



1. Project Data:		Date Posted : 07/29/2002	
PROJ ID: P003557		Appraisal	Actual
Project Name: Forest Resource Dev	Project Costs (US\$M)	356.0	361.7
Country: China	Loan/Credit (US\$M)	200.0	193.6
Sector(s): Board: RDV - Forestry (99%), Agricultural extension and research (1%)	Cofinancing (US\$M)	18.4	18.4
L/C Number: C2623			
	Board Approval (FY)		94
Partners involved : GEF	Closing Date	12/31/2001	12/31/2001

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2. Project Objectives and Components

a. Objectives

The objectives of the project were to enhance the productivity of forest resources, the efficiency of resource use, and the institutional capacity for sustainable management in the three major types of forest in the country; plantations, watershed protection forests, and nature reserves .

b. Components

The project had six components :

- *Intensively Managed Plantations* - (67% of project costs). To establish 620,000 hectares (Ha) of plantations for timber supply in 16 provinces as a second phase of the plantation program initiated under the National Afforestation Project (NAP);
- *Multiple-use Protection Forest* - (13% of project cost). To establish 280,000 Ha of watershed protection forest in the middle and upper reaches of the Yangtze River basin, based on new silvicultural models and improved land-use planning;
- *Nature Reserves Management* -(6% of project cost). To enhance biodiversity conservation through support for new management of natural forest habitats for Giant Pandas and other endangered species, and for development of new training, research, and information management programs; **[Note:** This component was financed by GEF and was carried out as a separate project that closed on June 30, 2002. It will be the subject of a separate ICR]
- *Planting Stock Development and Nursery Management* (12% of project cost). To raise the quality of planting materials through introduction of new genetic materials and nursery management technologies, and to support the production of 2.1 billion seedlings for the afforestation program;
- *Research and Technology Transfer* (1% of project cost). To strengthen the operational focus of relevant research and extension in China through provision of technical assistance and operating support for eleven priority research programs, experimental programs, and a field extension network; and
- *Institutional Capacity Building* (1% of project cost). To strengthen the capacity of public and private sector institutions in forestry through support for training and technical assistance, development of an information management system, development of a new private sector promotion agency, and to carry out policy studies .

c. Comments on Project Cost, Financing and Dates

Actual project cost was US\$361.7 million (including the cost of the Nature Reserves Component, which is subject to revision in the pending ICR) compared with the appraisal estimate of US\$356 million, an increase of 1.6 percent. IDA financing was 3% below the appraisal estimate but was more than offset by increased contributions from local governments and beneficiaries. The project was completed on time.

3. Achievement of Relevant Objectives:

The project generally appears to have achieved its objectives and is expected to generate most of the expected benefits. The targets for forest establishment were met. On the institutional side domestic training and extension programs disseminated improved silvicultural techniques and project management experience to the project agencies and other entities. However, the number involved in overseas training and international technical

assistance was less than planned, which has limited the introduction of external experience .

4. Significant Outcomes/Impacts:

- *Intensively Managed Plantations.* About 750,000 Ha of intensively managed plantations were established, more than 20% above the target. The plantations were generally well maintained, with an average survival rate of 95%. However, there have been problems with fertilizer supply, resulting largely from the centralized procurement system. This delayed and/or reduced applications in some areas, while in some areas organic manures of uncertain quality were used, causing uneven development of some stands . The quality of some plantings may have also been reduced because of inadequacy of soil protection measures, e .g. in contouring or control of surface water on access roads and tracks .
- *Multiple-use Protection Forests.* A total of about 282,000 Ha of protection forest were established, slightly above the target. In many, but not all areas, a multiple-use approach has been adopted, allowing for economic uses such as selective timber harvesting and harvesting of non -forest products. Monitoring plots indicate significant reductions in run-off in protected areas.
- *Nature Reserves Management.* This component has been financed by the Global Environment Facility (GEF) and will be reported on separately .
- *Planting Stock Development and Nursery Management.* Total tree stock production was 2.533 billion, 120% of the appraisal target. About 8 % of seedlings were of improved clones and 14 % seedlings were produced using improved nursery technologies like containers, the former performance being 50 % above the appraisal target.
- *Research and Technology Transfer.* The majority of the individual research programs, carried out by the Chinese Academy of Forestry (CAF) and provincial research institutions, have been rated satisfactory or very satisfactory, reflecting the quality and quantity of outputs . The extension program, aimed at disseminating a specific set of technologies, appears to have had a significant impact . A larger than planned area of demonstration plantations was established because the field demonstrations were found extremely useful in helping farmers to adopt new technologies .
- *Institutional Capacity Building.* The comprehensive training program was largely implemented, giving priority to internal and local training. In the project areas, significant funds were provided by provincial and local authorities from outside the project budget to support local training and extension . The number of overseas study tours was 50% above that planned, but was offset by a shortfall in the amount of overseas training (65% of target). Local managers were said to have been reluctant to release staff for long -term overseas training. Use of international consultants was only one -third of the planned level. The expansion of the information system, based on the experience of the NAP was also implemented as planned .

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

During supervision it was noted that the field performance of the 'improved' stocks, produced under the Planting Stock Development component, was quite variable. The implication is that the implementation of the improved technologies, including selection of clonal material, was uneven, raising questions as to the efficacy of the training programs. Nursery management remains a constraint on planting quality management and should be further improved in future forestry projects.

Project design appears to have been over ambitious as far as the potential for rapid and widespread application of the new technologies is concerned .

6. Ratings :	ICR	OED Review	Reason for Disagreement /Comments
Outcome :	Satisfactory	Satisfactory	
Institutional Dev .:	Substantial	Modest	The major element of the institutional development effort was a massive training program for local managers and staff, linked to the introduction and reproduction of improved planting materials. Section 4.2 of the report indicates that the field results were variable and that nursery and field operations remain a constraint on the improvement of the young forest stands, the principal objective of the project.
Sustainability :	Likely	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:

The following lessons noted by the ICR are of broad applicability :

- Centralized procurement of fertilizers and pesticides is not appropriate for multi -province forestry projects in large countries, where the project sites are widely dispersed and timely delivery of supplies is essential .
- A strong linkage of research and extension with planting activities is critical to technology transfer .

8. Assessment Recommended? Yes No

9. Comments on Quality of ICR:

The report provides a satisfactory picture of project performance . But the english is sometimes difficult to fully understand and it would have benefited from editorial assistance .