



1. Project Data:		Date Posted : 08/16/2000	
PROJ ID: P003561		Appraisal	Actual
Project Name: Sichuan Agricultural Development Project	Project Costs (US\$M)	287.62	339.46
Country: China	Loan/Credit (US\$M)	140.77	158.34
Sector(s): Irrigation & Drainage	Cofinancing (US\$M)	0	0
L/C Number: C2411			
	Board Approval (FY)		93
Partners involved :	Closing Date	12/31/1999	12/31/1999
Prepared by :	Reviewed by :	Group Manager :	Group:

2. Project Objectives and Components

a. Objectives
The objective of the project was to support agricultural development in Sichuan province by :
 (1) increasing productivity of existing crops by increasing the land under irrigation and providing a more reliable water supply for drought protection;
 (2) developing operation, maintenance, and cost recovery mechanisms for irrigation systems;
 (3) integrating agricultural inputs, support services, research, and training;
 (4) expanding soil conservation measures and improving soil productivity; and
 (5) expanding local agro-processing activities.
 The project had a special emphasis on increasing farmers' incomes and helping poor women in selected poor and remote areas of the province where incomes were less than 50% of the national average.

b. Components
The project had four components:
 (1) Irrigation: Design, construction, and initiation of operations of the irrigation conveyance systems for the intermediate development phases of three irrigation schemes (Shengzhong, Wudu, and Yangjijaba), and provision of agricultural support services in these areas. (US\$ 202.99 million, or 71.6% of base costs)
 (2) Soil conservation: Establishment of two soil conservation demonstration areas and planting paulonia, Chinese toon, other fast growing trees, gall, Chinese alpine rush, and medicinal plants. (US\$ 17.63 million, or 6.1% of base costs)
 (3) Income generation: Production of mulberry and silk cocoon with expansion of supporting services, rehabilitation of tea gardens, and establishment of livestock production bases for goats, geese, and rabbits. (US\$ 24.61 million, or 8.6% of base costs)
 (4) Processing: Rehabilitation and expansion of two paper mills, and establishment of a rabbit hair spinning mill as well as gallnut, goat, and geese processing plants. (US\$ 42.39 million, or 14.7% of base costs)

c. Comments on Project Cost, Financing and Dates
The project closed on schedule. The total project cost was 18% more than appraisal estimates due to the increased cost of constructing the irrigation works, in spite of the depreciation of the Yuan. The entire IDA credit was disbursed. The IDA credit contributed 48.9% of total costs at appraisal and 46.6% at completion.

3. Achievement of Relevant Objectives:
The project successfully achieved most of its objectives, although this varies somewhat from the highly successful irrigation component to the less successful soil conservation component (see 4 and 5 below). The ERR for the whole project was re-estimated at 25%, compared to 26% at appraisal. The institutional development impact has been positive and substantial -- project staff at all levels have acquired valuable experience in project planning and implementation. According to a sample survey, the incomes of beneficiaries have increased substantially under the project, the impact of droughts has been reduced, forest coverage has increased, the ecological environment improved, agro-technical service facilities established, and agro-processing capacity raised. The project created 650,000 jobs in the project area, including 350,000 jobs for women.

4. Significant Outcomes/Impacts:
 (1) The Shengzhong, Wudu, and Yangjijaba subprojects, covering 12 counties within the relatively poor prefectures

of Nanchong, Mianyang, and Guangyuan were successfully completed generally on schedule, notwithstanding floods which damaged parts of the Wudu scheme and construction problems associated with the geology of the region. The net irrigated area of 155,290 ha (compared to 135,200 ha at appraisal) represents about 7% of the total for Sichuan.

(2) Improved irrigation and agricultural support services in the 12 counties have increased cropping intensities, crop yields, and outputs that fully meet appraisal expectations .

(3) The project has been successful in promoting income-generating activities such as sericulture, goat, rabbit and goose keeping, and tea rehabilitation . The All China Women's Federation has particularly noted the beneficial impact on women's income.

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

(1) While most agro-processing plants (for wool, goose products, tannic acid, and meat) have been successfully established, the Pengshui pulp and paper mill has had major problems, including design for a paper quality which has become unprofitable, lack of raw material, an incomplete and inadequate effluent treatment plant, dilapidated or inadequate equipment, and lack of working capital and a commercial partner .

(2) Two soil conservation demonstration areas, aimed at developing an expanded menu of technological options and training a cadre of technical staff, have been established in Guangyuan and Qianjiang prefectures . However, the land terracing and small conservation works that have been tested have so far not proved affordable in Qianjiang, farmers have difficulty repaying loans, and the planned revolving fund did not become operational .

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) It is important to provide timely agricultural support services in conjunction with irrigation investments in order to get the full benefit of the irrigation investments . In this case, as soon as the irrigation investments were complete and incremental water made available, appropriate technologies were also available from the research stations, extension staff were well-trained in these technologies, and complementary agricultural inputs were available on local markets.

(2) While it is reasonable to expect beneficiaries to pay for the cost of soil conservation works on their own private land by means of loans from a revolving fund, it is not reasonable to expect beneficiaries to pay the full cost of soil conservation works (such as riverbank protection and re-vegetation of uncultivated mountainous areas) on public/communal land.

(3) The lending rates of revolving funds supported by the project should be competitive with mainstream credit institutions in order for the revolving funds to be sustainable .

(4) Future projects involving agro-processing should require regular review of market demand and technological standards, and make any necessary adjustments to plant and equipment design during project implementation . In this case, several processing plants invested in equipment which was obsolete almost as soon as the investments had been made.

8. Assessment Recommended? Yes No

Why? The project has lessons with respect to irrigation management and natural resource management that are potentially applicable more broadly . It would be valuable to learn more about the institutional arrangements associated with the project. From the ICR, these appear to have been rather top-down rather than demand-driven.

9. Comments on Quality of ICR:

The ICR was satisfactory with the following exceptions . The economic rate of return, the financial impact, and the institutional development impact at the end of section 4.2 simply repeated the material immediately following in sections 4.3, 4.4, and 4.5. From the ICR, it is unclear to what extent the project beneficiaries were involved in project preparation and implementation . The supporting documents listed in Annex 7 should have been attached to the ICR.