ICR Review

Operations Evaluation Department

Report Number: ICRR11230

1. Project Data:		Date Posted: 06/19/2002		
PROJ ID:	P003595		Appraisal	Actual
Project Name:	Red Soils II Develop	Project Costs (US$M)	296.5	336.0
Country:	China	Loan/Credit (US$M)	150.0	139.7
Sector(s):	Board: RDV - General agriculture fishing and forestry sector (74%), Agricultural marketing and trade (11%), General transportation sector (8%), Central government administration (6%), General energy sector (1%)	Cofinancing (US$M)	0	0
L/C Number:	C2563			
		Board Approval (FY)		94
Partners involved :		Closing Date	06/30/2001	09/30/2001

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2. Project Objectives and Components

a. Objectives

The project objectives were:

1. Increase production and productivity over a wide range of degraded red soils in Jiangxi, Fujian, Hunan, Zheijang and Guanxi Autonomous Region in the South East of China, South of the Yangzi River .
2. Alleviate poverty by increasing the incomes of underemployed farmers in impoverished and environmentally vulnerable areas.
3. Benefit the environment by improving water and soil conservation, reducing erosion, and promoting sustainable land use and agricultural practices.

b. Components

The project incorporated lower slope irrigation improvement, mid-slope irrigated orchard development and upper slope forestry plantations. The total project cost of $336 million was divided among the 11 components as follows: Land Development (13.3%); Infrastructure Development (11.0%); Buildings (9.4%); Machinery and Vehicles (3.3%); Crop Establishment (28.8%); Livestock and Aquatic Development (14.8%); Rural Energy (.9%); Agro-processing (13.4%); Research (.6%); Training and TA (2.3%); and Project Management (2.2%.)

c. Comments on Project Cost, Financing and Dates

Devaluation of the Chinese Rembini (RMB) by 30%, and moderate inflation of less than 30%, increased the effective scale that could be financed. On average, SAR construction and area targets were exceeded by significantly more than the 30%, while total $ costs increased 13%. Additional funding came from the beneficiaries whose share in project costs increased from 16% at appraisal to 30%. $12 million of IDA funding was diverted to an independent Inner Mongolia Snowstorm Emergency Recovery Component (IMSERC), which is ongoing and will be reviewed separately.

3. Achievement of Relevant Objectives:

1. Output value, in real terms, for the participating farm households increased by 30%. The overall economic and financial NPV was positive, although less than the appraisal estimate due to lower than anticipated output prices and a severe frost in 1999/2000. Scale was greater than anticipated:

- About 26,000 ha of *land terracing* was completed, exceeding the target by 15%.
- 11,700 ha of *paddy rehabilitation* (mainly drainage) and 202 ha of *fishponds* exceeded targets by 109% and 231% respectively
- the 1465 km of *roads* that were constructed exceeded the SAR target by 49%.

- 20,768 ha of *fruit trees* have been established, exceeding target by 26%.
- The economic rate of return for *the watershed development* part of the project was estimated at 19%,compared to 24% at appraisal.
- The project *livestock* component was highly satisfactory with pigs, chickens, geese and ducks financed from 33% to 256% in excess of the original plan.
- The *agro-processing* component did not reach its objectives and overall NPV was probably negative; of 18 sub-projects planned, 4 were never realized, 5 were dropped after initial investments and 2 have suspended production.

2. The project increased living standards for 67,000 households of approximately 350,000 people. Annual per capita net income in 2000 prices more than doubled and household survey data showed this exceeded non-beneficiaries by 20%. Poverty, as measured by households below the poverty-level in the project area, declined from 15%-30% before the project to less than 5%, and in some watersheds the poverty proportion was down to zero.
3. Erosion was reduced - estimated decline in soil run-off coefficient was 24%-78% in project as compared to non-project areas in sample watersheds in Jiangxi, Hunan and Guangxi.

4. Significant Outcomes/Impacts:

1. The project built on the Red Soils Area Development Project and took the agro-ecological concept further by planning and implementing a complex, comprehensive development of 266 micro-watersheds (covering 52,000 ha). This approach also strengthened linkages between agencies.
2. Major technical approaches were demonstrated including contour terracing and planting, orchard irrigation systems, intercropping, deep application of organic and chemical fertilizers, self managed farmer groups and new practices. The SAR estimated that up to 10 million ha of underutilized land has potential for orchards, treecrops, feed crops, pastures and commercial plantations provided proper soil management, soil and water conservation techniques were introduced.
3. The project had a substantial impact on environmental priorities for land and water management, as well as alleviation of poverty. There were environmental benefits from improved soil fertility, reduced soil erosion, improved water availability and increased forest coverage. This was very much in line with the Bank's evolving integrated water resource management policy.
4. The successful completion of such a complex project within 3 months of the anticipated completion date was a considerable achievement.

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

1. Supervision frequency was somewhat low for a project of this complexity and wide scale of implementation.
2. The agroprocessing component was a failure, the shortcomings being common to several early agricultural area development projects.
3. Improved quality of documentation and record keeping, and a greater emphasis on financial management are required to strengthen project management and facilitate repayment of funds from the beneficiaries.
4. Failure to provide timely counterpart funding, and lengthy procurement were recurrent problems.

6. Ratings:	ICR	OED Review	Reason for Disagreement /Comments
Outcome:	Satisfactory	Satisfactory	
Institutional Dev.:	Substantial	Substantial	
Sustainability:	Highly Likely	Highly Likely	
Bank Performance:	Satisfactory	Satisfactory	
Borrower Perf.:	Satisfactory	Satisfactory	
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:

1. The project demonstrated the feasibility of developing entire small watersheds on unused, often barren red soils which cover 21% of China's surface area. The emphasis was on integration of crops-livestock, land conservation, and water balance (between demands and resource availability.) The project was designed with the watershed as the unit for development, while water and soil conservation were strengthened using both vegetative and structural soil/water conservation treatments. Full use of water resources in the watershed was emphasized and long-distance water conveyance abandoned.
2. Project management structure should be embedded in existing line agencies rather than project-specific (as was done under the first Red Soils Area Development Project.)
3. The involvement of the private sector though joint-ventures or buy-outs has provided much needed management skills and working capital, which has resulted in efficient and profitable enterprises. Processing requirements in future projects may be better met by facilitating private participation and investment in commercial entities.
4. Water fees that cover O&M costs, and farmers' involvement in water management, are important factors that sustain benefits.

8. Assessment Recommended? ● Yes ○ No

Why? To further articulate design features and the lessons learned on overcoming implementation problems. Agricultural area development projects of similar complexity, with many different sectoral components, often based on run of the river irrigation and pump conveyancing of water, have not been so efficient . Some have been characterized as "Christmas Tree Projects." Understandably the ICR is unable to go into the details, such as the relative contribution of unused land and rehabilitated irrigation areas, the repayment and fiscal impact of the decentralized approach, and the nature of the diversification required to hedge crop price volatility A PPAR could be part of a cluster, similar to that recently completed for 8 Hunan-Hebei WB-supported projects, located in the different social and geographical conditions of the densely populated 3-H Basins of the North China Plain.

9. Comments on Quality of ICR:

This is a well presented ICR with an unusually thorough ex-post economic analysis.