ceara. At appraisal costs were estimated to be \$ 6,370 per ha.
- Involuntary resettlement was an issue (as described in the SAR, para 3.10) potentially affecting 980 families, yet there is no indication as to whether, or how, the Bank's safeguard policy was complied with .
- The project design was extremely complex involving a large number of federal and state agencies - and became more so during implementation - coverage increasing from 3 to 6 states after restructuring .
- Some project activities are still not implemented with a considerable risk of no completion .
- There is no reported progress on new activities introduced at restructuring .
- Executing agencies, except CODEVASF, did not fulfill their duties as expected due to a moving institutional setup and frequent staffing changes .
- Procurement problems stemmed from difficulties in adopting Bank procedures and lack of prior agreement with GOB.
- Quality of supervision was hindered by insufficient Bank funding . Inadequate functioning of the M&E system (unavailability of database) made it difficult for both the GOB and the Bank to get a full and complete picture of the progress made, and both failed in working out adequate solutions for more pressing problems .

6. Ratings :	ICR	OED Review	Reason for Disagreement /Comments
Outcome :	Unsatisfactory	Unsatisfactory	
Institutional Dev .:	Modest	Modest	
Sustainability :	Likely	Likely	
Bank Performance :	Satisfactory	Unsatisfactory	Unsatisfactory quality at entry and insufficient monitoring of project after restructuring.
Borrower Perf .:	Unsatisfactory	Unsatisfactory	
Quality of ICR :		Satisfactory	

NOTE: ICR rating values flagged with '*' don't comply with OP/BP 13.55, but are listed for completeness.

7. Lessons of Broad Applicability:

Not less than seventeen lessons are listed in the ICR . Among the most important are:

1. Unbundling big projects makes them more manageable and accountable : performance achievements can be used to trigger the next phase of funding .
2. To assure continuity, sufficient transitional funding and overlap in phases should be provided and the project-financing plan should carefully evaluate the Government's ability to meet counterpart funding requirements at each phase of the programmatic lending process .
3. Building small farmers' confidence through education, training, information and demonstration plots /programs, is a key element for a successful diversification of crop production .
4. Beneficiary selection has a role to play in high -tech projects . An innovative selection process of beneficiaries

through an elaborate bidding process ensured that the recipients had sufficient knowledge and experience in irrigated agriculture to become successful farmers, and thus be able to repay their share of the construction cost and fully cover O&M expenses.

8. Assessment Recommended? ☒ Yes ☐ No

Why? Performance assessment (audit) would be a building block towards OED's forthcoming CAE of Brazil (FY03) which will look at the macroeconomic risk factors and the apparent problems between federal -state implementation. Compliance with the safeguard policy on involuntary resettlement needs verification .

9. Comments on Quality of ICR:

The ICR is rather uneven in its coverage, particularly on new components added after reformulation, and incomplete assessment by components and activities . No reference is made to Ituiba emergency rehabilitation project . The status of resettlement process - if indeed it took place - is not covered.