

**Document of  
The World Bank**

**Report No.: 67882-CN**

**PERFORMANCE ASSESSMENT REPORT**

**PEOPLE'S REPUBLIC OF CHINA**

**A Cluster Assessment of Forest Projects and Analytic and Advisory Activities**

**FORESTRY DEVELOPMENT IN POOR AREAS PROJECT**

**(CN039; L4325)**

**SUSTAINABLE FORESTRY DEVELOPMENT PROJECT**

**(L4659)**

**FOREST POLICY DIALOGUE (ESW)**

**(P107885)**

**COLLECTIVE FOREST TENURE REFORM (TA)**

**(P102694)**

**FORESTRY SUPPLY (TA)**

**(P090719)**

**June 28, 2012**

**IEG Public Sector Evaluation**  
*Independent Evaluation Group*

## Currency Equivalents (annual averages)

*Currency Unit = Yuan (Y)*

1998	US\$1.00	Y8.278
1999	US\$1.00	Y8.278
2000	US\$1.00	Y8.278
2001	US\$1.00	Y8.278
2002	US\$1.00	Y8.278
2003	US\$1.00	Y8.278
2004	US\$1.00	Y8.278
2005	US\$1.00	Y8.190
2006	US\$1.00	Y7.974
2007	US\$1.00	Y7.605
2008	US\$1.00	Y6.916
2009	US\$1.00	Y6.831
2010	US\$1.00	Y6.770
2011	US\$1.00	Y6.475
2012 (01/19)	US\$1.00	Y6.316

## Abbreviations and Acronyms

AAA	Analytic and Advisory Activities (comprising ESW and TA)
CAS	Country Assistance Strategy
ESW	Economic and Sector Work
EU	European Union
GEF	Global Environment Facility
GEO	Global Environment Objective
ICR	Implementation Completion and Results Report
IEG	Independent Evaluation Group
IEGPS	IEG Public Sector Evaluation
M&E	Monitoring and Evaluation
MTR	Mid-term Review
NFPP	Natural Forests Protection Program
PAD	Project Appraisal Document
PDO	Project Development Objective
PMC	World Bank Loan Project Management Center, State Forestry Administration, Beijing
PMO	Project Management Office, Provincial and County
PROFOR	Program on Forests
QAG	Quality Assurance Group
SFA	State Forestry Administration
TA	Technical Assistance
TVE	Township and Village Enterprise

## Fiscal Year

Government: January 1 – December 31

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This report was prepared by John R. Heath, who visited China in November-December 2011. The report was peer reviewed by Andre Rodrigues Aquino and panel reviewed by Christopher D. Gerrard. Marie Charles provided administrative support.

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## Principal Ratings

### *Projects*

#### **Forestry Development in Poor Areas Project (CN039; L4325)**

	<i>ICR*</i>	<i>ICR Review*</i>	<i>PPAR</i>
Outcome	Satisfactory	Satisfactory	Satisfactory
Risk to Development Outcome**	–	–	Negligible to Low
Sustainability**	Highly Likely	Likely	–
Institutional Development***	Substantial	Substantial	–
Bank Performance	Satisfactory	Satisfactory	Satisfactory
Borrower Performance	Satisfactory	Satisfactory	Satisfactory

#### **Sustainable Forestry Development Project (L4659)**

	<i>ICR*</i>	<i>ICR Review*</i>	<i>PPAR</i>
Outcome	Satisfactory	Moderately Satisfactory	Moderately Satisfactory
Risk to Development Outcome	Negligible to Low	Moderate	Moderate
Bank Performance	Satisfactory	Moderately Satisfactory	Moderately Satisfactory
Borrower Performance	Satisfactory	Moderately Satisfactory	Moderately Satisfactory

\* The Implementation Completion and Results Report (ICR) is a self-evaluation by the responsible Bank department. The ICR Review is an intermediate IEG product that seeks to independently verify the findings of the ICR.

\*\*As of July 1, 2006, Sustainability is replaced by Risk to Development Outcome.

\*\*\*As of July 1, 2006, Institutional Development Impact is assessed as part of the Outcome rating.

*Analytic and Advisory Activities*

**FOREST POLICY DIALOGUE (ESW) (P107885);  
 COLLECTIVE FOREST TENURE REFORM (TA) (P102694);  
 FORESTRY SUPPLY (TA) (P090719).**

<i>Evaluation Criterion</i>	<i>Rating</i>
Relevance and Ownership	Satisfactory
Quality	Moderately Satisfactory
Dialogue and Dissemination	Moderately Satisfactory
Results	Moderately Satisfactory

## Key Staff Responsible

### *Projects*

#### **Forestry Development in Poor Areas Project (CN039; L4325)**

<i>Project</i>	<i>Task Manager/Leader</i>	<i>Division Chief/ Sector Director</i>	<i>Country Director</i>
Appraisal	Richard Scobey	Geoffrey B. Fox	Yukon Huang
Completion	Jin Liu	Mark D. Wilson	David R. Dollar

#### **Sustainable Forestry Development Project (L4659)**

<i>Project</i>	<i>Task Manager/Leader</i>	<i>Division Chief/ Sector Director</i>	<i>Country Director</i>
Appraisal	Mohamed Noureddine Benali	Mark D. Wilson	David R. Dollar
Completion	Ulrich K. H. M. Schmitt	Ede Jorge Ijjasz-Vasquez	Klaus Rohland

### *Analytic and Advisory Activities*

#### **FOREST POLICY DIALOGUE (ESW) (P107885); COLLECTIVE FOREST TENURE REFORM (TA) (P102694); FORESTRY SUPPLY (TA) (P090719).**

<i>Project</i>	<i>Task Manager/Leader</i>	<i>Division Chief/ Sector Director</i>	<i>Country Director</i>
Concept Review	William B. Magrath	Rahul Raturi	David R. Dollar
Completion	William B. Magrath	Ede Jorge Ijjasz-Vasquez	Klaus Rohland

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To prepare a Project Performance Assessment Report (PPAR), IEG staff examine project files and other documents, visit the borrowing country to discuss the operation with the government, and other in-country stakeholders, and interview Bank staff and other donor agency staff both at headquarters and in local offices as appropriate.

Each PPAR is subject to internal IEG peer review, Panel review, and management approval. Once cleared internally, the PPAR is commented on by the responsible Bank department. The PPAR is also sent to the borrower for review. IEG incorporates both Bank and borrower comments as appropriate, and the borrowers' comments are attached to the document that is sent to the Bank's Board of Executive Directors. After an assessment report has been sent to the Board, it is disclosed to the public.

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**Risk to Development Outcome:** The risk, at the time of evaluation, that development outcomes (or expected outcomes) will not be maintained (or realized). *Possible ratings for Risk to Development Outcome:* High, Significant, Moderate, Negligible to Low, Not Evaluable.

**Bank Performance:** The extent to which services provided by the Bank ensured quality at entry of the operation and supported effective implementation through appropriate supervision (including ensuring adequate transition arrangements for regular operation of supported activities after loan/credit closing, toward the achievement of development outcomes. The rating has two dimensions: quality at entry and quality of supervision. *Possible ratings for Bank Performance:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

**Borrower Performance:** The extent to which the borrower (including the government and implementing agency or agencies) ensured quality of preparation and implementation, and complied with covenants and agreements, toward the achievement of development outcomes. The rating has two dimensions: government performance and implementing agency(ies) performance. *Possible ratings for Borrower Performance:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

## Preface

This report assesses a cluster of World Bank-supported projects and analytic and advisory activities (AAA) bearing on forests in China. The activities were chosen because the projects and AAA had complementary objectives and because, taken together, they spanned the transition in the Bank's intervention in China from an exclusive focus on projects and plantation development to a broader approach that, in addition to plantations, addressed protected areas, natural forest management, and dialogue with government on forest policy. The assessment was also intended to contribute to an IEG study, *Managing Forest Resources for Sustainable Development*.

The method used by IEG for rating the projects is explained in the frontispiece to this report. The ratings methodology for assessing the AAA is explained in Annex C and the template used for assessing this work is presented in Annex D. The AAA consisted of a sector report, preparation of which was facilitated by two technical assistance contracts with counterpart institutions in China involved in the work. The report and the technical assistance were part of the same activity and the ensemble is therefore subject to a single rating.

The **Forestry Development in Poor Areas Project** (P046952) was approved on May 21, 1998, became effective on December 16, 1998, and closed, as expected, on December 31, 2005. Total actual costs were US\$370.3 million, or 102 percent of the appraisal estimate. World Bank financing comprised an IBRD loan of US\$100.0 million and an IDA credit of US\$100.0 million, which were respectively 95 percent and 98 percent disbursed.

The **Sustainable Forestry Development Project** (P064729; P060029) was approved on April 16, 2002 and became effective on January 29, 2003. The plantation establishment component and the natural forest management component (P064729) closed, respectively, on August 31, 2009 (as expected) and on June 30, 2010 (two years later than forecast at appraisal); the protected areas component, financed by the Global Environment Facility (GEF) (P060029) closed on August 31, 2010, one year later than initially projected. Total actual costs were US\$129.2 million, or 99.5 percent of the appraisal estimate. The plantation establishment component was financed by an IBRD loan of US\$93.2 million that was fully disbursed. The natural forest management component was parallel- financed by a grant worth US\$15.0 million from the European Union. The protected areas component was financed by a GEF grant of US\$16.0 million that was fully disbursed.

The **Analytic and Advisory Activities (AAA)** comprised a sector report (P107885) and two pre-existing technical assistance activities (P090719; P102694); the outputs from the technical assistance activities informed preparation of the chapters in the sector report devoted to collective forest tenure reform and the estimation of a forest industry supply curve. The concept review meeting for the sector report was held on March 27, 2008 and the report was delivered to the client on April 8, 2010. The sector report was financed from the Bank's budget. The cost was initially estimated at US\$100,000 but the actual cost was US\$174,000. The cost of the Bank-executed technical assistance on collective forest tenure reform (P102694) was initially estimated at US\$300,000 but the actual cost was US\$235,000. All of this was funded by the multi-donor partnership, Program on

Forests (PROFOR). The cost of the technical assistance on forest supply (P090719) was initially estimated at US\$15,000 but the actual cost was US\$230,000, of which 26 percent was financed from the Bank's budget and 74 percent was Bank-executed, using funds from PROFOR. There was a single output from this three-part AAA, a publicly-disclosed document ("China: Forest Policy—Deepening the Transition, Broadening the Relationship") that was issued in English and in Chinese in May 2010.

IEG conducted the mission to China from November 19 to December 17, 2011. In addition to Beijing, the mission visited: the Forestry Department in Harbin and Hai Lin Forest Enterprise (Heilongjiang Province); the Forestry Department in Changsha, Badagongshan Nature Reserve in Sangzhi County, and Wen Bao Forest Farm and timber plantations in Longshan County (Hunan Province); the Forestry Department in Chengdu, timber plantations in Dujiangyan City, Xuyong County and Huang Jin Township, Gulin County (Sichuan Province); and the Forestry Department in Kunming, the Baimaxueshan Nature Reserve in Weixi County, and Shangri-La County (Yunnan Province).

The findings of the report are based on a review of project documents, Bank electronic files, relevant books and articles, and interviews with Bank staff, government officials, and representatives of donor agencies and non-governmental organizations (listed in Annex E).

IEG much appreciates the assistance of all those who participated in the assessment. It would particularly like to thank the State Forestry Administration for the superb logistical and technical support it provided throughout the mission. IEG is also grateful for help given by staff at the World Bank office and partner agencies in Beijing; as well as the first-rate service rendered by the interpreter, Mr. Jia Hanming.

Following standard IEG procedures, copies of the draft PPAR were sent to relevant Government officials and agencies for their review and comment. Comments from the Project Management Center, State Forestry Administration are attached at Annex F.

## Summary

China is still, in global terms, a forest-poor nation and the country's rapid economic growth has led to a widening deficit between the domestic demand and supply of timber, paper and other forest products. But since the late 1970s China has shifted from net annual losses to net annual gains in forest cover, thanks in particular to the large areas of plantations established. China now strives to balance forest production and forest conservation objectives, and this is reflected in the nature of its partnership with the World Bank. Having focused initially on helping to finance commercial tree plantations, the Bank has diversified its country assistance strategy over the past decade to embrace the public good-environmental service role of forests, and has made tentative steps toward a dialogue with government on tenure reform and the restructuring of inefficient state-owned forest enterprises—policy areas that the government has generally preferred to tackle unilaterally, without consulting development partners. This report assesses three Bank-supported activities that played a part in the broadening of the Bank's engagement with forest issues in China.

The objective of the **Forestry Development in Poor Areas Project** (FY98-05; actual cost, US\$370.3 million) was to "develop forest resources in poor areas of central and western China on a sustainable and participatory basis to support poverty reduction, forestry development and improved environmental management." The project, which spanned 12 provinces, included components for establishing conifer and broadleaf plantations, as well as plantations of bamboo and fruit and nut trees, with a major complementary investment in input supply and training. Also, there was a small component that helped finance establishment of Township and Village Enterprises for processing forest products.

The project substantially reduced poverty through well-designed area targeting and there is household survey evidence to show that the incomes of the poor rose (although, because there were no control groups, it is not clear what proportion of this increase was attributable to the project—rural incomes rose generally in project counties during the implementation period). The project also substantially achieved its forestry development and environmental management outcomes, exceeding targets for plantation establishment and increase in forest cover (although fewer than expected wood processing enterprises were successfully launched).

The project's outcome is rated satisfactory. Its objective was highly relevant, given that further investment in establishing timber plantations would help to reduce pressure to log natural forest, contributing to the conservation goals of Bank and Borrower. Project design was substantially relevant because it provided adequate incentives for poor households to invest in plantation establishment, a consideration that outweighs oversights in assessing the commercial viability of the small wood-processing enterprises that the project tied to launch. Achievement of the project objective was substantial, based on convincing evidence of poverty reduction, income increase and increased forest cover. Efficiency is also rated substantial: although the rate of return for Township and Village Enterprises was lower than expected, the project's overall rate of return was 26 percent, and the main output targets were exceeded, yet the total cost of the project was only 2 percent higher than the appraisal estimate.

Risk to development outcome is rated negligible to low because there is rigorous quality control over timber plantations, the timber prices are rising sharply, and policy reforms have increased farmer security of tenure and probably helped to raise productivity and reduce poverty. Bank performance is rated satisfactory, based on thorough preparation, with sound strategies for increasing beneficiary participation and tracking poverty, and close supervision, involving regular spot checks and a fast, flexible, and effective response to procurement and counterpart funding problems. Borrower performance is also rated satisfactory, reflecting the high level of commitment shown by central and local governments and the strong performance by the Project Management Center, the department of the State Forest Administration that led implementation.

The objective of the **Sustainable Forestry Development Project** (FY02-10; actual cost US\$129.2 million) was "to ensure that viable, participatory, and locally managed systems for conservation, management, and sustainable use of forest resources and associated biodiversity were developed and adopted in project sites to promote sustainable development and management of forest resources and protect the natural environment." The project covered 13 provinces and comprised three components: an IBRD-financed plantation establishment component that addressed both timber species and other tree crops; a Global Environment Facility grant-funded component to strengthen management of protected areas; and a European Union parallel-financed component that provided grant support to improve management of natural forests.

The project modestly enhanced forest resources management. Although targets for plantation establishment were exceeded and, if present trends continue, the project will exceed its silvicultural goals, it is not clear by how much the incomes of participating households rose during implementation. Also, the natural forest management pilots made little contribution to forestry incomes and employment. With respect to protection of the natural environment, progress was substantial. Management of the protected areas was substantially improved. Plantations were well sited and well tended, with avoidance of monoculture. On the other hand, negligible progress was made on improving natural forest management.

The project's outcome is rated moderately satisfactory. Its objective was highly relevant, because it was consistent with government's increasing commitment to conservation and with changes in the Bank's country strategy that emphasized the need not to limit forest interventions to plantation establishment. The project design was modestly relevant, mainly because there were doubts about the incentives for communities to help improve management of protected areas and natural forests. The achievement of the sustainable development of forest resources objective was modest. The achievement of the environment protection objective was substantial. Efficiency was substantial. Even after adjusting for the underestimation of labor costs, the plantation establishment component yielded an economic rate of return of 20 percent; this component absorbed almost three-quarters of total costs and therefore drives any estimate of overall project efficiency. Also, for the plantation component and the protected area component, output targets were met or exceeded and, despite the one year implementation delay associated with the protected area component, final costs were no higher than expected at the outset.

Risk to the two outcomes of sustainable forest resources management and protection of the natural environment is rated moderate overall, balancing the different levels of risk associated with plantation establishment (negligible to low), protected areas management (moderate) and natural forest management (high). Bank performance is rated moderately satisfactory owing to gaps in project logic bearing on management of protected areas and natural forest, the modest attention paid to monitoring and evaluation, and the lost opportunity to share learning through closer collaboration with the European Union. Borrower Performance is rated moderately satisfactory overall, because central and local governments performed effectively, and implementing agency performance was highly satisfactory for the plantation component, moderately satisfactory for the protected area component and unsatisfactory for the natural forest management component.

The **Analytic and Advisory Activities (AAA)** comprised sector work that was informed by the findings from two pre-existing technical assistance activities devoted to surveying trends in collective forest tenure reform and estimating an industry supply curve for state-owned forest enterprises in the northeast. The resulting sector report—*China: Forest Policy: Deepening the Transition, Broadening the Relationship*—recommended that Bank engagement with government on forestry henceforth be organized around three themes: moving away from financing the establishment of commercial plantations; consolidating the reform of collective forestland tenure; and restructuring the state forest sector to increase productivity.

Strategic relevance and ownership is rated satisfactory. The work responded to a demand from within the Bank—not from government—to re-examine its support for forest interventions. It was highly relevant in terms of China's forest needs and involved work with Chinese counterparts, although no government champions were identified to take the recommendations forward. Quality is rated moderately satisfactory. The report provided original data and useful information to help Bank staff decide the future direction of the Bank's engagement on forests. The proposed areas of engagement were sound. But the recommendations were not sufficiently detailed, or fully enough anchored in the report's findings; they were not supported by lessons learned from Bank work in other transition countries; and they did not consider the present scope and future potential of the private sector in forestry. Dissemination and sustained dialogue is rated moderately satisfactory. Allowance must be made for the long-standing reluctance of the government to engage in policy dialogue with development partners. The report was made publicly available in Chinese and presented at a number of events in China. But there is a lack of evidence to assess the level of engagement with the parties driving forest sector reform in China. Finally, the results criterion is rated moderately satisfactory. Subsequent Bank interventions—both projects and sector work—have built on the recommendations made in the sector report. The three complementary analytic and advisory activities were carried out with forestry staff and academics in China, and probably strengthened technical capacity. However, given the government's general reluctance to discuss policy matters with development partners, there is no tangible sign that this work influenced the pace or direction of government's forest policy reforms.

Three lessons may be drawn:

- Even if poverty reduction is not an objective of the project, there is a sound case for monitoring and evaluation to measure project-driven changes in the incomes of beneficiaries because these are likely to influence the incentives for beneficiaries to consolidate project achievements.
- Until recently, the scope for the Bank to broaden its operational engagement with forest issues in China was limited by government's insistence that, where IBRD funds are on-lent, producers and local governments must repay them with interest; central and provincial governments now recognize the public good nature of forests and are more willing to assume direct responsibility for repaying Bank loans that provide forest environmental services.
- Parallel financing by another donor is difficult to supervise if it is applied to a single component of a Bank-supported project, and may be best dealt with as a separate operation.

Caroline Heider  
Director-General  
Evaluation

# 1. Background

## Country Context

1.1 In recent years China has made enormous strides to redress the long-term depletion of its forests (Table 1). Forest area grew by 1.2 percent per year between 1990 and 2000, and by 1.6 percent per year between 2000 and 2010. The area of forest plantations is now larger than any other country in the world, and protection of the remaining natural forest has been rigorously enforced. Increasingly, forest plantations are established for reasons of environmental protection, rather than timber production (Figure 1). Although China remains a forest-poor nation—forest area per capita is less than one-quarter the global average—since the late 1970s it has experienced a net gain each year in forest cover. The projects supported by the World Bank—which have included large investments in plantation establishment—have contributed to this outcome.

**Table 1: China—Growth in Key Forestry Indicators**

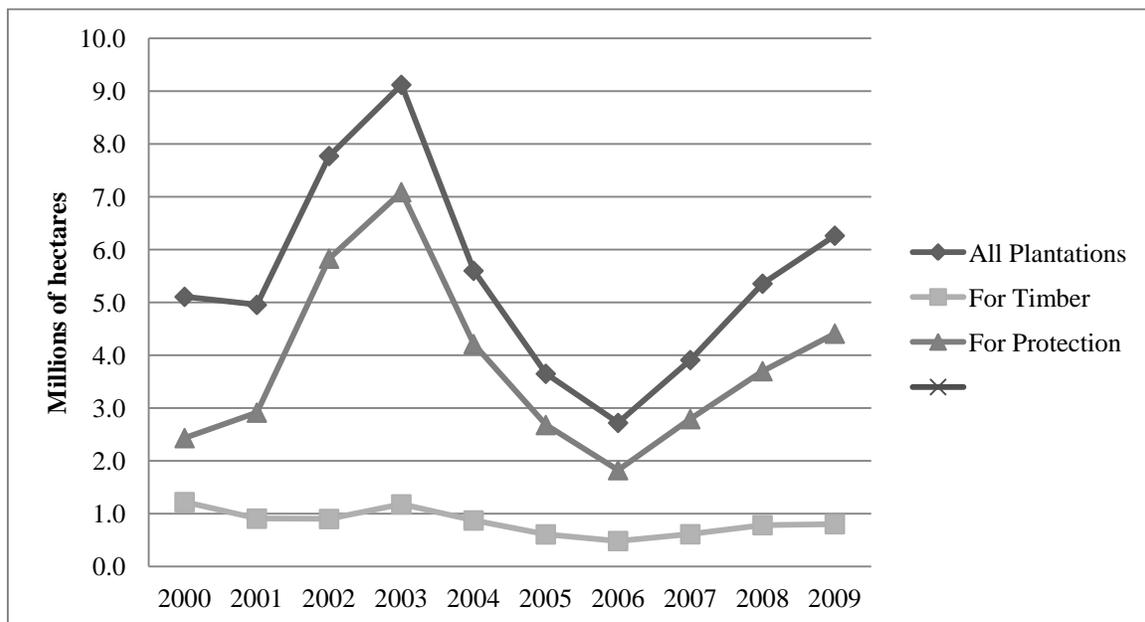
INDICATOR	1997	2008	2010
Forest Area (million ha)	133.7	195.4	206.8
Forest Area/Land Area (%)	13.9	20.4	22.0
Area in plantations (million ha)	46.7*	61.6	n.a.
Stock volume (billion m <sup>3</sup> )**	10.1	13.7	n.a.

Source: China Statistical Yearbook (various years); FAO State of World Forests 2011

\*In 1999; n.a. Not available.

\*\*Refers to volume of wood in trees that are still growing.

**Figure 1: Area in Plantation Forest Added Each Year, 2000-2009**



Source: China Statistical Yearbook (various years)

1.2 Most of China's forests are located in the northeast, the south, and the southwest. In the northeast, most species are conifers and the growth rate is slow owing to the long, harsh winters. In the south and southwest, there are broad-leaf species, mean temperature is higher, and growth is faster. In 2008, the area of *natural forest* was 120 million ha, with a standing stock volume (that is, the volume of wood in trees that are still growing) of 11.4 billion cubic meters. Forest *plantations* covered 62 million ha of forest plantation, with a stock volume of 2 billion cubic meters. Between 2004 and 2008, the area of natural forest earmarked for conservation increased by 3.9 million ha, exceeding projections. The net increase in the plantation area was 8.4 million ha. There was a reduction in timber harvested from natural forest and a 12 percent increase in the timber harvested from plantations. At the end of this period, plantations accounted for 39 percent of the total timber harvested. The productivity of natural forest increased, with the average stock volume rising by 1.15 cubic meters per ha. One-third of the forest area is occupied by young trees, these accounting for 10 percent of the total stock volume. Most young trees are located in the plantations of the south and southwest. Mature trees are concentrated in the natural forest of the northeast (State Forestry Administration 2011).<sup>1</sup>

1.3 In the past decade, the government has made a major commitment to conservation. Following catastrophic floods in 1998 a logging ban was introduced in order to stabilize the slopes of catchment areas. This in turn led to the Natural Forest Protection Program, the first phase of which (2000-2010) covered 734 counties and 167 forest enterprises in 17 provinces, taking in the upper reaches of the Yangtze and Yellow Rivers and areas of the Northeast and Inner Mongolia. Across this broad swath of land, 101 million hectares were set aside for protection, while 3 million ha of forest plantations were established. Around 620,000 foresters were relocated. In addition, by the end of 2010, there were 2,035 nature reserves, covering 124 million ha, or 13 percent of China (State Forestry Administration 2011).

1.4 Outside the protected areas, forestland is divided between two systems of tenure: *collectives* (which prevail in the south and southwest) have rights to 58 percent of the total area in forest, much of it in plantations, while *state-owned forest enterprises* (which dominate in the northeast) control the remaining 42 percent, most of which is natural forest.

1.5 Collective forest is owned by communities and managed by village leaders under the oversight of a local forestry bureau. For the past decade or so the system of collective forest tenure has been reformed to strengthen the rights of individual households to forest, paralleling similar changes to farmland tenure under the Household Responsibility System. According to a 2008 reform, collective forest owners may reallocate rights to the forest (but not to the land) providing that, on the basis of a vote, they obtain the support of at least two-thirds of the village assembly. Forest rights may be reallocated to individual households, collections of households, or private contractors; alternatively, they may remain under collective management. Outcomes vary substantially between different provinces but, overall, there is some trend toward individualization of forest rights. Although the 2008 reform retained collective ownership of the land, it gave

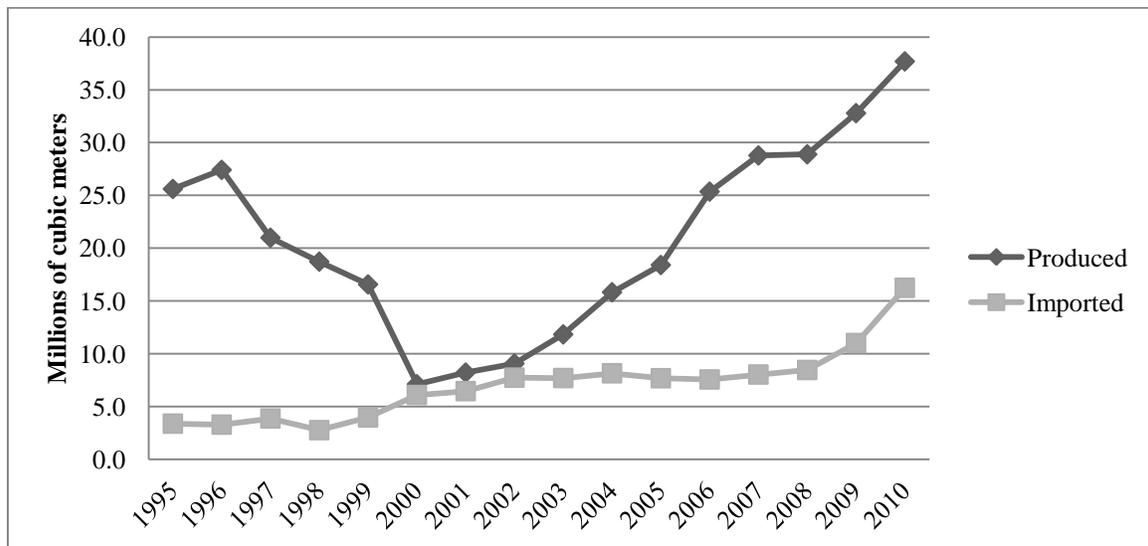
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1. Based on data from the Seventh National Forestry Inventory (2009).

households the option to lease out and to mortgage forestland (Xu, White and Lele 2010). Households now enjoy use rights for 70 years. By 2008, 32 percent of all forests in China were privately managed. The collective forest tenure reform was carried out in 30 provinces, affecting 510 million people, or 70 percent of the rural population. By the end of 2009, use rights to 82 percent of the forestland under collective tenure had been codified (State Forestry Administration 2011). Around 30 percent of all collective forestland has been zoned as ecological forests, scheduled for protection, not for harvesting. This may cause tension with local communities that are no longer able to harvest forest products. Only 40 percent of the owners of protected forests have received the payment due under the Forest Ecosystem Compensation Program (Xu, White and Lele).

1.6 State-owned forest enterprises typically include forest farms, logging operations, and wood processing facilities. In addition, these enterprises function as communities. They are financially responsible for both existing and retired employees and their families, and the enterprise must absorb the cost of pensions, housing, education and healthcare. The productivity of these enterprises is low and, before the government introduced its conservation mandate, they were responsible for depletion of large areas of natural forest in the northeast, partly because employees needed to be employed and social overheads paid for. In contrast, collective forestland has been more sustainably managed (World Bank 2010a).

**Figure 2: China—Growth in Volume of Sawnwood Produced and Imported**



Source: FAOSTAT

1.7 From 1996 to 2000 there was a steep drop in the production of sawnwood because the supply from natural forests was restricted (particularly after the 1998 logging ban), and because many of the commercial wood plantations were not mature enough to be logged (Figure 2). After 2000, China's heavy investment in plantations began to pay off: the supply of sawnwood from plantations rose steadily. But the demand for wood and associated products continues to outstrip domestic production: by 2009-2010, imports of sawnwood amounted to the equivalent of over one-third of national output. The gap

between domestic wood supply and demand is projected to grow from 90-130 million cubic meters in 2010 to 150 million cubic meters in 2015. Russia supplies 68 percent of China's log imports (Taylor 2010).

1.8 The government has significantly increased its financial commitment to the forest sector. Between 1998 and 2010, investment in forestry rose almost nine-fold, from Y14 billion to Y123 billion per year. The share of this annual total derived from the central government budget rose from 40 percent in 1998 to 59 percent in 2010. Over this period, forestry's claim on central government spending rose from 0.8 percent to 2.0 percent (State Forestry Administration 2011).

## **World Bank Intervention**

1.9 The span of the activities assessed in this report covers a period of change in the Bank's corporate forest strategy (Box 1). In many respects, the China program was ahead of its time, anticipating in the 1990s an approach that was endorsed by the World Bank Group 2002 Forest Strategy. The World Bank 1991 Forest Policy Paper did not cover plantations, an area where the Bank's China program was pioneering and successful. In the 2000s, the Bank's China forest program diversified to include protected areas and natural forest management, and attempted for the first time to conduct policy-oriented sector work; this was in line with the thrust of the 2002 Forest Strategy. The Government of China had been reluctant to engage the Bank or other partners on matters of policy reform; so the analytical and advisory activities assessed in this report marked an important departure from the previous trend of Bank intervention in China.

1.10 The Bank has funded 23 forest activities in China, the first dating back to a project approved in 1985. (Annex B, Tables B1 and B2 show how the Bank's forest interventions have been distributed by year and by province). Total commitments amount to US\$1.3 billion. This portfolio includes 10 IBRD/IDA investment projects and 4 Global Environment Facility (GEF) projects, with analytic and advisory work accounting for the remaining activities. The Bank's forestry program has moved from a concentration on establishing plantations to embrace more complex projects that tackle management of protected areas and biodiversity. Since FY2005 disbursements for forestry projects have almost equaled those for other projects in the agriculture and forestry sector (Figure 3), although agriculture has absorbed a much larger share of administrative spending (Figure 4).

### Box 1: World Bank Forest Strategies Applicable to the Assessed Activities

The relevance of the Bank's forest interventions in China is assessed in terms of corporate as well as country strategy. The Forestry Development in Poor Areas Project was prepared when the World Bank 1991 Forest Policy Paper was still current, but by closing a new World Bank Group strategy, issued in 2002, had taken its place. The 2002 Forest Strategy was applicable throughout preparation and implementation of the Sustainable Forestry Development Project and the analytic and advisory activities assessed in this report.

The 1991 Forest Policy Paper (World Bank 1991) focused on conservation of tropical moist forest resources, neglecting to spell out the Bank's role in the sustainable development of forests. An IEG evaluation of the 1991 Forest Strategy found that it had had a chilling effect on Bank activities in the sector (IEG 2000b). Countries rich in forests, such as Brazil, Indonesia, and Cameroon, had been reluctant to engage the Bank in policy dialogue or lending. On the other hand, the Bank had made important contributions in forest-poor countries, most notably in China and India, through lending in support of plantation forestry and poverty reduction among forest-dependent people. The Bank had also made a substantial contribution to reforming the management of the temperate and boreal forests of Eastern Europe, which had not been a focus of the Bank's 1991 Strategy. IEG's evaluation also stressed that global net benefits from conservation exceeded the net benefits accruing to individual nations, making the case that the Bank should support the use of grant finance to give countries sufficient incentive to engage in conservation activities.

The 2002 Forest Strategy (World Bank 2002c) has a broader scope, covering all forest types. It rests on three pillars:

**First Pillar:** This aims to harness the potential of forests to **reduce poverty** by (a) strengthening the rights of people—especially marginalized groups—to forests and fostering their participation in forest management; and (b) promoting sustainable forestry, community forestry, and agroforestry.

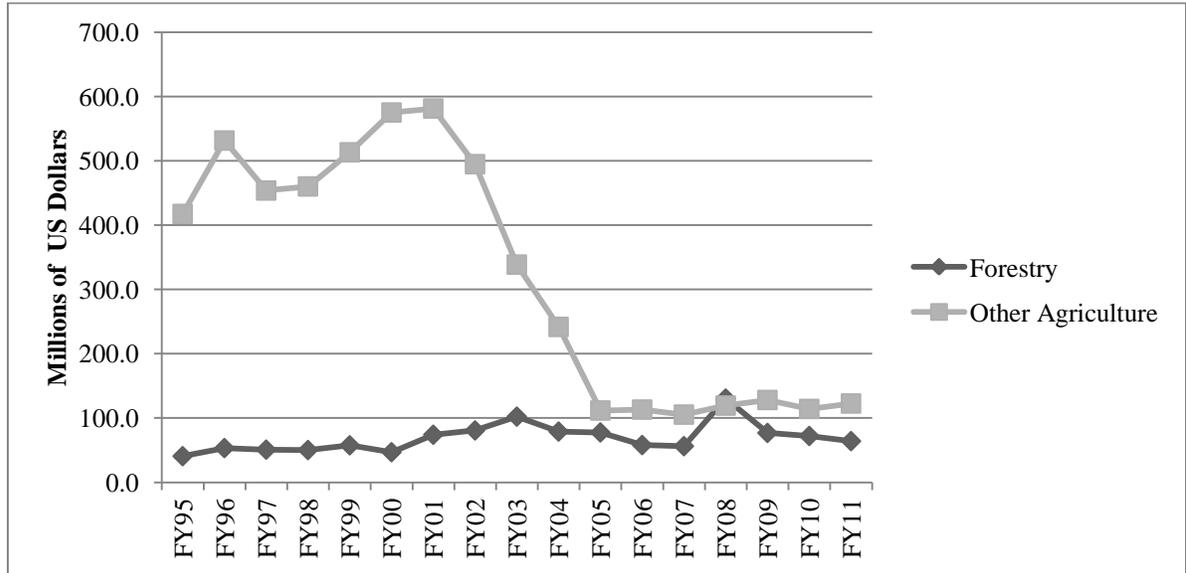
**Second Pillar:** This aims to integrate forests in **sustainable economic growth** by (a) improving forest governance and introducing legal and institutional reforms; (b) encouraging investments that catalyze production of forest products, including environmental services.

**Third Pillar:** This seeks to protect vital local and global environmental services and values by (a) establishing protected areas; (b) improving forest management in other areas; (c) addressing cross-sector links that affect environmental values; and (d) developing markets and finance for international public goods such as biodiversity and carbon sequestration.

The 2002 Forest Strategy proposed, among other actions, a revision of the Bank's Forest Policy (OP 4.36). It also recommended that the Bank conduct economic and sector work (ESW) with analysts in developing countries to create demand for Bank involvement in forests. It recommended the adoption of independent third-party certification to help ensure sustainable management of forests and curtail illegal logging. It also sought to build and strengthen partnerships with donors, governments, nongovernmental organizations (NGOs), and the private sector; but it made only a passing reference to the International Finance Corporation (IFC) and the role of private investments. It urged a sequenced approach to the expansion of Bank operations, identification of ways to deal with high transaction costs, and the adoption of a risk management strategy.

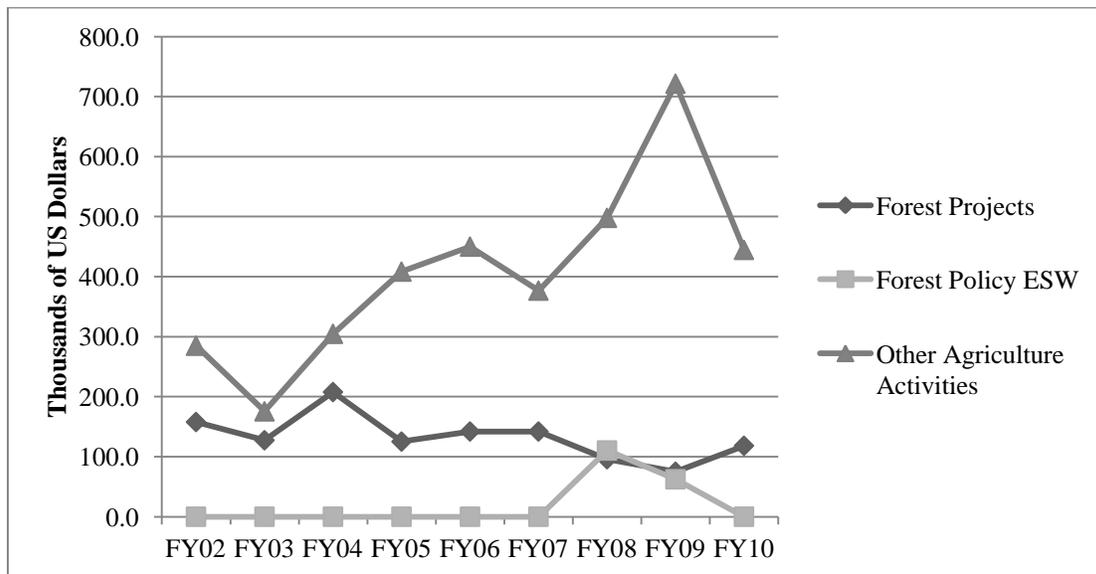
Sources: World Bank 1991, IEG 2000b, World Bank 2002b

**Figure 3: China: World Bank Disbursements on Forestry and Other Agriculture Sector Projects (IBRD, IDA and GEF)**



Source: Business Warehouse

**Figure 4: China: World Bank Administrative Spending on Forestry and Other Agriculture Sector Activities**



Source: Business Warehouse ESW Economic and Sector Work

1.11 This report assesses three interventions, considering to what extent the Bank was successful in its bid to *broaden the scope* of its approach to forest issues in China. The two projects assessed were both, in terms of the proportion of costs, weighted in favor of tree planting. But the Forestry Development in Poor Areas Project marked a new departure by giving village communities greater say in the selection of investments. The Sustainable Forestry Development Project went a step further, addressing the management of protected areas and natural forests as well as establishing plantations. Finally, the sector work was the first self-contained<sup>2</sup> effort to tackle forest policy, considering ways to consolidate the reforms of the collective forest as well as broaching the challenge of raising the productivity of state-owned forest enterprises. (The characteristics of the provinces covered by the three interventions are summarized in Annex B, Table B3.)

## 2. Forestry Development in Poor Areas Project

### Objectives, Design, and Relevance

#### OBJECTIVE

According to the Project Appraisal Document, the objective of the project was to “develop forest resources in poor areas of central and western China on a sustainable and participatory basis to support poverty reduction, forestry development and improved environmental management.”<sup>3</sup> The PAD indicates that this objective comprised three outcomes, and associated targets (Annex B, Table B4). The *poverty reduction* target was to increase by 60 percent, by project closing, beneficiary household income derived from the sale of project production and from project labor payments. The *forestry development* target was to generate, by closing, a standing stock of 3 million m<sup>3</sup> of timber, and horticultural output valued at 857 million Yuan. The *environmental management* target was to ensure that, by closing, 47 percent of the area in project counties was forested.

#### DESIGN

2.1 The project consisted of the following components:

- **Timber Plantation** (expected cost at appraisal, US\$121.8 million: actual cost at closing, US\$128.6 million). This component financed the establishment and initial operation of about 315,000 hectares of conifer and broadleaf plantations on mountainous wasteland, geared primarily to timber and secondarily to pulpwood for paper, and pit props for mining. This entailed site clearing and preparation, planting, tending, extension, supervision, environmental

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2. An earlier report had addressed forest issues as part of a broad-based environment review (World Bank 2001b).

3. World Bank 1998: 21. (The Credit Agreement contained an identical statement of the project’s objective.)

management, the provision of management information systems, and the provision of seedlings, materials and equipment, fertilizers, and pesticides.

- **Economic Forest Crops** (expected cost at appraisal, US\$135.2 million: actual cost at closing, US\$149.8 million). This component financed the establishment and initial operation of about 230,000 hectares of economic forest crop plantations on mountainous wasteland, comprising about 110,000 hectares of new and rehabilitated bamboo and about 120,000 hectares of fruit, nut and medicinal trees. This entailed site clearing and preparation, planting, tending, extension, supervision, environmental management, the provision of management information systems, and the provision of seedlings, materials and equipment, fertilizers, and pesticides.
- **Technical Support Services** (expected cost at appraisal, US\$81.5 million: actual cost at closing, US\$86.3 million). This component financed: the preparation of improved planting materials (about 800 million seedlings); dissemination of silvicultural research findings and guidelines to project staff and beneficiaries; provision of infrastructure, such as forest trails and small-scale irrigation; and the issue of sub-loans to support post-harvest treatment and marketing of economic forest crops.
- **Township and Village Enterprise Development** (expected cost at appraisal, US\$25.5 million: actual cost at closing, US\$5.6 million). This component provided sub-loans to small-scale, labor-intensive, commercially-oriented township and village enterprises (TVEs) in the forestry sector.

## IMPLEMENTATION ARRANGEMENTS

2.2 The project was implemented by the State Forestry Administration (SFA), Forestry Departments in 12 Provinces/Autonomous Regions and 216 county Forestry Bureaus as well as township Forestry Station staff.

## SCOPE

2.3 The project was intended to benefit about 2 million poor people (450,000 households) and about 1 million non-poor people (250,000 households). It centered on mountainous areas of west and central China where the rural population is predominantly poor, spanning 12 provinces (Table 2).

**Table 2: Geographic Scope of Forestry Development in Poor Areas Project**

PROVINCE	NUMBER OF COUNTIES AND MUNICIPALITIES COVERED
Anhui	18
Guangxi	26
Guizhou	17
Hebei	17
Henan	17
Hubei	16
Hunan	18
Jiangxi	19
Liaoning	17
Shanxi	17
Sichuan	24
Yunnan	21
<b>Total</b>	<b>227</b>

Source: Bank files.

### RELEVANCE OF PROJECT OBJECTIVE

2.4 From preparation through closing, the objectives of the project were consistent with the Bank's country assistance strategy and the government's environment strategy. In terms of relevance to the Bank's corporate forest strategy (see Box 1 above), the assessment is necessarily more nuanced. When the project was prepared the prevailing strategy (World Bank 1991) was conservation oriented, and did not endorse plantation establishment. But IEG assesses the relevance of project objectives in terms of the strategy that prevailed at closing. By the time the project closed in December 2005, corporate strategy had evolved and project objectives were fully in line with the new Bank's new strategy (World Bank 2002b).

2.5 The country program matrix for FY03-05 Country Assistance Strategy signaled a commitment by the Bank to continue investing in commercial tree plantations (World Bank 2003a). This responded to government's concern to promote large-scale reforestation for ecological protection and to meet increasing demands for wood, aims that were highlighted by an environment strategy study prepared jointly by the Bank and the State Environmental Protection Agency in 2001.<sup>4</sup> The government's tenth Five-Year Plan (2001-2005) included among its priorities safeguarding the natural resource base, following relative neglect of the environment in previous plans. The Bank's FY03-05 Country Assistance Strategy observed that the government had banned commercial logging of natural forest in the upper reaches of the Yangtze and Yellow Rivers and was promoting the sustainable protection and management of the remaining natural forest. The corresponding Bank Group strategy entailed: analyzing the impact of the logging ban on local governments, communities and enterprises; promoting the sustainable management and protection of the remaining natural forest; and investing in commercial tree plantations (World Bank 2003a). More generally, the Bank aimed to pay particular attention to the needs of poor households in "lagging regions" and to empower the poor

4. For the FY03-2005 Country Assistance Strategy, see World Bank 2003a, Annex B10, p. 20; for the environment strategy study, *Land, Water Air*, see World Bank 2001b.

by adopting a more participatory approach to project preparation and implementation—two themes that were echoed in the project’s development objective. The relevance of the objective is rated **high**.

## **RELEVANCE OF PROJECT DESIGN**

2.6 The design of the project assumed that by promoting the plantation of timber species and fruit and nut trees, as well as launching small-scale enterprises to process forest products, incomes would rise and poverty would be reduced. It was also assumed that the increase in forest-based revenues and increased environmental awareness would create an incentive for rural communities and local governments to better protect the natural resource base. The project components supplied the technical assistance and monitoring to ensure that the quality of the plantations was high, helping to boost long-term productivity. The inclusion of fruit and nut plantations (which mature more rapidly than timber species) helped to ensure that farmers received an income within 3-5 years after project launch—they would have to wait at least twenty years before final harvest of the timber species, although thinning of these trees would generate some income before that, as well as increasing the ultimate volume that could be harvested. Farmers were permitted to select the species of timber, fruit or nut tree that they wished to plant, a choice informed by extension advice about site suitability: this was consistent with the project objective of developing forest resources on a participatory basis.

2.7 The results framework listed an assumption that the demand for wood products would continue to grow by at least 8 percent each year—not unreasonable given the dynamic economic environment. By restricting the harvesting of timber from natural forest, the 1998 logging ban increased the demand for wood sourced from plantations, increasing the incentive to plant trees. Less certain were the availability of sufficient local demand for fruit and nuts. According to the appraisal document, this risk would be mitigated by provision in the project for studies on markets and financing of marketing infrastructure; also, crop diversification would help to reduce the threat of oversupply.

2.8 Two assumptions in the project logic begged questions. First, even though previous Bank-supported projects had had little success in promoting small-scale agribusiness, the project included a component to launch Township and Village Enterprises that would process forest products. The risk that these enterprises would be too small to be competitive was not acknowledged in the appraisal document. On the other hand, failure of this component was not likely to compromise achievement of the project’s objective because it accounted for only 7 percent of the estimated total cost of the operation. Second, this project, like other Bank-supported forestry projects, required households, townships, and provincial and national forest administrations to pay back their share of the investment funds, with interest. It was possible that this would deter the poorest households from participating, particularly because the bulk of the revenue from timber would only be realized after twenty years or so. Offsetting this risk, project investments in fruit and nut trees would generate incomes in the short term. Outside the project, policy reforms increased rural land rights and eased restrictions on outmigration, making it possible for households, poor as well as rich, to increase their incomes by leasing out parcels and taking up off-farm wage jobs. Maintaining tree plantations was less labor intensive than cultivating annual crops, freeing up labor for off-farm work.

2.9 The relevance of project design is rated **substantial**.

## **Implementation**

2.10 The project was approved on May 21, 1998. The mid-term review was conducted in September-October 2001. The loan closed, as projected at the outset, on December 31, 2005.

2.11 The main change during implementation was a reduction, at mid-term review, to the size of the component devoted to township and village enterprises (TVEs). The Natural Forest Protection Program, introduced in 1998, prohibited logging in some areas of Sichuan, Guizhou, and Yunnan. Consequently, some of the counties selected to participate in the project were unable to obtain the timber needed to sustain wood-processing firms. Therefore, at mid-term, the TVE launch target was reduced from 64 to 14 enterprises and the share of this component in total project cost was reduced from 7 percent to 1.6 percent, with US\$6.1 million reallocated to plantation establishment. The logging ban also meant that some of the counties originally selected to participate in the project were substituted by others. This adjustment did not, however, reduce the total number of counties served, nor did it substantially alter the share of counties officially designated as poor.

2.12 A bigger obstacle to project implementation was the shortfall in counterpart funds from participating counties. This was partly because the project targeted poorer counties that had fewer resources at their disposal to begin with. This effect was aggravated by the logging ban, which reduced the revenues obtained by many of the counties participating in the project. To make up the shortfall, it was necessary to increase the share of the investment cost borne by beneficiaries. The contribution by individual farmers and foresters increased from 18 percent at appraisal to 31 percent by closing. This contribution mainly consisted of labor, organic manure, and (to a limited extent) cash.

2.13 In general, project implementation was little affected by natural disasters, but drought hit Henan, Shanxi, and Hebei in 2002, and fires damaged 0.8 percent of the plantings in Hunan, leading to some reduction in plantation growth rates in these provinces.

2.14 There was an unexpected boost to project implementation resulting from the government's decision to eliminate a tax of 8 percent on agriculture and forestry products. This increased the interest of community members in planting timber species and fruit and nut trees.

2.15 The annual growth in the gross domestic product rose steadily from 8 percent at project startup to 11 percent by loan closing. This rapid economic growth cut two ways: on the one hand, it pushed up prices for forest products; on the other hand, it was associated with increased outmigration from rural to urban areas, pushing up wage rates in the countryside. These factors respectively increased and decreased the returns to plantation investments, but it is not clear the extent to which they canceled each other out.

2.16 *Safeguards* This was an Environment Category B project. It was expected to generate significant environmental benefits, including increased forest cover, preservation of biodiversity, and reduced soil erosion, flooding and river sedimentation. But there was some risk of adverse environmental impacts through earthworks (such as site preparation and forest trails), plantation monoculture, pesticide pollution, and the (limited) effluent disposal from wood-processing enterprises. During project preparation, government prepared an Environmental Management Plan, drawing on expertise developed in previous Bank-supported projects. This included steps to avoid, or mitigate, damage resulting from insect and disease outbreaks, soil erosion and fertility loss, fire, and ecological degradation. Based on documents in the project archives and observations during the site visits, IEG found no evidence of safeguard violations.

2.17 *Financial management* Staff in province and county project management offices received training in Bank financial management, procurement and disbursement procedures. The document archive shows that audits were delivered on time and were unqualified. No fiduciary problems were reported.

## **Achievement of the Objective**

*Develop forest resources in poor areas of central and western China on a sustainable and participatory basis to support poverty reduction, forestry development and improved environmental management.*

2.18 The project's results chain may be summarized as follows. Investments made in planting trees yielding timber, fruit, and nuts, together with investments in the Township and Village Enterprises that generated revenues from processing forest and agricultural products, would boost incomes. The project was targeted to poor counties and therefore it was reasonable to assume that many of the households benefited by the project were poor when the project was launched; to the extent that their incomes rose, poverty would be reduced. In addition to poverty reduction, tree planting would help to protect the environment by slowing runoff, reducing soil erosion and locking up carbon; also, if the stands planted were of mixed species and chemical inputs were used appropriately there would be an increase in biodiversity. The project objective entailed three outcomes: poverty reduction, increased forestry income, and improved environmental management. The project delivered a set of outputs, each output bearing on more than one outcome. To avoid repetition, the outputs are presented together and then progress toward each outcome is discussed and rated.

## **PROJECT OUTPUTS**

2.19 With one exception (wood-processing enterprises), output targets were amply exceeded (Annex B, Table B4). In all, 375,080 ha of **timber species** were established under the project (119 percent of the appraisal target). Conifers accounted for two-thirds of plantings; broadleaf made up the rest. Given the larger-than-expected area planted, the good quality of the planting stock, and the high plantation survival rate, at the time of the IEG mission, plantations were on track to exceed the target set for their maturity, 20 years after planting: a standing timber volume of 54 m<sup>3</sup>. This projection is supported by following evidence from monitoring reports submitted to the Bank by the Project

Management Center. By closing, pest and disease outbreaks had afflicted 10,416 ha, or 78 percent of the area that was forecast to be exposed to these threats. In the small number of project areas visited by IEG, there was little evidence of damage caused by fire, flood, drought and pests; and supervision of these hazards is very tight. The plantations were established using high quality seeds and seedlings. Grade 2 seedlings were excluded. By closing 1.5 billion Grade 1 seedlings had been produced (188 percent of the target). Fertilizer use was, in most cases, in line with recommended protocols, with 94 percent of the expected amount having been applied by closing. Finally, training targets for farmers and local forest officers were exceeded, making it more likely that the quality of husbandry will be sufficient to ensure that the long-term growth target is reached.

2.20 **Non-timber species** also performed well. Trees bearing fruit, nuts, tea, and medicinal and industrial products were planted on 156,980 ha, 31 percent higher than the appraisal target. Bamboo was established on 132,440 ha, or 20 percent above the target. In all, the project introduced 260 new species of tree crops, a pattern of diversification that may have reduced farmer losses from price falls, pests and diseases. The financial analysis spreadsheets produced by the project team at completion show that totaling the 18 non-timber species studied, net present value was 165 percent above what was expected at appraisal; in 11 of the 18 cases, it was exceeded, with financial returns being particularly strong for bamboo, walnut, jujube, tea, and hazelnut.

2.21 The one shortfall concerned promotion of **township and village enterprises**. During the mid-term review, the target number of enterprises was reduced from 64 to 14 and US\$6.1 million from this component was reallocated to plantation establishment. Of the 14 enterprises launched, nine were still operating at closing and five had gone out of business; this remained the case at time of IEG's visit. The gross output value of the enterprises that were established was only 22 percent of the target. Four factors account for the output shortfall. Following launch of the logging ban in 1998, there was a steep drop in the supply of raw material available for the enterprises to process. Second, there was a delay in approving the business plans of candidate enterprises owing to the lack of qualified appraisers in the provincial and county project management offices and the large number of procedural hurdles. Third, by the time a business plan was approved, the pattern of demand had often changed, so there was no longer a market for the product. Fourth, the firms were too small to reap economies of scale and used labor inefficiently relative to larger enterprises. The financial analysis conducted at completion shows that the net present value generated by the TVE component was only 7 percent of the appraisal forecast; this was mainly driven by the smaller than expected number of enterprises established.

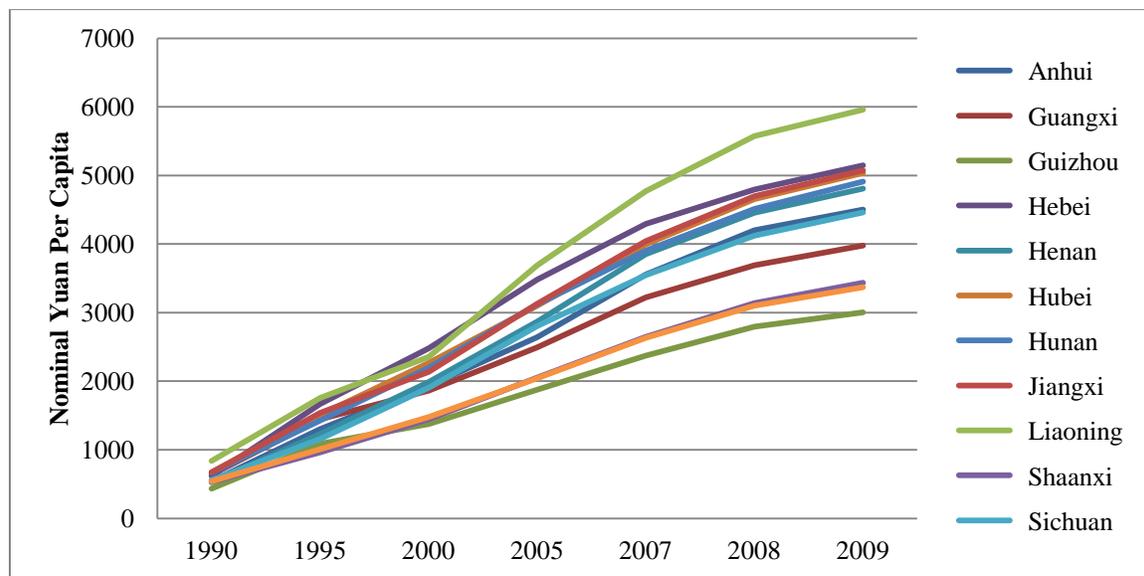
## **POVERTY REDUCTION**

2.22 Area targeting was generally sound: three-quarters of the 216 project counties were officially designated as poor; 67 percent of the 891,700 households that participated in the project were deemed poor (the target was 70 percent). Ethnic minorities made up 19 percent of participating households, slightly above the projection. Moreover, the number of households that had participated in the project by closing was 127 percent of the target set at appraisal.

2.23 In each of the 12 provinces included in the project, household surveys of project beneficiaries were conducted before project startup, at mid-term and one year before closing. These surveys show that, in nominal terms, mean annual income per capita rose from Y600 in 1998 to Y1110 in 2004. The 2004 mean was 116 percent of the target set for closing. Given that the timber species planted by the project had not yet matured, most of the income increase is attributable to revenues from other (short-cycle) tree crops and from wage work. Tree planting sponsored by the project created 110 million days of employment for farmers.

2.24 The household surveys also indicate that, between 1998 and 2004, households with per capita annual incomes of Y1500 or more increased from 8 percent to 47 percent of all households. Households earning less than Y500 per year fell from 41 percent to 2 percent of the total. At appraisal, the aim was to reduce the proportion of the population in project areas that was poor from 40 percent (the level in 1996) to 20 percent by project closing. This target was exceeded: when the project closed in 2005 it was estimated that 18 percent of the population fell under the poverty line. The household surveys from which this data is taken did not include a control group of persons not benefited by the project so it is therefore impossible to assess how much poverty reduction was driven by the project or by outside forces. Data from government statistical year books show that, in each of the project provinces, rural incomes grew rapidly in nominal terms over the implementation period of the project (Figure 5). The dates for which data are available that correspond most closely to the project implementation period (1998-2005) are 2000 and 2005. Between these dates, the lowest nominal income growth was recorded by Guangxi (34 percent) and the highest by Liaoning (57 percent).

**Figure 5: Per Capita Income of Rural Households in Project Provinces (nominal Yuan)**



Source: Government of China Statistical Yearbooks.

2.25 Although it is not possible to determine what proportion of poverty reduction was attributable to the project, poverty clearly went down, and project-driven outputs that

may plausibly be linked to reduced poverty exceeded the targets that were set for them. Achievement of the poverty reduction outcome is rated **substantial**.

## **FORESTRY DEVELOPMENT**

2.26 The project results chain interprets forestry development as the successful establishment of timber plantations, other crops, and township and village enterprises set up to process wood. Physical output targets for timber and non-timber species were exceeded and, in the course of the field visits, IEG verified the high quality of the husbandry practiced: trees looked healthy and well-thinned, the under-storey was uncluttered and there was evidence of regular tending. For the reasons examined above, wood-processing enterprises fared less well than expected. The project's contribution to forestry development may be inferred from the overall economic rate of return, which was 26 percent, just above appraisal expectations (24 percent). Of the total net value added (in economic terms), 61 percent derived from other crops, 39 percent from timber species (which contributed less because they had not grown to maturity by closing) and less than one percent from the wood-processing enterprises. Attainment of the forestry development outcome is rated **substantial**.

## **ENVIRONMENTAL MANAGEMENT**

2.27 According to the appraisal document, the baseline level of forest cover for project counties was 45 percent of the land area—although the completion report says this was an overestimate, the true level being around 35 percent. By closing, forest cover had risen to 47 percent, in line with the appraisal target. Bank aide-memoires report that, working with the Bureau of Water Conservancy, the project team estimated that water runoff and soil erosion was 67 to 75 percent lower on project sites planted in trees compared to treeless areas. Given that the area planted significantly exceeded the target, together with the evidence of high plantation survival rates, it seems likely that there were important benefits from reduced runoff and erosion. The project's contribution to protecting biodiversity is less clear because at this period there was a tendency for monocropping of timber species, which tends to reduce the range of plant and animal species that can co-exist with the planted trees. Also, no estimate was made of carbon sequestration. But neither biodiversity nor carbon sequestration was part of the project results framework. Achievement of the environmental management outcome is rated **substantial**.

Finally, the project objective envisaged that, compared to earlier projects, beneficiaries would have greater say in selecting investments and monitoring progress. The Community Forestry Assessments piloted by the Chinese Academy of Forestry helped to achieve this goal by involving beneficiaries in the preparation of business proposals and environmental management plans. The careful tracking of the number of the number of households participating in the project, their income levels and their ethnic makeup helped to ensure that the most vulnerable groups were not left out.

## **Efficiency**

2.28 The main output targets were exceeded, yet the total cost of the project was only 2 percent higher than the appraisal estimate. By the end of implementation, the standing

timber volume was estimated at 3.75 million m<sup>3</sup>, 25 percent higher than the appraisal target. This is because the area established in plantations was 22 percent higher than initially expected, and the effective supervision of input use and technical assistance boosted plantation productivity. Timber plantations are on course to exceed the ultimate harvest volume targets by one-fifth. Outputs for the firms set up to process forest products were not achieved, but this component had already been scaled back by mid-term and only absorbed 2 percent of the final project cost.

2.29 The economic and financial analysis was systematic and comprehensive. IEG compared the spreadsheets produced for appraisal and completion and found that the production models used were consistent, with plausible adjustments made to labor and input costs and output prices, based on trends during implementation. Better than expected prices for timber pushed up the rate of return for timber plantations. Labor costs rose more than expected, somewhat depressing the return to plantations of fruit and nut trees. (Annex B, Tables B6 and B7 independently verify the upward trend in log prices and in rural wages.)

2.30 Owing to the lower than expected number of enterprises set up, the rate of return for wood processing firms was less than expected. Balancing out these countervailing trends, the economic rate of return was 26 percent at completion, compared to the appraisal estimate of 24 percent. This is based on a conservative estimation of benefits, not including the gains from lower soil erosion, from carbon capture, and the short-term income generated by annual crops planted in between immature trees.

2.31 Project design was also efficient. The results framework comprised a set of outputs that were plausibly related to the expected outcomes. The one shortcoming concerned weak specification of the township and village enterprise component. The project's geographical targeting of the poor was convincing. There were no implementation delays and the project closed at the expected date.

2.32 Efficiency is rated **substantial**.

## **Ratings**

### **OUTCOME**

2.33 The project objective was highly relevant, given that further investment in establishing timber plantations would help to reduce pressure to log natural forest, contributing to the conservation goals of Bank and Borrower. Project design was substantially relevant because the results framework was sound. The design ensured adequate incentives for poor households to invest in plantation establishment, a consideration that outweighs the failure to anticipate the weak competitiveness of the small wood-processing enterprises that were to be established. Each of the three outcomes underpinning the project objective was substantially achieved. Efficiency is also rated substantial because the project's overall rate of return of 26 percent exceeded the appraisal estimate, because output targets were exceeded by a larger margin than the slight increase in costs, and because there were no implementation delays. Because the

shortcomings in relevance, achievement of objectives and efficiency were only minor, the project's outcome is rated **satisfactory**.

#### **RISK TO DEVELOPMENT OUTCOME**

2.34 Timber plantations, which will be finally harvested 20-25 years after establishment, are on track to exceed the output volume that was projected at appraisal. This is a consequence of the rigorous quality control that the project management offices applied to planting and tending practices. The strong commitment to the project shown by provincial and county forestry bureaus, coupled with the significant investment in training and technical assistance, makes it likely that the productivity of timber, fruit and nut plantations will be maintained. Timber prices rose sharply after start up, and continued to do so in the five years following closing, as IEG was able to verify (Annex B, Table B7). This has probably encouraged farmers to take good care of their plantations. Price trends for fruit and nut varieties have been more erratic, but crop diversification helps to insulate farmers from the losses that will result if the price of individual varieties plummets as a result of oversupply in local markets.

2.35 Various policy reforms have reduced the risk to development outcome. By restricting wood supplies from native forests, the 1998 logging ban stimulated demand for plantation produce. In 2004, the provincial governments removed the special agricultural tax (8 percent of gross revenues for timber and bamboo, and 10-12 percent for horticultural production), increasing the incentive to invest in tree crops. The most momentous changes have occurred in the area of tenure reform. The Rural Land Contracting Law, introduced in 2002, increased tenure security by enforcing 30-year land use contracts (subsequently extended to 70 years), prohibiting reallocations of land by village leaders and permitting transfers of land between households. The increased security of tenure probably boosted the incentive to invest in trees, during project implementation and well beyond. By reducing the risk that farmers will lose their land if they are not in residence, and by facilitating the renting out of land, these steps have variously increased the incentive to invest in land and promoted efficiency-enhancing outmigration. Migration to the cities has swelled the influx of remittances to rural areas, further promoting investment and boosting incomes, trends that have probably helped both to raise productivity and reduce poverty.

2.36 Risk to development outcome is rated **negligible to low**.

#### **BANK PERFORMANCE**

##### *Quality at Entry*

2.37 Project objectives were fully consistent with the strategy of the government and the Bank's country assistance strategy at the time of project preparation, and they remained relevant throughout implementation. The objectives were not strictly in line with the conservation-oriented 1991 forest strategy of the Bank, but they anticipated the evolution of corporate policy that was evident in the 2002 Bank Group strategy, the one that prevailed when this project closed (see Box 1 above). Implementation arrangements were sound, with the lead taken by the Project Management Center, with whom the Bank

had collaborated on four earlier forestry projects. Detailed implementation arrangements at the province and county levels had been fully worked out by negotiations. Care was taken to develop a monitoring and evaluation plan, including provision for baseline and mid-term surveys, before project start-up. Selection of the timber and fruit tree species to be promoted by the project was based on a careful analysis of market potential, with exclusion of all species that were locally over-supplied. The mix of fruit trees and timber species ensured that farmers would perceive adequate revenues in the short term as well as the long term. Special attention was paid to spelling out ways to promote participation by beneficiaries in implementation (through Community Forestry Assessments piloted by the Chinese Academy of Forestry), this being the first project of its kind in China to champion a participatory approach, backed up by monitoring of the number and type of households participating. As part of preparation, an environmental management plan was produced to strengthen safeguards against insect and disease outbreaks, soil depletion, fire, and loss of biodiversity. A rigorous economic and financial analysis was conducted at appraisal. The one flaw in quality at entry was the failure to anticipate the problems resulting from lack of skills and guaranteed markets that would limit the success of the Township and Village Enterprise component: this potential problem was not identified in the matrix of risks and mitigating measures proposed in the appraisal document. Not enough consideration was given to the possibility that the TVEs envisaged during preparation were too small-scale and too labor-intensive to be competitive. Quality at entry is rated **satisfactory**.

### *Supervision Quality*

2.38 Supervision missions were conducted at six-month intervals throughout implementation. All missions were soundly staffed, each including a range of technical expertise—including specialists in planting material, silviculture, horticulture, timber processing, agricultural economics and social assessment. The technical advice provided was of high quality. For example, early on the Bank alerted local project management offices to the danger of monoculture plantations—some farmers wanted just to plant high-priced Masson pine. The Bank emphasized the importance, for protecting biodiversity and resisting pests, of mixed stands, with as much retention as possible of natural vegetation in and around the sites. Oversight of M&E implementation was particularly thorough, with Bank supervision missions issuing precise instructions about the design of household surveys (sampling, questionnaire design, etc.) scheduled at project mid-term. The Bank did its best to ease the pressure on counties that were hard pressed to meet counterpart funding obligations, by increasing the disbursement rate to cover a higher percentage of plantation establishment costs. Also, in response to delays in fertilizer procurement, and taking into account the dispersal of project sites, the Bank was quick to consider the possibility of substituting national shopping for international competitive bidding. The Bank re-estimated the economic and financial rates of return at mid-term, to assess the effect of changes in output prices and input costs. This analysis provided the ammunition needed to bring home to the Borrower the need to diversify the fruit trees established and made a case for reducing the size of the TVE component.

2.39 Bank supervision missions included regular spot checks at a variety of field sites to ensure that plantation establishment was in line with quality standards. The Bank was quick to pick up the lack of diversification of horticultural species in some counties,

pointing out the risk that poor households would be too exposed to price falls and pest and pathogen attacks on particular species. The Bank also encouraged project management offices to pay more attention to nursery management and to accelerate the adoption of research findings and improved technologies. The Bank showed awareness of the need to view the household economy of project beneficiaries as a whole, within which forestry incomes played a relatively small role: one supervision mission recommended that project staff should not encourage farmers to use wage earnings exclusively for purchasing more plantation inputs, advising them instead to diversify their sources of income. Supervision quality is rated **satisfactory**.

2.40 Overall, Bank performance is rated **satisfactory**.

## **BORROWER PERFORMANCE**

### *Government Performance*

2.41 The project called for close coordination between central, provincial and county governments; each of these levels showed strong commitment during project preparation—to the poverty reduction as much as the production goals. Government was willing to introduce greater beneficiary participation, in line with Bank proposals. The only shortcoming in project preparation was the failure to realistically assess the potential for forestry TVEs. At project start up there was some delay in the signing of on-lending agreements between the Ministry of Finance and the provincial governments, and counterpart funds pledged by provincial governments fell short of the target (reflecting the difficulty of working in poor areas with local governments that had limited revenues). Provinces met on average 90 percent of their counterpart funding obligations, compared to the 60-70 percent met by counties and townships. In Hunan and Sichuan the logging ban introduced by the federal government in 1998 led to a halving of the budgets of counties heavily dependent on revenues from timber production, reducing their ability to honor counterpart funding obligations. Counterpart funding delays served, in some cases, as an obstacle to the procurement of chemical fertilizer, because suppliers expected payment before delivery. Also, some of the costs that were supposed to be borne by counties—project management fees, technical assistance, extension—were pushed on to farmers, because the counties did not subscribe the necessary counterpart funds. However, there was a concerted attempt to address this shortfall and at closing 94 percent of the counterpart funding target had been met. It is also a reflection of government suasion that there is no evidence of farmers failing to repay the loans they had received through the project. Strong government commitment, at all levels, helps to explain why output targets were amply exceeded (with the exception of the TVE component). Government performance is rated **satisfactory**.

### *Implementing Agency Performance*

2.42 From the start, provincial and county project management offices conducted tight control over implementation. There was good compliance with standards in the operating manual: the quality of the planting stock lived up to expectations and plantation survival rates averaged 92 percent. The limited incidence of fires and pest and disease outbreaks testifies to the close control that was exercised. Project units in the provinces and

counties worked hard to meet targets for training farmers and forest technical staff. Care was taken to ensure that brochures on good planting, tending and disease control practices were widely disseminated. There was a high level of responsiveness to, and compliance with, recommendations made in Bank supervision missions. For example, when the Bank pointed to the need for better nursery management, there was already evidence by the following supervision mission of substantial improvement in the quality of planting stock in the province visited. Close attention was paid to targeting the poorest households, with the project management offices stepping up the monitoring of household participation in response to Bank suggestions. Legal covenants were fully complied with.

2.43 There were some weaknesses. The staff of the project management offices was better equipped to provide advice to farmers about silviculture than horticulture or TVEs. These offices were often slow to assess market prospects for the various species or to encourage farmers to make contact with private grower associations. The implementing agencies at the various levels could have more closely supervised the on-lending contracts that farmers were required to sign. Bank supervision missions found that farmers were not always aware of the costs of seedlings, fertilizers, and other goods received in kind, costs that were not detailed in the loan contract. In many cases, farmer contracts were held by the collective, with no copies issued to individual farmers. TVE feasibility studies often failed to ensure that candidate enterprises met the ownership and management criteria, or had sufficient full-time workers from poor households. Project staff showed limited understanding of the appraisal criteria. Provincial project management offices were sometimes slow to provide the necessary briefing materials and training to staff conducting feasibility studies of TVEs. But, overall, the various implementing agencies operated energetically and efficiently and they share, with government, the credit for exceeding project targets. The coordination between central and local project management officers was impressive. The performance of the implementing agencies is rated **satisfactory**.

2.44 Overall, Borrower performance is rated **satisfactory**.

## MONITORING AND EVALUATION

### *Design*

2.45 The Bank approved a monitoring and evaluation plan which included: a set of performance indicators to be quantified annually; collection of baseline socio-economic data on project beneficiaries and areas under the community forestry assessment program; a sample survey of project households at mid-term and closing to collect the socio-economic data necessary to evaluate poverty reduction; and a survey of plantation growth at the end of the project for assessing attainment of production objectives. (However, there was no survey of comparable, non-participating households, making it impossible to determine what share of income growth and poverty reduction was attributable to the project.) At negotiations the Bank obtained assurances that the monitoring and evaluation plan would be implemented, and reached agreement about the timing and reporting requirements for the household and plantation surveys.

### *Implementation*

2.46 The baseline survey was carried out in June-July 1999, covering 200 households in 41 villages scattered over the 12 provinces participating in the project. Based on lessons learned from the baseline survey the implementing agency revised its plan for the subsequent household survey, staging a workshop in June 2000 to discuss ways of improving monitoring and evaluation. Supervision reports repeatedly note weaknesses in the measurement of community participation, and the tendency of monitoring to focus on production outputs. Tracking of the number of participating townships, villages and households was subsequently strengthened. Monitoring of plantation quality control was erratic, with some counties performing better than others. In February 2001, a mid-term household survey workshop was organized for the relevant survey experts and the survey plan was modified in the light of recommendations made at the workshop. The mid-term survey was conducted in March 2001, covering 221 households in 18 counties of the 12 participating provinces. At mid-term, about half of the performance indicators were quantified. By project closing the household and plantation surveys envisaged at appraisal—baseline, mid-term and final—had all been carried out. The increase in the per capita income of project beneficiaries between baseline and closing was estimated. However, there were some gaps in collecting the data needed to assess progress toward appraisal targets: for instance, it was unclear at project close to what extent the project had met the target for an increase in the standing volume of timber; also, there was uncertainty about the size of the shortfall in meeting targets set for the Township and Village Enterprises, and the amount of farmer training that was delivered.

### *Utilization*

2.47 According to the completion report, effective monitoring helped strengthen project implementation, with the implementing agency fine-tuning its approach in the light of information received. The borrower's report states that the consistency of the approach taken to surveys facilitated tracking over time, allowing management to adjust accordingly. However, the completion report gives no examples of changes in project management made in response to analysis of monitoring and evaluation results.

2.48 IEG rates overall monitoring and evaluation as **substantial**.

## **3. Sustainable Forestry Development Project**

### **Objective, Design and Relevance**

#### **OBJECTIVE**

3.1 In line with the guidelines for evaluating operations combining IBRD/IDA and GEF financing, the project is rated against the project development objective, not the global environmental objective. According to the Project Appraisal Document, the project development objective was “to ensure that viable, participatory, and locally managed systems for conservation, management, and sustainable use of forest resources

and associated biodiversity were developed and adopted in project sites to promote sustainable development and management of forest resources and protect the natural environment.”<sup>5</sup> The global environmental objective was consistent with the project development objective, aiming “to foster improved conservation and sustainable management of biodiversity in remaining natural forest areas by ensuring effective in situ protection of threatened and globally important forest habitats and rare and endemic species.”<sup>6</sup>

3.2 From the project development objective, IEG derives two outcomes: sustainable development and management of forest resources; and protection of the natural environment. A further aim of the project was to scale up the approach pursued in pilot areas, developing models for wider replication under the government’s Natural Forest Protection Program (NFPP).

## DESIGN

3.3 The project consisted of three components:

- Plantation Establishment (estimated cost at appraisal, US\$93.0 million; actual cost at closing, US\$92.3 million). This comprised: establishment of 115,000 ha of commercial wood plantations; establishment of 58,000 ha of economic tree crops; thinning of 61,000 ha of existing plantations; and strengthening the Borrower’s capacity to provide technical support services (through introduction of improved genetic materials, training and extension, and improvement of rural infrastructure). This component was funded with an IBRD loan.
- Protected Areas Management (estimated cost at appraisal, US\$16.0 million; actual cost at closing, US\$16.0 million). This comprised: participatory approaches to nature reserve planning and management; promotion of community-based nature conservation; and staff training, studies and monitoring and evaluation. This component was funded with a grant from the Global Environment Facility and supervised by the World Bank.
- Natural Forest Management (estimated cost at appraisal, US\$20.0 million; actual cost at closing, US\$22.0 million). This component aimed to promote improved sustainable management techniques in natural forests protected under the Natural Forest Protection Program, with a view to improving livelihoods of communities most affected by the logging ban. Activities were implemented in natural forest areas outside nature reserves and outside the main areas of plantation forest. Activities comprised: development, testing and introduction of natural forest management models in selected areas (including resource assessments, review of laws and regulations, economic valuation of forest services, revision of the State Forestry Administration manual on forest planning, monitoring and evaluation of plan implementation); enabling communities to improve livelihoods and develop sustainable forest management land-use practices; training and information

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5. World Bank 2002: 2. Although worded slightly differently, the statement of the project’s objective in the Loan Agreement was substantively the same.

6. World Bank 2002: 2.

dissemination; and help to workers laid off by state-owned forestry enterprises to find alternative work. This component formed, in practice, a separate operation that was parallel-financed with a grant from by the European Union; it was supervised by the EU alone rather than jointly with the Bank.

## IMPLEMENTATION ARRANGEMENTS

3.4 The plantation establishment and protected area components were overseen by the Bank, with the Project Management Center (PMC) of the State Forest Administration taking the lead on implementation. Implementation of the natural forest management component, which was parallel-financed by the European Union, was entrusted to the Natural Forest Protection Center (NFPC), another department of the State Forest Administration.

## SCOPE

3.5 The Plantation Establishment component was intended to include 2.7 million beneficiaries, less than 1 percent of which were from ethnic minorities; this component spanned eleven provinces (Table 3). The Protected Areas Management component was intended to benefit 57,200 people of whom 71 percent belonged to an ethnic minority; 13 provinces were covered. The Natural Forest Management component sought to reach about 29,000 beneficiaries, 40 percent of which were from ethnic minorities; 3 provinces were included in this component. Although this project sought to include ethnic minorities among its prime beneficiaries—and ethnic minorities tend to be poorer than the average for the rural population—this project was not targeted at the poor.

**Table 3: Geographic Scope of Sustainable Forestry Development Project.**

PROVINCE	NUMBER OF PROJECT SITES			
	PLANTATION FOREST	PROTECTED AREAS	NATURAL FOREST	TOTAL
Anhui	20			20
Gansu	4	1		5
Guizhou		1		1
Hainan	6	1	1	8
Hebei	5			5
Henan	20			20
Hubei	8	1		9
Hunan	10	2	2	14
Liaoning	9			9
Shandong	18			18
Shanxi	6			6
Sichuan	1	5	3	9
Yunnan		2		2
<b>Total</b>	<b>107</b>	<b>13</b>	<b>6</b>	<b>126</b>

Source: Bank files

## RELEVANCE OF PROJECT OBJECTIVE

3.6 The project's objective echoed the government's environment strategy which sought to promote large-scale reforestation, in addition to supporting the sustainable protection and management of the remaining natural forests, and strengthening the management of biodiversity and nature reserves.<sup>7</sup> The project's objective was also consistent with the aims set out in the program matrix for the FY03-05 Country Assistance Strategy, which made explicit reference to the project (World Bank 2003). The FY06-10 Country Partnership Strategy (CPS) had less to say about forest issues and did not single out the project in the relevant section of the Results Matrix (World Bank 2006b). However, through its contribution to carbon sequestration, the project might reasonably be supposed to have furthered the goal of mitigating climate change, which was an explicit part of the FY2006-2010 CPS. Project objectives were also in line with the corporate strategy of the World Bank Group, issued in 2002 (see Box 1 above).

3.7 Unlike previous projects, this one did not include poverty reduction among its objectives. This was a pragmatic adjustment, reflecting the more onerous terms that beneficiaries would face in repaying loans now that China had graduated from IDA to IBRD borrowing status. The Ministry of Finance on-lends the proceeds of Bank projects to beneficiary households and is strongly committed to recovering these loans. It was deemed likely that poorer households would not be able to meet the higher interest rates and shorter grace periods associated with IBRD loans. Although two of the project components were grant funded (not requiring beneficiaries to repay the proceeds), the loan-funded plantation establishment component accounted for 72 percent of the estimated project cost and it was the need to recover this substantial part of project resources that led to the decision not to target poor households.

3.8 The project objective was consistent with findings for China in IEG's evaluation of how the Bank had implemented its 1991 Forest Policy (IEG 2000a). This study found that there were good reasons to continue World Bank investment in plantations in China, because this would help not only to save China's natural forests but also to avert future increased pressure on both domestic and global forest resources. But the report also called for a diversification of the Bank's forest interventions in China to address the socioeconomic and environmental challenges posed by the 1998 logging ban (IEG 2000a).

3.9 The objectives of the project marked a significant broadening of the Bank's forest program in China, a shift away from the previous exclusive focus on plantation establishment. This was consistent with the rapid growth of private enterprise in China, which suggested that ultimate responsibility for establishing commercial timber plantations would move to private firms, leaving the public sector to concentrate on environmental protection. Consistent with this logic, the Bank made a persuasive case in the appraisal document for not including the restructuring of state-owned forest enterprises as an objective: the Bank's long-run aim was to promote a larger role for the private sector, an objective that might have been stymied if it had been drawn into the

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7. A significant strategy study, *China: Air, Land, and Water*, was prepared jointly by the Bank and the State Environmental Protection Agency in 2001 (see World Bank 2001b).

difficult task of revamping moribund state enterprises. The relevance of the project objective is rated **high**.

### **RELEVANCE OF PROJECT DESIGN**

3.10 The relevance of project design considers whether the planned activities are consistent with the project's objectives, evaluating the logic that links the project's inputs and outputs to the outcomes that the project seeks to achieve.

3.11 Although the statement of the project's objective was not explicit in the following respects, it is clear from the list of expected outcomes that the project aimed to achieve sound management of three distinct types of resource: plantations, protected areas and natural forests. In the case of plantations, management quality could be inferred from realization of the key output targets: the volume of timber and bamboo harvested and the income generated from fruit and nut trees. This was slightly problematic because the target dates were respectively 2025 and 2022, the point at which plantations would reach full maturity—no intermediate target was set for project closing. Management quality of natural forests and protected areas would be assessed using a scale developed by the International Union for the Conservation of Nature, but the project results framework did not specify the evaluation criteria to be used.

3.12 The overarching goal was to bring China's forest resource under sustainable management (World Bank 2002a). This presupposed that farmers and rural communities would benefit directly from forest production and conservation activities. With respect to production benefits, the key concern was the return to forestry relative to the other income-generating activities that could be conducted on forestland: were the scale and the timing of benefits better than what alternative activities could offer? The project sought to maximize the scale of benefits by providing for the training and the tight control over inputs needed to enhance plantation productivity. It addressed the disincentive effect implicit in the delayed maturation of timber plantations by combining these species with the planting of fruit and nut-trees that would yield income in the short term. The rapid economic growth in China was pushing up demand for timber, paper and other forest products making it likely that rising output prices would create an incentive to plant trees. In general, the project logic for production-oriented forestry was persuasive. Although rapid growth was pushing up labor and input costs, and drawing workers away from the land to work in cities, forestry was less labor intensive than agriculture, helping to increase its relative competitiveness.

3.13 The project logic was less convincing with respect to the conservation-oriented interventions: natural forest management and protected areas. Would the revenues generated from these interventions be large enough to guarantee the commitment of local governments and communities to sound management? In the interests of conservation, governments and communities had already been expected (under the logging ban) to give up a substantial part of the revenue that had previously received from timber harvesting. What alternative incentives could be offered to compensate? Provision of small-scale village infrastructure was one inducement offered by the project, but villagers would still benefit from that even if they poached wildlife and logged forest—the flow of benefits was not contingent on sound husbandry. Setting up micro-credit schemes was another

inducement, but although these might help households smooth their consumption would they generate additional jobs and incomes? The protected area patrols that were set up would bring in some modest wage earnings for those villagers who participated. But in general there was little emphasis on livelihood development. Ultimately, it was livelihood improvements rather than the opportunity to take part in participatory planning exercises that would win villagers over to the conservation cause. The project gave insufficient consideration to improving livelihoods. For example, the plans for each reserve that were to be drawn up under the project divided the protected areas into core, buffer and experimental zones; while the core self-evidently needed to be off-limits to humans if animal and plant species were to be protected, no attempt was made to define the range of income-generating activities that would be acceptable in the buffer and experimental zones.

3.14 The relevance of project design is rated **modest**, based on weak specification of the incentives needed for beneficiaries to commit to improved management of protected areas and natural forests.

## **Implementation**

3.15 The project was approved on April 16, 2002. The mid-term review was conducted in October 2005. The plantation establishment component closed on August 31, 2009, as expected at the outset. The protected areas component closed on August 31, 2010, one year later than initially projected. The natural forest management component closed on June 30, 2010, two years later than forecast. When the project was prepared it was expected that the natural forest management component would be co-financed by the European Union and, like the other two components, supervised by the Bank. After the legal documents had been signed, the European Union announced that it would parallel finance and supervise the component itself.

3.16 Early on, there was a delay in fertilizer procurement owing to the centralized system agreed to at negotiations which proved cumbersome. Tendering documents took a long time to prepare, fertilizer had to be moved over great distances, and suppliers showed little interest in participating. In April 2004 the Bank recommended that arrangements be modified to allow for fertilizer to be procured with counterpart funds, rather than using loan proceeds.

3.17 Township and county governments in Hainan were reluctant to borrow for commercial timber plantations because of doubts about financial viability. Hainan province pulled out of the plantation establishment component and the funds were transferred to Henan.

3.18 Implementation was intermittently disrupted by natural hazards. Bad weather in Liaoning, Shanxi, Hubei, Sichuan and Gansu held up planting and reduced plantation survival rates. In 2008 damage from snowstorms and a severe earthquake hampered progress in a number of project areas, particularly in Anhui, Hubei, Hunan and Sichuan. PMC estimated that 116,900 ha of project plantations were affected (37 percent of the total area established). Some protected areas also suffered damage. The government acted

speedily to redress damage to plantations and infrastructure and, overall, implementation remained on track.

3.19 Implementation of the natural forest management component encountered several obstacles. Province-level administration of the project was carried out by teams of consultants (led by the German bilateral aid agency) rather than local government staff. There was a 20-month delay in staffing the technical assistance effort: implementation formally began in 2003 but the team was not in place until February 2005 (and then the team leader had to be replaced in October 2008). During implementation the main project management office was shifted from Chengdu to Beijing resulting in further delays, resignation of staff and a further loss of momentum. In response to the slow progress made, the EU extended closing by two years, setting a new date of June 30, 2010.

3.20 *Safeguards* This was a Category A project, requiring a full Environmental and Social Impact Assessment (ESIA) and an Environmental Management Plan, setting out provisions for mitigation, monitoring, and institutional strengthening. In compliance with OP4.01, the ESIA was very thorough, involving interviews with 1,500 households in 242 project villages spanning thirteen project provinces. All people likely to be affected by the project were informed of the ESIA findings, through mass distribution of leaflets and meetings in over one hundred randomly selected villages (World Bank, 2002a). The main risk identified was possible disturbance to local habitats during site clearing and tree planting. Environmental Protection Guidelines were followed and supplementary site screening measures were included. Bank staff cooperated closely with the Project Management Center to ensure that there were no deviations from the guidelines.

3.21 Several other environmental safeguards applied to the project. Documents in the project archive show that these were satisfactorily complied with. With respect to OP4.04, there was no conversion of natural habitats. The forestry safeguard (OP4.36) was observed: no plantations were established in natural forest. Following guidelines set out in the Environmental Management Plan, plantation sites were carefully selected to ensure protection of biodiversity. In line with OP4.09, a Pest Management Plan was prepared, with training of farmers and staff to reduce use of chemicals. Care was taken to ensure that the project did not encroach on cultural property (OP11.03). There were no cases of involuntary resettlement (OP4.12) but, just in case, contingency plans were drawn up.

3.22 *Financial management* Audits were unqualified but, at the county level, there were some weaknesses in financial management, reflecting gaps in the staff's understanding of the accounting regulations stipulated by the Ministry of Finance (aggravated by high staff turnover). On the Bank's recommendation, provincial project management offices responded by stepping up the training of county-level staff. Project management offices sometimes neglected to explain the terms of on-lending contracts to farmers (loan conditions, exchange rate risk, counterpart funding). Farmers were not always made aware of their rights and responsibilities. Although project legal documents specified that foreign exchange risk should not be passed on to final beneficiaries (who received loans in Chinese currency), in some provinces, the contracts that farmers were required to sign indicated mistakenly that they would bear this risk. Once these problems had been pointed out by the Bank, PMC worked swiftly and effectively to resolve them.

## Achievement of Objective

*Ensure that viable, participatory, and locally managed systems for conservation, management, and sustainable use of forest resources and associated biodiversity were developed and adopted in project sites to promote sustainable development and management of forest resources and protect the natural environment.*

### **SUSTAINABLE DEVELOPMENT AND MANAGEMENT OF FOREST RESOURCES**

3.23 This outcome depended on successful establishment and management of plantations, and improved husbandry of natural forest. Each will be examined in turn.

3.24 Of the five output targets set for *plantation establishment*, four were amply exceeded (see Annex B, Table B5). First, 201,770 ha were planted in species of timber, with two-thirds devoted to poplar. The area planted exceeded the target by 76 percent. Second, 392 million improved seedlings were planted, 48 percent more than projected at appraisal. Third, the thinning of timber plantations was carried out on 86,228 ha, 41 percent above target. Thinning was concentrated on 8-12 year old stands and the main species thinned was Chinese fir (60 percent of the area covered). Misshapen trees were removed to improve the quality of the stand. Fourth, over 700,000 households took part in the diverse forms of planting and thinning, 5 percent more than expected.

3.25 The one shortfall concerned the planting of fruit and nut trees: 42,200 ha were planted, against a target of 57,900 ha. Relative prices had shifted since the earlier Forestry Development in Poor Areas Project (assessed in the previous chapter). Many farmers now found that it was more profitable to plant timber species than to grow fruit and nuts. Other short-term income sources (e.g., remittances from family members working in cities) probably substituted for the revenue from planting of fruit and nut trees; also, farmers were able to plant annual crops in between immature timber trees.

3.26 Plantation establishment was expected to contribute to the forest resources development outcome through increased wood production and higher incomes and employment. At appraisal, the target for wood production was to be achieved by 2025 and no attempt was made to establish an intermediate indicator that could be measured at project closing. However, there is plenty of evidence to suggest that the ultimate production target will be met. First, the area planted was much greater than expected. Second, 97 percent of the improved seedlings produced were of Grade 1 quality, helping to boost plantation productivity. There were regular plantation quality checks and these showed that growth rates met or exceeded project targets. Third, thinning targets were exceeded; judicious thinning increases the volume of timber that is yielded when the plantation reaches maturity. Fourth, only 5 percent of the area planted in trees was damaged by pest and disease and survival rates exceeded 95 percent, testimony to the good husbandry practiced by farmers; which in turn was facilitated by a training effort that exceeded the expected number of days.

3.27 No surveys were conducted to measure the increments in incomes and jobs that had been generated by project closing. However, thinning probably generated significant income for households in the short term. Although most of the logs extracted were of small diameter and low quality, they could be sold for pit props, firewood and, in some

cases, veneers. Incomes from fruit and tree crops were also probably significant, although less than originally expected owing to farmers preference for planting timber species. There is some concern that fruit and tree crops may flood local markets, leading to a collapse in prices and incomes. On the other hand, the diversity of crops planted helped to reduce risks. Species included jujube (16 percent of plantings), peach (15 percent), pear (14 percent), apricot (13 percent), and chestnut (8 percent). A possible further incentive for fruit and nut production was provided by the government's decision to remove the Special Agriculture Product Tax in 2004 (a provincial tax applied to 8 percent of the gross revenues for timber and bamboo, and 10-12 percent for horticultural production).

3.28 It is not clear how much incomes were reduced by the blizzards and earthquakes of 2008, which hit about one-third of the plantation area established by the project. However, IEG saw plenty of evidence in Sichuan of the substantial efforts made by government to redress this damage. Given the commitment that was displayed, it seems likely that long-term income projections are attainable. The massive surge in domestic demand for timber will help to ensure that the projected incremental income target will be met.

3.29 In contrast to plantation establishment, *natural forest management* was a much riskier way to ensure the positive silvicultural outcome that was sought, mainly because there were few past experiences to learn from. This component piloted improved approaches to developing resource inventories and planning, attempting to build a link between broad strategies and village-level operational plans. Forest management strategies were drawn up in 4 townships. These strategic plans defined the potential of different zones and set out the silvicultural objectives of each zone. Based on these strategies, operational plans were developed in 4 villages, encompassing the use of timber, firewood, and non-timber forest products, as well as grazing of domestic animals, and ecotourism. These plans sought to generate increased incomes from improved silviculture.

3.30 Work on this component also entailed attempts to diversify village livelihoods. Investments included 58 entry-point activities (intended to jump start villager participation at project startup) and 271 micro-infrastructure subprojects: these investments included feeder roads and trails, small irrigation canals and drinking water supply and sanitation. According to a European Union monitoring report, building roads and bridges in remote areas had the biggest impact. In addition, 76 alternative livelihood subprojects were launched, including beekeeping, bamboo processing, orchards, herbal medicines, poultry rearing and community-based ecotourism. Micro-credit schemes were set up to provide small loans for income-generating activities in 29 villages and 4 State Forest Enterprises, aiming to target households with limited access to bank credit. Loans were given to 3,200 people, mainly for animal husbandry, crop production and small business.

3.31 The contribution that natural forest management made to the forest resource development outcome was limited. The micro-credit schemes were the one conspicuous success during implementation. Loan procedures were closely complied with and recovery rates were high. However, the unpublished European Union project completion

report noted that these schemes were unlikely to survive long without fresh injections of cash; villagers needed to start paying service fees and contributing matching funds. A bigger consideration is that the component did little to advance attainment of the overall project objective. Most of the subprojects promoted were not forest-related, failing to create a link between community development and sustainable forestry management. (For example, bee keeping was developed outside the forest, not inside as intended.) Also, in project areas there were several parallel efforts at community development, ranging from government programs to private initiatives funded with remittances sent by family members working in towns. Therefore, it is difficult to sort out the difference made by the project.

3.32 There were several other outcome shortfalls. None of the various plans developed were approved by government, apparently because they were not legal, having been developed outside the official forest planning framework. If the project-sponsored participatory planning exercises were to bear fruit, forest laws would need to be changed. Silvicultural demonstrations were compromised because the baseline characteristics of forest stands were not properly assessed before new treatments were prescribed; and there was a lack of follow up. Attempts to get villagers and technical staff to work more closely together were unsuccessful: the co-management committees set up in 11 townships did not prosper, leading to disputes with forestry officials (over approaches to managing state forests) and resistance from villagers (concerned about their tenure rights in collective forests). A bid to introduce ecosystem modeling proved too much of a stretch given available technical skills. Community-based ecotourism showed some promise but, in general, the alternative livelihood subprojects were poorly implemented, with insufficient attempt made to target households with the financial means required to support these enterprises.

3.33 Summing up, while the plantations established under the project will, if present trends continue, exceed their silvicultural goals, there is one caveat. Unlike in the Forestry Development in Poor Areas Project (assessed in the previous chapter), there were no baseline and follow-up household surveys. Therefore, it is not clear by how much the incomes of participating households rose during implementation. For this reason, the contribution to the forest resources management and development outcome is assessed as substantial, rather than high. The contribution made by the natural forest management pilots was negligible. Balancing these two considerations, IEG rates progress towards this outcome as **modest**.

#### **PROTECTION OF THE NATURAL ENVIRONMENT**

3.34 This outcome hinged on the performance of all three project components. By avoiding monoculture and through proper site selection (targeting fragile slopes), the establishment of *plantations* would conserve flora and fauna diversity and reduce soil erosion. Creating plantations also reduced pressure to harvest timber from natural forest. Careful management of *natural forest*—involving appropriate thinning and selective harvesting—would increase the health of the growing stock, preserve biodiversity and also reduce soil erosion. Improved management of *protected areas* would help to preserve endangered species, such as the snub-nosed monkey. Tree conservation in the

core (untouched) zone of protected areas would also protect biodiversity and limit soil erosion by ensuring uninterrupted ground cover.

3.35 In the areas of *plantation establishment*, progress on environmental protection was significant. First, environmental protection guidelines established by the project were strictly applied. For example, pest management plans were developed that included the substitution of chemical retardants by careful screening and use of natural predators. Second, the greater-than-expected area planted means that more carbon will be sequestered than initially projected. Third, compared to earlier plantation projects, there has been a significant move away from monoculture, reducing the susceptibility to pests and disease and promoting biodiversity. The stands visited by IEG showed considerable diversity of timber trees, rich under-storey vegetation, and vibrant plant and bird life.

3.36 Plantations established under the project increased forest cover in project counties by an average of 1.4 percent. Plantations will help to mitigate climate change by sequestering carbon. The project files show that, using a mean annual increment of 15m<sup>3</sup>/ha/year for the 201,700 ha planted, and a figure of 1.83 tons of carbon sequestered per m<sup>3</sup> of wood produced, around 5.5 million tons of carbon will be sequestered each year over tree crop rotations of between 8 and 30 years.

3.37 The *natural forest management* pilots were not formally evaluated but there is good reason to suppose that they made only a small contribution to the project's environmental protection outcome. Work on these pilots added to knowledge about forest resources and a variety of outputs were generated. Forest maps were prepared for 11 townships, based on satellite images and existing topographic maps. In addition, with the participation of villagers, land use strategy maps were prepared for 12 townships, distinguishing zones of ecological and commercial forest. Comprehensive forest resource inventories were developed and demonstrated in 7 townships, taking account of non-timber species not previously included (such as medicinal plants and fodder). Also, 25 silvicultural demonstrations were conducted, introducing villagers to improved techniques of thinning and grafting, with a view to boosting the productivity of forestry. However, the many shortfalls noted in the previous section necessarily limit the contribution made to environmental protection. Important lessons may have been learned but the ultimate scope for change was limited because local governments did not approve the plans that were developed.

3.38 In contrast, steps taken to improve *protected area management* made an important contribution to environmental protection. The main output target was achieved: management plans for 13 nature reserves were adopted in the first two years of project implementation (see Annex B, Table B5). Between them, the 13 nature reserves covered an area of over 1 million ha.

3.39 The planning process proceeded systematically, by the following steps. By 2004, nature reserve boundaries had been fully demarcated (3,000 km in length) and the constituent zones of the reserves—core, buffer and experimental—had been mapped. By 2005, management plans for all 13 nature reserves had been completed and approved by local authorities and the State Forestry Administration. The plans specified that 477 investment and capacity-building activities would be implemented under the project.

Despite delays caused by the 2008 earthquake in Sichuan, all of these activities were completed before project closure. By 2006, all 13 protected areas had prepared ecological baseline maps. Training in the use of geographical information systems was delivered in all reserves. In 2008, biodiversity surveys were conducted in Western Sichuan, leading to the identification of new plant species and generating an improved understanding of habitats. A comprehensive report on the results of this survey work helped inform conservation planning. In 2010, management plans were reviewed, revised and updated for the next 5-year period for all 13 protected areas.

3.40 Communities were engaged in several ways. Participatory rural appraisals were carried out in 187 villages. Twenty-six villages took part in exercises to develop community resources management plans. Another 36 villages were enrolled in demonstrations of energy-saving technologies. Ten villages took part in exercises to reduce damage caused by wild animals, using fences and alarm systems. Wood-saving stoves were ultimately introduced in 109 villages, benefiting 4,390 households and reportedly cutting firewood consumption in half. In addition, community conservation funds were set up in demonstration villages, totaling Y4.1 million, shared between conservation activities and small livelihood-improvement loans directed at the poor. Sixty percent of these funds were set up with money from the GEF, the rest being provided from government counterpart contributions. Around 4,500 people benefited from activities sponsored by these funds.

3.41 There were a set of parallel initiatives to build capacity. Villagers and government staff were shown how to manage nature reserves, while also learning about biodiversity conservation, monitoring, patrolling, and the relevant laws and how to enforce them. Nature reserve managers and technical staff participated in study tours to Canada, France, South Africa and Germany. A series of handbooks on nature reserve management were prepared and distributed to 31 forestry bureaus throughout China.

3.42 While there is plenty of evidence to indicate that outputs were satisfactorily delivered, it is somewhat harder to assess outcomes. The primary outcome indicator consisted of measuring capacity at the 13 reserves, using a scorecard based on the World Commission on Protected Areas Framework, which rates infrastructure, numbers of staff, and skill levels. The mean score for the 13 reserves rose by more than the target amount between the baseline and project closing (see Annex B, Table B5). Although a mid-term report produced by the State Forestry Administration gives the baseline scores for each reserve, no comparable report was produced at closing. Thus, it is not clear how much variation there was between reserves in progress beyond the baseline. IEG was unable to ascertain whether the same person had scored each reserve at baseline and closing, or how independent of the State Forestry Administration this scoring process was. Evidently, no attempt was made to use a credible authority such as the International Union for the Conservation of Nature to do the grading at start and finish.

3.43 The staffs of the two nature reserves visited by IEG are highly committed. They rate very highly the capacity built by the project. IEG was able to note project achievements in the villages located in and around the two reserves: progress in organizing regular patrols; in installing improved stoves and biogas digesters; and in monitoring species diversity (which included entering in a log the sightings of animals, together with

details on the precise location, using handheld GPS devices). As a result of the project, staffing levels were increased, and many officers received high-level training. Although there is no guarantee that all of the staffing increment generated by the project will be kept on, central and local governments have pledged more resources for protection.

3.44 Four shortcomings picked up by IEG during the mission also feature at various points in the Bank supervision record. First, at the Badagongshan Nature Reserve in Hunan, IEG found that some of the technical staff in the reserve had difficulty explaining why there are three zones in the reserve: core, buffer and experimental. While the logic of having a core zone of biodiversity with zero encroachment is fairly easy to explain, staff members had more trouble distinguishing between the activities that were permitted in the buffer and the experimental zones. If they faced difficulties in explaining this to IEG, they might well be even less successful in communicating the essential points to villagers. A Bank supervision report from a October 2005 mission, which included visits to the Houpingshan Nature Reserve in Hunan and the Fanjingshan Nature Reserve in Guizhou, noted that the different objectives and approaches for core, buffer and experimental zones was not made explicit in the locally-prepared management plan. Second, there are few boundary markers so that trespassing—intended or unintended—is perhaps hard to avoid. In the reserves visited by IEG there was no gateway in and out of the reserve, no fencing and no obvious demarcation of the three zones. The same problem was noted in a Bank supervision report from the August-September 2006 mission, which included a visit to the Baishuijiang Nature Reserve in Gansu. Third, at the Baimaxueshan Nature Reserve in Yunnan, some of the villagers told IEG that, although they had been involved in the mapping and planning exercises, they did not play a decisive role in shaping the design of environmental protection initiatives: as one man noted, “they told us what to do and we did it.” Now that the project has closed it is possible that some of the momentum needed to ensure villager commitment (e.g., for updating plans) may be lost.

3.45 A fourth concern is the lack of consideration given to ecotourism, the revenue from which is potentially one way to help finance upkeep of the reserves. At both central and local government level, there is little awareness of the scope for exploiting different market niches and the variations in infrastructure and services that each customer group would require; or ways to ensure that ecotourism does not compromise natural resource conservation. One staff member said that large numbers of fee-paying visitors would not be likely to visit remote nature reserves; and if these reserves ever became accessible the nature they were set up to protect would almost certainly be destroyed by visitor pressure. There is an element of truth to this; but the point was made in a way that suggests there is no nuanced understanding of what is, and is not, feasible—and that, despite the study tours financed under the project, there is little awareness of what has been achieved in other countries.

3.46 To what extent did the project reduce pressure on the resources in the reserves? This is difficult to assess. First, owing to the absence of socioeconomic surveys (baseline and follow-up), it is not clear to what extent more incomes and jobs were created for villagers in and around the reserves. Therefore, it is not obvious what incentive communities have to give up old habits of gleaning (wood, herbs, and mushrooms), grazing, and animal trapping. It is possible that the nationwide surge in migration from

rural to urban areas reduced pressure on the natural resource base (including protected areas), outweighing the effects of projects such as this one.

3.47 These are important caveats, but based on observations made during the site visits, IEG was left with the strong impression that, overall, improved management of the *protected areas* increased environmental protection to a substantial degree. A high contribution to environmental protection was also made through the careful way that *plantations* were established and tended. In contrast, interviews with the technical staff who worked on the pilots, and the findings of European Union monitoring and completion reports, indicate that negligible progress was made on improving *natural forest management*. Balancing these three considerations, achievement of the environmental protection outcome is rated **substantial**.

## Efficiency

3.48 For the plantation component and the protected area component, output targets were met or exceeded and, despite the one year implementation delay associated with protected area component, final costs were no higher than expected at the outset. The natural forest management component performed less well: outputs were less than expected, closing was delayed by two years, and costs were 10 percent higher than expected.

3.49 The economic analysis at appraisal and completion was limited to the plantation establishment component, which represented 71 percent of total project costs at closing. Benefits consisted of the revenue flowing from timber and resin products, consisting of intermediate outputs (such as income from thinning) and from the final cut; to this was added the revenue derived from bamboo wood and shoots and fruit and nuts. The estimate of benefits was conservative, leaving out returns to food crops that were planted between the immature trees and the various environmental services generated by plantations. Costs consisted of labor for planting, tending, thinning and harvesting trees and inputs such as seedlings and fertilizer. Over the 25 years or so of the investment, labor accounts for more than two-thirds of all costs.

3.50 Outputs exceeded expectations while costs at closing were fractionally less than the appraisal forecast, suggesting that net benefits will be higher than expected. The area of timber plantations established was 142 percent of the original target. It is estimated that the total timber output (realized by 2025) will be 29.6 million m<sup>3</sup>, or 224 percent of the target. Pre-commercial thinning was carried out in an area of 86,200 ha of existing plantations, 141 percent of the original target. The only exception to this trend of higher-than-expected outputs concerns fruit and nut trees: the actual area planted in these trees was 57,940 ha, or 73 percent of the appraisal projection.

3.51 All the cost and price data were supplied by the State Forest Administration. Data from this source included an estimate of the shadow wage rate, which was assumed to be the same at appraisal and completion (Y12 per day), because in the remote areas covered by the project there was supposedly a farm labor surplus owing to the lack of alternative job opportunities (World Bank 2011). The Bank team queried this assumption at completion but SFA insisted it was plausible, so it was reflected in the re-estimated rates

of return. While the wage rate was held constant, output prices were adjusted to reflect increased demand for forest products. (Annex B, Table B7 independently verifies the upward trend in log prices.)

3.52 IEG made its own estimate of the rate of return for the species of timber and fruit and nut trees that were the most widely planted at project sites, taking the original model and leaving all values unchanged except the wage rate. This adjustment was in line with evidence from several sources, including China's Statistical Yearbook (see Annex B, Table B6). In its mid-term review report in October 2005, the Bank acknowledged that the appraisal had underestimated labor costs; during the field visit the mission found that the wage rate for establishing poplar in Hunan was Y30 per day. Other sources point to even higher rates. According to an academic expert in China, who was able to draw on nationwide forestry surveys, Y15 per day was a plausible wage rate for 2000; but the rate had risen to around Y60 per day by 2007 and continued to rise after that. According to Province Yearbooks, wage rates in counties included in the plantation establishment component of the project more than doubled between 2004 and 2008.

3.53 As expected, this adjustment reduced the economic and financial rate of return; but not to the extent that the project ceased to be viable—the rate of return remained above the 12 percent opportunity cost of funds (Table 4). The completion report estimated that the economic rate of return for the plantation component as a whole was 28 percent (compared to 25 percent at appraisal). Extrapolating from its own re-estimate IEG derives a component-wide economic rate of return of 20 percent. Not included in this estimate is the benefit from the carbon that the plantations sequestered. The completion report noted that, with a market value of U\$5.00 per ton, this could generate additional financial benefits of around U\$25 million per year.

3.54 Summing up, comparing achievement of output targets per component to component cost, resource use was efficient for two of the three components. Although the estimation of net benefits is limited to plantation establishment, that component accounted for 71 percent of project costs—and the economic rate of return exceeded expectations. Therefore, IEG rates efficiency as **substantial**.

**Table 4: Re-estimated rate of return for selected plantation species.**

	FINANCIAL RATE OF RETURN			ECONOMIC RATE OF RETURN		
	APPRAISAL	ICR	IEG RE- ESTIMATE	APPRAISAL	ICR	IEG RE- ESTIMATE
<b>Timber</b>						
- Masson Pine	14.0	17.7	15.7	18.0	18.8	17.0
- Italian Poplar	25.0	27.7	8.9	30.0	29.4	15.1
- Moso Bamboo	21.0	23.0	18.2	18.0	25.4	21.4
<b>Fruit/Nut Tree</b>						
- Walnut	17.0	20.7	7.7	19.2	21.7	10.7
- Pear	23.0	46.9	34.7	29.0	49.0	38.8

Source: Spreadsheets from project files at appraisal and completion, adjusted for wage rate assumptions.

## Ratings

### OUTCOME

3.55 The project's objective was highly relevant, both because it was consistent with government's increasing commitment to conservation and to the Bank's country strategy to diversify away from the concentration on plantation establishment. The project design was modestly relevant, mainly because there were doubts about the incentives for communities to help improve management of protected areas and natural forest. There were two outcomes on which achievement of the project objective hinged: attainment of the forest resources development and management outcome was rated modest, reflecting a caveat about the otherwise strong performance of plantations (reported income gains were not verified through household surveys), and the poor performance of the natural forest management pilots; attainment of the environmental protection outcome was rated substantial, balancing variations in the performance of plantation, natural forest management and protected area initiatives. Efficiency was substantial because, even after adjusting for the underestimation of labor costs, the plantation establishment component yielded an economic rate of return of 20 percent; this component absorbed almost three-quarters of total costs and therefore drives any estimate of overall project efficiency. Summing up, given the moderate shortcomings in relevance and the achievement of objectives, the project's outcome is rated **moderately satisfactory**.

### RISK TO DEVELOPMENT OUTCOME

3.56 The two project outcomes face negligible to low risks with respect to the plantations that were established. Timber plantations are currently on track to exceed the outputs projected at appraisal. The strict control over the quality of planting and tending and the control of fire, pest, and disease threats make it probable that this trend will continue. The technical assistance and training provided by the project have provided farmers and forestry bureaus with skills that will outlive the project. A post-project management plan was prepared, helping to increase sustainability prospects. Demand for products produced by this component is growing strongly. The environmental protection and pest management guidelines developed under project auspices also increase prospects for sustainability.

3.57 The two project outcomes face moderate risks in relation to the achievements in improving protected area management. Management capacity was significantly enhanced by the project and the high level of commitment that IEG witnessed in nature reserve staff and local government officials, coupled with the central government's strong conservation mandate, makes it likely that the project investment will continue to bear fruit. There is a need however to further improve the livelihoods of villages in and around the nature reserves (paying higher wages, for example, to patrol guards recruited from the villages; and exploring prospects for ecotourism). In the absence of these improvements, biodiversity may deteriorate.

3.58 The two project outcomes face high risks with respect to the attempts made to improve natural forest management. An unpublished EU monitoring report from November 2008 concluded that the pilots had, at that time, no prospect of being

sustainable because there were insufficient benefits to the community from sustainable timber extraction (as opposed to the community development benefits provided by the project—benefits which, according to this report, would not extend beyond the short term). The forestry technicians interviewed by IEG in 2011 agreed with this assessment. Unless forest laws are changed there is no scope for implementing the new approaches to forest management that the project sought to champion. The possibility that the logging ban will be extended in natural forest areas reduces the incentive for farmers and county governments to invest in natural forest management.

3.59 Balancing these divergent levels of risk, and taking into account the preponderant share of total benefits accounted for by plantation establishment, the overall risk to development outcome is rated **moderate**.

## **BANK PERFORMANCE**

### *Quality at Entry*

3.60 When the project was prepared it was fully consistent with the priorities of the Borrower, and with the Bank's country assistance strategy and 2002 corporate forest strategy. The project objective was highly relevant, as noted above. In other respects, quality at entry was sound. The project received a Category A rating for environmental issues and, correspondingly, there was a rigorous environmental assessment and safeguard policies were carefully formulated. Social assessment and the design of participatory planning were equally thorough. The institutional arrangements were generally sound, building on PMC's demonstrated efficiency as the implementing agency, capable of ensuring a solid chain of command from center to provincial and county governments, and orchestrating effectively the large number of project management offices across China. Appraisal cost and benefit estimates for the plantation establishment component were generally sound: there was some underestimation of the likely increase in labor costs but this was offset by a larger than expected increase in the price of timber. The centralized procurement of fertilizer was a minor shortcoming: this involved high transport and handling costs because the project sites were widely dispersed.

3.61 But there were some gaps in the project logic with respect to the protected area and natural forest management components: as noted in an earlier section, design relevance was modest. The design of monitoring and evaluation (see below) was also modest. Although this intervention was not targeted to the poor it was an oversight not to allow for measurement of changes in beneficiary incomes, because the growth in incomes relative to trends outside the project would have implications for the sustainability of forest interventions.

3.62 In preparing this project the Bank was conscious of the consequences that would flow from China's graduation from IDA to IBRD terms. Given the government's firm commitment to recovering the proceeds of on-lending to project beneficiaries, there was a concern that poorer households would either not apply for, or not be eligible for, the loans made available. Therefore, the Bank sought to mobilize concessional funds to soften IBRD terms, seeking recourse to grants from the Global Environment Facility and

from the European Union. Initially, the European Union agreed to cofinance (leaving the Bank in charge of supervision); but, at the last minute, the EU declared that it would parallel finance the natural forest management component, meaning that it would take the lead on supervising that component. At this late stage in preparation, the Bank had little leeway to renegotiate the financing. Parallel financing meant that the EU component was implemented like a separate project with minimal involvement by the Bank. At appraisal the intention was expressed that “where possible, joint supervision and mid-term reviews will be carried out with the EU for effective review of cross-cutting issues.”<sup>8</sup> But oversight of this component was entrusted to the Natural Forest Protection Center, a department of the State Forest Administration with which the Bank had no formal relationship. Therefore, although the Bank was not responsible for the disruption caused by the EU’s untimely withdrawal, the implementation arrangements that were made before the EU withdrew made it possible that the natural forest management component would be detached from the wider project.

3.63 Quality at entry is rated **moderately satisfactory**.

### *Supervision Quality*

3.64 The plantation establishment and protected area components were supervised regularly by the Bank, with each mission comprising staff and consultants with the expertise needed to cover the diverse technical areas. The supervision reports show that the Bank visited a wide range of project sites and was incisive in identifying problems and recommending fixes. When counterpart funds were delayed, when disbursement lagged, when funds needed reallocating between expenditure categories, the Bank was quick to take the necessary steps. The Bank spotted, for example, that some project management offices were not supervising closely enough the on-lending contracts with farmers. It pointed out the need to apprise farmers of their rights and responsibilities and agreed with the PMC that additional training would be given to project management staff in the localities. In August 2004 the Bank rectified a problem in the procurement arrangements it had initially approved: fertilizer procurement was decentralized to project management offices in provinces and counties, lowering costs and speeding-up delivery.

3.65 Supervision of the natural forest management component was conducted independently by the European Union; the Bank did not participate in these supervision missions and is not responsible for shortcomings in the performance of this component. European Union representatives participated in Bank supervision wrap up meetings but there was no other coordination with the Bank, and there is no evidence that the two institutions learned from each other’s experience. Missing from the documents in the mid-term review package was a progress update on implementation of the EU-financed natural forest management component; however, a monitoring report, dated November 2008, was supplied to the Bank as an input to the completion report. Supervision quality is rated **satisfactory**.

3.66 Overall, Bank performance is rated **moderately satisfactory**.

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8. World Bank 2002: 8.

## **BORROWER PERFORMANCE**

### *Government Performance*

3.67 Government showed strong commitment to the project throughout preparation and implementation. There was a high level of project ownership, extending from the ministry level to the provinces, prefects, counties, and towns, each of which contributed a share of counterpart funds through a “responsibility system” that helped to enhance the incentive for each level of government to make projects work. Commitment was generally strongest at the level of central and provincial government. Support by county governments was uneven and, at this level, there were variations in the compliance with operating standards and, in particular, in the timeliness of counterpart funding. The mid-term review mission found that counterpart funding from county governments in Hunan averaged 54 percent of the annual plan, leading to some shortfalls in planting quality and plantation management. But the project would not have performed so strongly against output targets if it had not, overall, received the significant support of government at the three levels. Government performance is rated **satisfactory**.

### *Implementing Agency Performance*

3.68 The Project Management Center (State Forestry Administration) was responsible for implementing the plantation establishment and protected area components. The PMC performed well throughout the project, coordinating effectively with the many provincial and county project management offices, attending swiftly to problems that arose and complying diligently with reporting guidelines. As further evidence of its thoroughness, the PMC developed a post-project management plan shortly before closing, helping to enhance the sustainability of project achievements.

3.69 Of the three project components, implementation performance was strongest for plantation establishment. Project management offices (PMOs) exercised tight quality controls, as a consequence of which seedlings were of the required standard, nursery management was sound and there were few pest and disease outbreaks. PMOs helped to ensure plantation productivity quality by observing the principle that reimbursement would be made only if plantations and supporting inputs met the prescribed standards. Operational manual guidelines were fully complied with. Regular training on nursery management was conducted at central, provincial and county levels. PMC proved adept at mobilizing the necessary specialists to provide on-the-spot technical guidance and consultation. Bank supervision reports bear out the claim in the completion report that environmental protection guidelines were strictly observed in counties and provinces. The only significant shortfall was in meeting the target for overseas training and technical assistance (only 13 percent of this expenditure category had been disbursed at mid-term).

3.70 Implementation of the protected areas component showed some weaknesses. Although IEG found a high level of commitment by staff in the protected areas it visited, it also noted that the technical staff were not able to explain the rationale for differentiating between core, buffer and experimental zones. Bank supervision reports corroborate this point, based on visits to nature reserves other than those seen by IEG (see paragraph 3.44 above for details). According to Bank supervision reports, the

formulation, monitoring and evaluation of work plans and biodiversity surveys were of uneven quality. Also, the Bank found that in some reserves the frequency and rigor of patrolling needed to be increased, with more systematic recording of birds and mammals seen during patrols. More attention needed to be given to educating villagers about environmental protection. Towards the end of the implementation period, the Bank noted that too little thought had been given by implementing agencies to the scope for revenue generation in the protected areas; it was assumed that the financial sustainability of these areas would depend wholly on new funding from government programs and external projects. Possibly the implementation performance for this component was somewhat weaker because the lead at the center was taken by PMC (whose mandate and experience favored plantation establishment); the branch of the State Forestry Administration that is specifically responsible for protected areas was not closely involved in project implementation.

3.71 Although the project legal agreements show that the Natural Forest Management component was an integral part of the project, it was executed independently from the Bank- and GEF-financed components. The implementing agency was not the PMC but another department of the State Forestry Administration, the Natural Forest Protection Center. IEG interviewed a European Union manager in Beijing, and in the provinces it discussed performance with forestry technicians who had implemented the component. Province-level administration of the project was carried out by teams of consultants (led by the German bilateral aid agency) rather than local government staff. In the course of implementation there was little contact, or exchange of information, between the Bank and the European Union team. Neither side joined each other's supervision missions, although the EU sent representatives to the Bank's supervision wrap-up meetings. EU representatives also participated in the launch workshop in October 2002 and a completion workshop in September 2009. Missing from the documents in the mid-term review package was a progress update on implementation of the EU-financed natural forest management component; however, a monitoring report, dated November 2008, was supplied to the Bank as an input to the completion report. The performance of this component was compromised by the 20-month delay in staffing the technical assistance effort: implementation formally began in 2003 but the team was not in place until February 2005 (and then the team leader had to be replaced in October 2008). During implementation the main project management office was shifted from Chengdu to Beijing resulting in further delays, resignation of staff and a further loss of momentum. In response to the slow progress made, the EU extended closing by two years, setting a new date of June 30, 2010. IEG interviewed local staff who had worked on this component. They told IEG that changes in the technical assistance team had a disruptive effect, that procedures and procurement were cumbersome, that foreign consultants were not able to make a persuasive case for the project to local authorities and that too large a proportion of the funds disbursed (around one-third) went to pay for the technical assistance teams rather than benefiting villagers participating in the project.

3.72 Implementing agency performance was thus highly variable. The performance of PMC and the other project management offices was highly satisfactory for the plantation establishment component, and satisfactory for the protected area component. For each component, there was good coordination between centre, province and county levels, strongly led by the PMC. For the natural forest management component, the performance

of the Natural Forest Protection Center and the local teams was unsatisfactory. Balancing these considerations, IEG rates overall implementing agency performance as **moderately satisfactory**.

3.73 Overall borrower performance is rated **moderately satisfactory**.

## MONITORING AND EVALUATION

### *Design*

3.74 At appraisal it was proposed that four main indicators would be used to assess whether the project met its development objective: (a) 6 natural forest management areas under effective management on-the-ground by closing; (b) 13 nature reserves under active and effective management by closing; (c) 6,900 villages benefiting from participation in project activities by closing; and (d) project generates 13.3 million m of timber and 2.73 million metric tons of bamboo by December 31, 2025, and Y1.1 billion net income from tree crop production by December 31, 2022. Indicators (a) and (b) were weak because effectiveness would be a matter of subjective judgment—with no guarantee that different experts would have the same opinion. Indicator (c) made no attempt to show how the number of participating households was distributed between the three components—an important consideration given that each component was associated with a different set of locations. Indicator (d) was also unsatisfactory because the target date was too distant from the end of implementation. A target for production levels at closing should have been estimated. An intermediate outcome indicator did set a target for closing but it was an area not a production target and thus not sufficient. Also missing was any attempt to measure the change in incomes of households participating in the project. Even if poverty reduction was not part of the project objective it was still important to assess the economic impact—partly because this would be likely to influence the sustainability of results.

3.75 By the time of appraisal the only monitoring and evaluation plan available was for the plantation component (where the implementing agency and the Bank had substantial experience from previous projects they had worked on together). Although this plan was deemed satisfactory by the Bank it did not contain any provision to monitor household incomes, even though, at one point, the appraisal document suggests this was an intention.<sup>9</sup> The monitoring plan for the protected area component was to be approved by the Bank no later than December 31, 2002, that is eight months after Board approval of the project. The appraisal document contains sketchy details about monitoring of the EU-financed natural forest management component, but no actual plan; and in the records available to IEG no evidence of a plan could be found, at any time during project implementation.

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9. World Bank 2002: 54. (In the section on M&E of the plantation component it says that arrangements should “ensure the households [sic] benefits are adequately considered.”)

### ***Implementation***

3.76 For the plantation and protected area components, monitoring and evaluation was implemented by the Project Management Center (PMC) in Beijing, by province-level Project Management Offices, by county-level Forestry Bureaus, and by the nature reserves. M&E of the natural forest management component was the responsibility of the EU; if any monitoring reports were produced they were not shared with the Bank.

3.77 With respect to the plantation component, the PMC provided thorough and timely information on implementation progress. A report produced by PMC in September 2005 gives a detailed account of how monitoring was implemented: after afforestation rigorous plantation quality checks were carried out by project management agents, first at the county level, second at the province level and finally (using a random selection of sites) by the PMC itself. The same report makes no reference however to any tracking of household incomes even though the tree crops would have generated revenues in the short term.

3.78 Monitoring of the protected areas component was the responsibility of the Division of Nature Reserves, a unit of the State Forestry Administration with which the Bank did not have a close relationship. Reporting on the protected areas component was generally thorough, although the Bank had to push for greater attention to measuring the project's impact on biodiversity. A report produced for the mid-term review assesses progress for each of the 13 protected areas in the project, suggesting that systematic monitoring was in place. But the Bank recommended that data on three indicators (that were already being collected) be made part of each nature reserve's regular progress report to help raise awareness: *biodiversity status* (e.g., sightings of species, bird counts); *biodiversity threats* (e.g., quantity of firewood removed, number of households living in the reserve); and *management response* (e.g., numbers of villagers involved in patrolling, number of households participating in community planning).

3.79 Taking the project as a whole, there were two shortcomings. There was no systematic attempt to survey beneficiary satisfaction with the project or socioeconomic impact. Also, given the threat to farmer incomes posed by overproduction of fruit it would have been appropriate to monitor fluctuations in the price of these crops.

### ***Utilization***

3.80 Observations in the ICR suggest that M&E findings helped guide project management. The detailed and timely accounts of implementation progress prepared by the Project Management Center highlighted problems that needed addressing, providing invaluable support to Bank supervision missions. In some cases, the project management offices identified substandard field operations under the plantation component and, based on these findings, county staff and farmers were advised to remedy the problem. As time passes, the benefits from the biodiversity monitoring system will be more fully realized, given that biodiversity changes can only be properly assessed in the medium to long term. In the case of biodiversity monitoring, the payoff to M&E will only be apparent some years from now given the time it takes for species differentiation.

3.81 In view of the weaknesses in specification of indicators and the apparent lack of provision for monitoring the natural forest management component, IEG rates overall monitoring and evaluation as **modest**.

## 4. Analytic and Advisory Activities on Forestry

4.1 Analytic and advisory activities (AAA) include sector analytic work and technical assistance. In 2008 the Bank prepared a sector report that drew substantially on the results of two technical assistance activities that were separately (and previously) commissioned by the Bank, drawing on the resources of the global Program on Forests (PROFOR). This chapter assesses the combined result of these three activities. Since there was only one measurable output (the sector report), no attempt is made to separately evaluate the outcomes of the technical assistance activities. This chapter is organized around the criteria that IEG uses to assess economic and sector work. These criteria, and the derivation of ratings, are outlined in Annex C. Annex D contains the template that was used to carry out the evaluation, showing the detailed questions that IEG posed and the corresponding responses. The findings and recommendations of the sector report are summarized in Box 2.

4.2 The package of activities assessed here (henceforth, “the Forest AAA”) aimed to provide a stronger analytic basis for government and Bank initiatives on forests in China. The sector report that emerged from the Forest AAA responded to a demand within the Bank—*not from China*—to examine the justification for continuing the Bank’s engagement with forests along the lines previously pursued (that is, exclusively devoted to establishing plantations). The concept note for the sector report observed that the combination of alternative sources of investment for forestry, stiffer lending terms, and increased costs of safeguards and other Bank requirements had challenged the relevance of the Bank’s forest interventions in China.

### Strategic relevance and ownership

4.3 *Did the work address a key development constraint and is it coherent with the country assistance program?* The work clearly responded to an important problem in China. Despite the country’s impressive record in plantation establishment and the net gains in forest cover, the domestic supply of timber, paper and other forest products is not growing fast enough to cover demand in China. This creates pressure to mine forest resources in China and (by way of imports of raw and processed forest products) in other countries. The sector work considered what reforms were needed to increase forest productivity in a sustainable way, both in the areas of collective forest tenure and in areas dominated by state-owned forest enterprises (where productivity was particularly low). The FY06-10 Country Partnership Strategy (CPS) that was current when the work was delivered included no details on forest interventions, but did include the related topic of climate change in the list of environmental priorities to address; land reform was also singled out for special attention—and the reform of the collective tenure of forestland potentially fell under this rubric. The Forest AAA was not included in the list of AAA

scheduled by the Bank, but this is hardly surprising because this work was identified too far into the CPS cycle for it to have been envisaged when the CPS was written.

## **Box 2: Findings and Recommendations of the 2010 China Forest Sector Report**

The report identified three themes for the Bank's future forest strategy in China.

### **Theme 1: Manage the Bank's shift out of financing plantation establishment**

#### *Findings*

- Recent forestland tenure reforms "have largely obviated the need for direct public sector support for investment in commercial forest plantations".
- However, there remains an unmet demand for commercial forestry investments; financial institutions and private investors (including foreign investors) still face restrictions on their ability to invest in forestry.

#### *Recommendations*

- The Bank has a role to play in helping to identify and develop appropriate institutions, regulations and policies to facilitate private sector investment in forests.
- The Bank should limit its forestry plantation investments to non-commercial objectives such as soil and water and ecological services.

### **Theme 2: Consolidate institutional and policy reform of the collective forest sector**

#### *Findings*

- The results from an 8-province survey commissioned for this report show a wide variety of tenure changes; regression analysis shows statistically weak associations between a range of village characteristics and changes in the tenure pattern.
- In 4 out of the 8 provinces, tenure became significantly more individualized between 2000 and 2006; in the other 4 it did not; holders of individual tenure were *not* more likely than other tenure holders to perceive that they have more forestland rights (freedom to transfer, mortgage, harvest, etc.).
- Support services are inadequate.
- The system for allocating timber harvest quotas does not reward sustainable management; other regulations are complex and unevenly applied.

#### *Recommendations*

- Deliver technical support, marketing and financial services to forest enterprises.
- Replace logging quotas with forest management plans, jointly prepared by local forest authorities, village leaders, and farmers.

### **Theme 3: Restructure the state forest sector**

#### *Findings*

- Economic modeling presented in the report shows that there is an unrealized timber supply potential in the forest areas controlled by state enterprises.
- State enterprises are burdened by social obligations (education, health care, pensions) that are financed by overexploiting natural forest.

#### *Recommendations*

- Restructure (privatize) state enterprises to better husband timber resources, with appropriate provision for redundancy packages and retraining.
- Support transitional arrangements for financing the social overheads borne by state enterprises.
- Launch a program of forest ecosystem rehabilitation, consisting of thinning, plantings and other treatments.

Source: Adapted from World Bank 2010.

4.4 *Was the work delivered at the right time in relation to key decisions?* The AAA was not keyed to a particular decision point in the government or the Bank's program. Nevertheless, the work was timely because, after twenty years or so of interventions that had mainly been limited to plantation establishment, and in the absence of any previous sector work on forest policy, it was appropriate for the Bank to examine the scope for broadening the dialogue with China to address support for further reform of forest policies and institutions (an endeavor that the government of China had previously preferred to tackle alone). A 2000 China case study, prepared as part of an IEG forestry

study, noted the sharp contrast between the frequency of sector work on agriculture in China and the complete absence of any similar work on forestry (IEG 2000a). This gap was partly filled in 2002 when the Bank provided technical assistance support to the high-profile China Task Force on Forestry/Grassland. The task force assessed the likely impact of the logging ban and the forest set-aside policy but it did not directly address the topics covered by the Forest AAA that is being evaluated here. A Country Economic Memorandum prepared by the Bank in 2003 had a brief section on prospects for agriculture but made no reference to forestry (World Bank 2003b). Therefore, by 2008, when the Forest AAA was launched, an analytic report on the sector was long overdue.

4.5 *Was there evidence of strong interest by government, development partners, or civil society and/or evidence of active engagement of government agencies or local institutions in conducting the work?* There was no formal government request for the sector report that was delivered in 2010. Nor did the preparation of that report respond to priorities identified in discussions with other development partners. However, the sector work drew on the results of two technical assistance activities that had been separately commissioned before by the Bank, and each of these activities involved close collaboration with Chinese institutions. The technical assistance on Northeast China forest industry supply was carried out with the National Forestry Economics and Development Research Center, which is affiliated to the State Forestry Administration (SFA). The task included training forestry technicians in supply curve estimation. The second technical assistance activity was carried out with Beijing University; faculty and students from the Environmental Economics Program conducted household surveys in collective forest areas. The results of this survey work were received with interest by the Policy and Legislation Department of SFA, which (according to the sector work concept note) supported further engagement by the Bank in analyzing policy reform options. However, this amounted to an informal expression of interest by one department in SFA; SFA as a whole made no formal request for the Bank sector work, nor did the Bank's main interlocutor, the Ministry of Finance, make such a request. When the sector work was planned no attempt was made to define, early on, which government agencies would be approached to take the lead on discussing the findings and promoting implementation of the recommendations. Ostensibly, the most appropriate candidate to serve as a champion was the Policy and Legislation Department of SFA. But in practice this department played a reactive role in relation to the reform process and did not have the necessary clout to take the lead on dialogue; it was overshadowed by the more powerful Project Management Center of SFA, with which the Bank had developed a close working relationship. During the IEG mission in November-December, the Project Management Center ruled out any discussion of the policy issues tackled by the sector work, even though IEG made it clear in advance that this was part of the mission's terms of reference.

4.6 Strategic relevance and ownership is rated **satisfactory**. The demand for this work came from within the Bank's sector unit, not from government decision makers, or from other development partners. Forest issues do not figure prominently in the FY06-FY10 Country Partnership Strategy that was current when the sector work was prepared. But the issues tackled by the sector report were highly relevant to China's development needs. There was a growing demand for forest products and protecting the environment needed balancing with incentives for private sector investment in forestry. The sector

report built on two previously-commissioned technical assistance activities that involved substantial participation by and engagement with Chinese counterparts. However, most importantly, the work allowed the Bank to rethink the terms of its forest interventions in China.

## Quality

4.7 *Did the work use appropriate knowledge and analytic techniques? Did the report analyze existing and/or new local data?* This was the first ever Bank sector work on forests in China so there was a great opportunity to make a substantial knowledge contribution. The resulting report set the scene for an important debate about the next round of institutional and policy reform, and the knowledge provided was germane to that discussion. The report gave a good summary of salient facts about the forest resource in China (such as tree cover, forest type, age structure). It also provided an instructive overview of the main forest policies and institutions. Details were given on the logging quota system and the forest management plans that are used to define the quotas. The report furnished new information about outcomes in collective forest areas that had undergone tenure reform. It provided solid evidence that, in the Northeast, there was considerable potential for a sustainable increase in timber production. This was an important contribution because previously the Bank had had little engagement in this region—or, more specifically, with the state forest enterprises that controlled large areas of natural forest in that part of China—and there had been no information with which to assess the scope for sustainable harvesting. Access to information (particularly information at the county level) remains problematic in China and the sector work performed a valuable service by generating new knowledge based on specially commissioned household surveys in collective forest areas and a major collaborative exercise with Chinese counterparts to pull together data on management and harvesting of timber in the resource-rich province of Heilongjiang, an important center of state forest enterprise.

4.8 Sound analytic techniques were employed. The chapter on collective tenure reform used regression analysis of the household survey data to identify how changes in the distribution of tenure types were influenced by a variety of possible drivers (for example, village characteristics, market development, scope for earning off-farm income, share of village revenue derived from forestry). The data collected on state forest farms in Heilongjiang were used to build a supply function from known costs and outputs associated with each identifiable forest management activity. This was a complex exercise led by an international expert who helped train Chinese counterparts in the use of this particular technique.

4.9 While the sector work added substantially to the Bank's knowledge of the sector, it did not meet all of the objectives identified in the concept note. The biggest omission concerned the role of the private sector. What was the extent of its engagement in China's forests? What legal and institutional obstacles existed to an expansion of its role? This is surprising because one premise of the report was that China was now at a point where commercial plantation development could be left to private enterprise, with public investment limited to plantations and natural forests of a manifestly public good nature (essential for environmental protection). The evidence adduced by the report begged an

important question: given the strict enforcement of the logging ban and the government's determination to seal off large areas of forest from exploitation, was it not possible that harvesting restrictions would deter private investment? In Heilongjiang, forestry bureau officials told IEG that the government had progressively increased the area of forests that was off limits to harvesting. While estimating potential supply was a valid exercise in itself, the report did not assess possible obstacles to the realization of that supply.

4.10 There were some other gaps in the final report. The objectives statement in the concept note included protected areas among the items to be covered (an important part of the Bank's China portfolio) but no work was conducted on this. Also missing from the report was an account of the evolution of the Bank's work on forests in China, the strengths and weaknesses of that work, and the nature of the relationship with government—background that was needed to help inform the discussion of the path ahead. Finally, an analysis of illegal logging and corruption formed a separate chapter in the June 2009 draft of the report but it was omitted from the final version. However, the decision to drop this chapter was in line with a recommendation made at the outset: the minutes of the concept review meeting show that the task team was advised not to address illegal logging and corruption in this assignment—a reason was not given in the minutes but possibly there was concern that broaching this sensitive topic would compromise the overall dialogue with government on forestry.

4.11 *Did the work make effective use of cross-country comparisons and global experience?* The report made passing mention of the global academic literature on forest property rights but did not provide any detail about experience in other countries. The workshops at which the report's findings were set out did not include presentations by experts knowledgeable about the record on forest policy reform outside China. The concept note said that the report would draw on the Bank's experience in Europe and Central Asia (ECA), experience that was highly relevant to China, involving as it did the shift away from centrally-planned management of the forest resource. However, the final report did not examine lessons from the ECA transition even though PROFOR had previously produced a well regarded piece of sector work on ECA countries, entitled *Forest Institutions in Transition: Experiences and Lessons from Eastern Europe*. Evidence from ECA (and the United States) suggests that, rather than strengthening the imposition of logging quotas devised and enforced by government, the best approach is for government and private sector to agree on a management plan, within which forest enterprises are granted the leeway to draw up a harvesting schedule, subject to the condition that long-term leases will only be renewed if management practices have proven sound.

4.12 *Did the work show evidence of a clear understanding of local institutions and context?* One of the work's important contributions was to provide a clear and concise account of the main forest institutions and policies, and to summarize the history of forest tenure reform in China. For Bank staff unfamiliar with forest issues in China the report provided a useful orientation, its contribution all the greater because no similar work had previously been conducted by the Bank in this area. Based partly on the findings of a separate review (Keliang 2009), the report presented a clear account of the logging quota system, the process for developing forest management plans, and the details of how logging and reforestation are administered. The work provided necessary context for

more detailed enquiry into the scope for applying lessons from the restructuring of collective forest enterprises to the moribund state-owned forest enterprises. However, although this question is posed in the summary at the start of Chapter III (“What is the extent to which reforms can be extended to the state-owned forest sector?”), nowhere in that chapter or elsewhere in the report is an explicit answer given.

4.13 *Did the work make clear and actionable recommendations?* The final report laid out three areas for future Bank engagement but did not make detailed recommendations. The three areas were: managing the transition away from direct Bank-finance of commercial, productive plantations; refining and strengthening the institutional and policy reforms made in the collective forest areas; and supporting the restructuring of the state forest sector. It could be argued that the Bank had only just begun to consider the scope for a dialogue with China on forest policy, and that before the client had been fully engaged it would be inappropriate (and counterproductive) to lay down precise recommendations. On the other hand, the concept note did not spell out how to proceed with the dialogue, omitting to name the actors that might serve as champions. Part of the problem was the amorphous nature of the State Forest Administration (SFA), which comprised a variety of departments who had no tradition of sharing information or coordinating activities. The Bank’s main (indeed, only) interlocutor at SFA, the Project Management Center (PMC), was too focused on a single area (plantation establishment) to champion a dialogue about broader issues. PMC was interested in lending, not AAA. In some respects, the suggested areas of future engagement were not sufficiently grounded in the report’s analytical chapters. Indeed, the various chapters lacked a concluding section teasing out the implications of the data presented for the dialogue that the Bank might launch with government.

4.14 *Was the work subjected to adequate peer review and client feedback?* The concept note and the June 2009 draft report were both reviewed by Bank natural resource management experts; there were no external reviewers. The peer reviewers had ample technical knowledge, based on experience in several countries, but none of them had recently worked on China. The response to peer review comments was uneven. The concept note envisaged that the sector work would primarily serve as an input to project preparation. One of the peer reviewers advised against this, a recommendation that was endorsed at the decision meeting and reflected in the final report. But a peer reviewer also commented that the concept note was unclear about the means to ensure ownership of the work by the State Forestry Administration; this oversight was not picked up in the decision meeting and the problem remained unresolved. Peer review of the draft report included precise recommendations for strengthening, few of which were incorporated: the main difference between the final report (dated April 2010) and the June 2009 draft was the dropping of a chapter on illegal logging and corruption—but this was decided by the unit manager, and was not recommended by the reviewers. Peer reviewer comments included the suggestion that each chapter identify the forest policy implications flowing from the findings in that part of the report; this recommendation was not heeded. Thus, the final draft of the chapter on forest supply in the Northeast removed a paragraph labeled “implications” that the reviewer had found unsatisfactory, but put nothing in its place.

4.15 There is little evidence to suggest that comments from the client helped to shape the final version of the report. The Bank's document archive indicates that written comments were received from the State Forestry Administration, the National Forestry Economics and Development Research Center (part of SFA), and Beijing University; the comments themselves are not logged. The final reports (both the English-language and the Chinese-language versions) were simultaneously posted on the Bank's website on April 1, 2010, well before the Ministry of Finance faxed five pages of comments (received on November 1).

4.16 Quality is rated **moderately satisfactory**. The work added substantially to the Bank's knowledge about forest matters in China, by marshalling a new set of data that was rich with implications for reshaping the Bank's relations with this important client. However, the report could have been more persuasive in arguing through the implications of the important findings presented and drawing on lessons learned from a similar forest policy transition in Europe and Central Asia. More attention should have been paid to incorporating the changes proposed by peer reviewers.

## **Dialogue and dissemination**

4.17 *Was the report appropriately disseminated?* No dissemination strategy was presented in the concept note that initiated the Forest AAA sector report. Given that the report's main audience was internal to the Bank, this omission perhaps understandable. Also, the government of China had long been disinclined to discuss policy with the Bank, making dialogue and dissemination a taller order compared to other countries where the Bank operates. The report was passively rather than actively disseminated. It was posted on the Bank's website. The report was also translated into Chinese but IEG was unable to verify how widely it had been distributed in China. Presumably hard copies were distributed because a Ministry of Finance fax in November 2010 cleared release of the report in Grey Cover. But most of the officials met during the course of the mission had not seen the report, and were not aware of its findings. IEG did not find evidence of media coverage.

4.18 *Did the report reach effectively the right audiences through appropriate targeted distribution and events?* Senior officials had the opportunity to comment and, as noted above, the Bank's archive show that written comments were received from the State Forestry Administration (SFA), the National Forestry Economics and Development Research Center (part of SFA), Beijing University, and the Ministry of Finance. But the comments themselves were not logged in the archive, and there is no reference to the content of discussions with senior policy makers. The Bank and SFA jointly hosted several workshops, plus an international conference on Tenure and Regulatory Reform, at which results from the survey work on collective forest tenure reform were presented. The draft report was presented at a workshop in Beijing on March 18, 2010. This workshop was attended by officials from the Ministry of Finance, SFA, the National Forestry Economics and Development Research Center, the National Development and Reform Commission, Beijing University and the Chinese Academy of Science. There is no documented record of discussions with other donors or civil society organizations.

4.19 *Was there evidence of sustained engagement?* When the work was prepared, no engagement strategy was spelled out. SFA was the most likely audience but this was an agency with multiple departments that had a tradition of not sharing information with each other. The Bank's usual interlocutor, PMC, was not interested in the Forestry AAA. There was significant engagement with staff of Beijing University and the National Forestry Economics and Development Research Center in the course of the work, but no record of follow up after the report was delivered.

4.20 Dialogue and dissemination is rated **moderately satisfactory**. The report was made publicly available in Chinese and presented at a number of events in China. There is a lack of evidence to assess the level of engagement with the parties driving forest sector reform in China. But discussing policy reform in China is peculiarly difficult, and the report's main audience was the Bank itself—factors that influence the rating.

## Results

4.21 *What impact did the work have on government programs and/or the broader development dialogue in the country?* There is no evidence that the work influenced government forest policy or shaped the dialogue with development partners. The Policy and Legislation Department of SFA informally supported Bank engagement on policy issues but it did not act as a champion for the work; nor is there evidence of a SFA-wide commitment to closer engagement on policy matters. At the wrap-up meeting for the IEG mission, which was coordinated by the Project Management Center, the Policy and Legislation Department was not present and PMC was disinclined to make space on the agenda for presentation and discussion of mission findings related to the sector work.

4.22 In principle, the timber supply modeling for Heilongjiang could have been extended to other provinces. However, when IEG asked if there were plans to replicate the work, officials said that there was no budget to do so. Also, when IEG visited the forestry bureau in Hailin (a county of Heilongjiang) it found that none of the senior managers interviewed were familiar with the supply modeling exercise. Moreover, these managers were not aware of the options for restructuring state forestry enterprise that were alluded to in the report; nor did IEG sense any momentum toward restructuring. In particular, there appeared to be no commitment to exploring ways of divesting the burdensome social overheads that are undermining the capacity of these enterprises to be financially self-sustaining.

4.23 *What impact did the work have on the design of the Bank's program and/or the subsequent Country Assistance Strategy?* The concept note envisaged that the work would provide a platform for developing two new projects, but at the review meeting the project team was advised not to treat the sector work as a medium for project preparation. Nevertheless, some of the recommendations in the sector report are reflected in the approach taken by subsequent projects. The report recommended that the Bank diversify out of commercial forest plantations, concentrating its efforts on public good plantations. The FY2010 Shandong Ecological Afforestation Project includes in the statement on project rationale the following statement: "most of the previous World Bank projects focused essentially on improving timber output, quality and standards, [but] this project would focus on environmental protection by creating forest covers and shelter belts in

areas prone to water and/or wind erosion, as well as in saline coastal areas.” (World Bank 2010b, p. 2) The FY2010 Integrated Forestry Development Project went a step further, actually citing the 2010 Forest AAA. It proposed to complement “the implementation of the ongoing Government policy on forestland tenure reform by implementing recommendations of the Bank’s analytical work on “Systematic Reform in China Collective Forestlands”. (World Bank 2010c, p. 2). In line with the report’s recommendations, the project contained a component that would pilot forest management plan development involving local forest authorities, village leaders and farmers. This was envisaged as an alternative to the logging quota system which, as the report made clear, was an obstacle to the sustainable management of forests.

4.24 The sector work also had an impact on the design of the Bank’s subsequent knowledge products. The FY2012 North East State Forest Reform Study (P121870) was a direct outgrowth of the earlier work, building in particular on the chapter dealing with reform of state forest enterprises. The FY2012 sector study aimed to develop a roadmap for the State Forestry Administration of China to support policy and institutional reforms in the management of state-owned forests in Northeast China, with a view to enhancing management efficiency, economic viability resource sustainability, and local livelihoods. The approach to this study suggested that a lesson had been learned from the 2010 Forest AAA: the minutes of the concept review meeting refer to the need, from the very beginning, to ensure early input and buy-in from the key government agencies.

4.25 The results of the sector work are rated **moderately satisfactory**. From the perspective of the Bank, the work began the reorientation of the forest program. So far the impact on the government’s program appears limited. However, given the government’s longstanding disinclination to discuss policy with its development partners, it would be unreasonable to expect that this one piece of work—the first of its kind in the forest sector—could transform the terms of the relationship; nevertheless, the work could perhaps prove to be the first step in that transformation.

## 5. Lessons

5.1 This assessment of forest projects and AAA has highlighted the steps the Bank has taken to move beyond its (highly successful) engagement with plantation development in China. Renegotiating its support for forest interventions involves supporting new activities, and finding new interlocutors. The Bank has been more successful in the first of these switches than it has in the second. As the FY2010 Shandong Ecological Afforestation Project and the FY2010 Integrated Forestry Development Project have shown, the Bank is now seeking to involve local forest authorities, village leaders and farmers in the design of forest management plans that would ultimately take the place of the logging quota system, which lacks transparency and is unevenly enforced. This is the latest phase in the evolution of a more participatory approach to forestry that dates back to the FY98 Forestry Development in Poor Areas, assessed in this report. In addition, recent analytic work builds on the 2010 Forest AAA that was evaluated here. The FY2012 North East State Forest Reform Study aims to develop a roadmap for the State Forestry Administration, to support policy and

institutional reforms in the management of state-owned forests in Northeast China, with a view to enhancing management efficiency, economic viability resource sustainability, and local livelihoods. Progress in the dialogue on policy reform will depend in no small measure on the Bank's ability to engage with new government agencies in China: the State Forestry Administration's Project Management Center (PMC) has proved to be a highly effective partner for plantation establishment—with a first-rate performance record, probably unparalleled in the world—but if the Bank is to broaden its engagement on forest interventions it needs to develop a dialogue with other interlocutors in addition to PMC. Since the sector work evaluated in this report was completed there is some evidence that the Bank's forestry team in China has diversified the scope of its engagement: although continuing to work with the Project Management Center (specifically, on plantation establishment), the Bank is working with other departments in the State Forestry Administration and directly with provincial governments.

5.2 Based on the assessment of the projects and AAA in this report, IEG draws three lessons.

5.3 ***Even if poverty reduction is not an objective of the project, there is a sound case for monitoring and evaluation to measure project-driven changes in the incomes of beneficiaries because these are likely to influence the incentives for beneficiaries to consolidate project achievements.*** The Forestry Development in Poor Areas Project made provision for three household surveys—baseline, midterm and final. These surveys were included in order to assess attainment of the outcome target of increasing incomes by 60 percent; and, more broadly, because poverty reduction was an explicit objective of the project. The Sustainable Forestry Development Project did not include poverty reduction or income enhancement in its objectives, and made no provision for household surveys. There was close monitoring of plantation establishment and, given the tight quality controls, there was good reason to infer that the incomes generated from this component would be substantial, creating an incentive for farmers to pursue the recommended tending and harvesting guidelines in order to maximize returns. However, unlike in the earlier project, there is no indication whether poorer households invested in plantations. More importantly, in the case of the protected area and natural forest management components, it was less certain that incentives were sufficient for communities to commit to conservation and sustainable forest management. These components included modest efforts to improve livelihoods and to boost incomes but in the absence of evidence from household surveys it is impossible to know whether the impact was big enough to generate the incentive needed to consolidate project gains in natural resource management. Given the steep rise in wages in China, labor devoted to (poorly remunerated) conservation activities carries a high opportunity cost, making it all the more important that projects have the monitoring and evaluation apparatus needed to measure livelihood changes and assess the level of incentives.

5.4 ***Until recently, the scope for the Bank to broaden its operational engagement with forest issues in China was limited by governments' insistence that, where IBRD funds are on-lent, producers and local governments must repay them with interest; central and provincial governments now recognize the public good nature of forests and are more willing to assume direct responsibility for repaying Bank loans that provide forest environmental services.*** Making loan recipients responsible for repayment

rewards solid performance but is hard to justify where there is no revenue stream to amortize debt obligations—that is, where loans are used to finance delivery of public goods. The “responsibility system” lends itself to the financing of commercial wood plantations but is harder to apply to conservation-oriented forestry and environmental protection. The experience from the projects assessed here shows that poorer counties and poorer farmers have difficulties meeting loan repayment obligations, partly because the government’s enforcement of the logging ban and protection of natural forest and nature reserves reduces their sources of income. Excluding the poor from IBRD-funded projects is not desirable. Neither is it realistic to expect that grants will fully substitute for IBRD loans. (The Sustainable Forestry Development Project pushed in this direction, seeking to graft on a European Union grant to a World Bank project, with unsatisfactory consequences.) Had central and provincial governments not been willing to assume a larger share of the responsibility for paying back loans, it would have been difficult for agencies like the Bank to move away from financing commercial plantations. In recent years, government policy has evolved to emphasize the contribution of forest environmental services to China’s development. The central government, and some provincial governments, are now willing to use Bank loans to support the provision of forest public goods through direct government budget expenditures—rather than solely for on-lending to planting entities for forestry production activities. This trend is evident in the Bank-supported Shandong Afforestation Project and the proposed Hunan Forest Restoration and Development Project.

**5.5 *Parallel-financing by another donor is difficult to supervise if it is applied to a single component of a Bank-supported project, and may be best dealt with as a separate operation.*** The Bank used its convening power to elicit grant funds from the European Union for the natural forest management component of the Sustainable Forestry Development Project. This was a valid attempt to diversify the range of Bank engagement toward public good forestry, which the Chinese government was unwilling to finance on IBRD terms. The component was parallel-financed, not co-financed, meaning that the European Union was in charge of supervising the component. At appraisal, the Bank stated that the two partners would cooperate closely, participating in each other’s supervision missions. In practice, this failed to happen. Cooperation was limited, in part, because the Bank-supervised components were implemented by PMC while the EU component was implemented by a separate department of the State Forestry Administration. Moreover, the practice of the Chinese government has been to deal with each donor separately with no encouragement to collaboration between them. The poor performance of the consultant team fielded by the EU slowed down implementation of the component and, incidentally, delayed the closing of the overall project and pulled down the outcome rating. The potential for shared learning between the Bank and the EU was not realized.



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## Annex A. Basic Data Sheet

### FORESTRY DEVELOPMENT IN POOR AREAS PROJECT (CN039; L4325)

#### Key Project Data (amounts in US\$ million)

	<i>Appraisal estimate</i>	<i>Actual or current estimate</i>	<i>Actual as % of appraisal estimate</i>
Total project costs	364.0	370.3	102
Credit amount	100.0	98.4	98
Loan amount	100.0	94.5	95
Loan cancellation	NA	5.5	NA

#### Cumulative Estimated and Actual Disbursements

	<i>FY99</i>	<i>FY00</i>	<i>FY01</i>	<i>FY02</i>	<i>FY03</i>	<i>FY04</i>	<i>FY05</i>	<i>FY06</i>
Appraisal estimate (US\$M)	10.5	37.0	81.9	123.4	162.0	185.8	200.0	200.0
Actual (US\$M)	9.0	28.2	64.6	112.3	151.5	168.6	192.0	193.0
Actual as % of appraisal	86	76	79	91	94	91	96	97

Date of final disbursement: January 1, 2006

#### Project Dates

	<i>Original</i>	<i>Actual</i>
Concept review	NA	01/24/1997
Appraisal	04/06/1998	02/21/1998
Board approval	05/21/1998	05/21/1998
Signing	07/31/1998	07/31/1998
Effectiveness	10/29/1998	12/16/1998
Closing date	12/31/2005	12/31/2005

#### Staff Inputs (staff weeks)

<i>Stage of Project Cycle</i>	<i>Actual/Latest Estimate</i>	
	No. Staff weeks	US\$ ('000)
Lending	n/a	364.0
Supervision	n/a	430.6
Total	n/a	794.6

**Mission Data**

	<i>Date (month/year)</i>	<i>No. of persons</i>	<i>Specializations represented</i>	<i>Implementation Progress Rating</i>	<i>Development Objective Rating</i>
<b>Identification/ Preparation</b>	11/1996	4	TL, ECO, PM, SD	N/A	N/A
	04/1997	7	TL, ECO, ID, PM, SD, S, H	N/A	
<b>Appraisal/Negotiation</b>	10/1997	6	TL, PM, SD, H, LM, M	N/A	N/A
	03/1998	8	TL, ECO, PM, SD, E, FS, LM, M	N/A	N/A
<b>Supervision</b>	11/1998	5	TL, D, E, PM, S	S	S
	06/1999	4	TL, D, PM, S	S	S
	12/1999	4	TL, D, PM, S	S	S
	04/2000	6	TL, D, ET, PM, S, TP	S	S
	10/2000	8	TL, D, AE, SD, S, H, TP, PM	S	S
	05/2001	5	TL, H, TP, SD, D	S	S
	10/2001	7	TL, D, AE, SD, S, H, TP, TL, S, H	S	S
	06/2002	3	TL, S, H	S	S
	11/2002	6	TL, DS, SD, S, H	S	S
	09/2003	5	TL, FM, SD, S, H	S	S
	05/2004	4	TL, FM, SD, E	S	S
	03/2005	4	TL, FM, SD, E	S	S
	<b>ICR</b>	04/2006	4	TL, E, AE, SD	S

AE= Agricultural Economist; E=Economist; ET=Economic Tree Crop Spec.; FS=Forestry Spec.; ID=Inst. Dev. Spec.; M= Marketing Spec.; S=Silviculturalist; TL=Team Leader; D=Disbursement Spec.; ECO=Ecologist; FM=Financial Mgt Spec.; H=Horticulturist; LM=Land Mgt Spec.; PM=Plant Materials Spec.; SD=Social Dev. Spec.; TP=Timber Processing Spec.

**Other Project Data**

Borrower/Executing Agency: Peoples Republic of China/State Forestry Administration

**Follow-on Operations**

<i>Operation</i>	<i>Loan No.</i>	<i>Amount (US\$ million)</i>	<i>Board date</i>
Sustainable Forestry Development Project	L4659	93.9	04/16/2002
Guangxi Integrated Forestry Development Project	L4844	100.0	12/14/2006
Shandong Ecological Afforestation Project	L7882	60.0	05/06/2010
Integrated Forestry Development Project	L7939	100.0	07/06/2010

## SUSTAINABLE FORESTRY DEVELOPMENT PROJECT (L46590; TF50644)

### Key Project Data (amounts in US\$ million)

	<i>Appraisal estimate</i>	<i>Actual or current estimate</i>	<i>Actual as % of appraisal estimate</i>
Total project costs	129.9	129.2	99.5
Loan amount	93.9	93.2	99.3
Loan cancellation	n/a	n/a	n/a

### Cumulative Estimated and Actual Disbursements

	<i>FY03</i>	<i>FY04</i>	<i>FY05</i>	<i>FY06</i>	<i>FY07</i>	<i>FY08</i>	<i>FY09</i>	<i>FY10</i>
<b>L46590</b>								
Appraisal estimate (US\$M)	5.3	28.7	56.7	75.7	85.3	88.9	93.9	93.9
Actual (US\$M)	5.4	17.8	41.8	57.2	71.5	87.8	90.1	93.2
Actual as % of appraisal	102	62	74	76	84	99	96	99

Date of final disbursement: L46590, December 31, 2009; TF50644, December 31, 2010

### Project Dates

	<i>Original</i>	<i>Actual</i>
Concept Review	01/10/2000	01/10/2000
Appraisal	02/09/2001	02/09/2001
Board approval	04/16/2002	04/16/2002
Signing	07/02/2002	07/02/2002
Effectiveness	01/29/2003	01/29/2003
Closing date (L46590)	08/31/2009	08/31/2009
Closing date (TF50644)	08/31/2009	08/31/2010

### Staff Time and Cost

Stage of Project Cycle	Staff Time and Cost	
	No. Staff weeks	US\$ ('000)
<b>Lending</b>	n/a	666.0 (L46950) 390.3 (TF50644)
<b>Supervision</b>	n/a	146.6 (L46950)
<b>Total:</b>	n/a	1,202.9

**Task Team Members**

<i>Names</i>	<i>Title</i>	<i>Unit</i>	<i>Responsibility/ Specialty</i>
<b>Lending</b>			
Susan Shen	Principal Ecologist	EASRD	TTL
Mohamed N. Benali	Lead Agriculturalist	EASRD	GEF component
Pawan Patil	Envir. Economist	EASRD	Safeguards
Louise Scura	Sr. Natural Res. Economist	EASRD	Sector Mgr.
Guzman Garcia-Rivero	Sector Mgr.	EASRD	Sector Mgr.
Jin Liu	Agric. Spec.	EASCS	Plantation
Tong Zhong	Agric. Economist	EASCS	Economist
Zong-cheng Lin	Soc. Dev. Spec.	EASCS	Safeguards
Chu Junxue	Disbursement Spec.		Disbursement
Jinan Shi	Sr. Proc. Spec.	EAPPR	Procurement
Rob Crooks	Env. Spec.		Environment
Chau-Ching Shen	Sr. Fin. Mgmt. Spec.	EAPPR	Procurement
Zhang Chaohu	Resettlement Specialist	EASCS	Resettlement, IP
Dan Gibson	Soc. Dev. Spec.	EASRD	Resettlement, IP
Clifford Garstang	Country Lawyer	LEG	Lawyer
Evelyn Cowan	Team Assistant	EASRD	
Louisa Huang	Team Assistant	EASRD	
Cecilia Belita	Team Assistant	EASRD	
<b>Supervision/ICR</b>			
Mohamed N. Benali	Lead Agriculturalist	EASRD	TTL
Olivier Braedt	Sr. Natural Res. Mgmt. Spec.	EASRD	GEF component
Ulrich Schmitt	Sr. Natural Res. Econ.	EASRD	TTL
Jin Liu	Sr. Agric. Spec.	EASCS	Plantation
Tong Zhong	Agric. Economist	EASCS	Economist
Jinan Shi	Sr./Proc. Spec.	EAPPR	Procurement
Yi Dong	Fin. Mgmt. Spec.	EAPFM	FM
Yiren Feng	Env. Spec.	EASCS	Environment
Zong-Cheng Lin	Sr. Soc. Dev. Spec.	EASCS	Social
Andres Liebenthal	Lead Environment Spec.	EASCS	Environment

**Other Project Data**

Borrower/Executing Agency: Peoples Republic of China/State Forestry Administration

**Follow-on Operations**

<i>Operation</i>	<i>Credit no.</i>	<i>Amount (US\$ million)</i>	<i>Board date</i>
Guangxi Integrated Forestry Development Project	L4844	100.0	12/14/2006
Shandong Ecological Afforestation Project	L7882	60.0	05/06/2010
Integrated Forestry Development Project	L7939	100.0	07/06/2010

## Annex B. Other Data

**Table B1: IBRD/IDA and GEF Projects Mapped by Period and Geographic Scope**

	CALENDAR YEARS SPANNED																												
	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	02	03	04	05	06	07	08	09	10	11	12	
A																													
B																													
C																													
D																													
E																													
F																													
G																													
H																													
I																													
J																													
K																													

	PROVINCES COVERED																					
	1	3	4	5	6	7	8	9	10	11	12	13	15	17	18	21	22	24	25	29	30	
A				✓					✓										✓			
B									✓						✓							
C	✓	✓		✓	✓	✓		✓		✓	✓	✓	✓	✓			✓		✓	✓	✓	
D	✓	✓		✓	✓	✓		✓	✓	✓	✓	✓	✓			✓		✓	✓	✓	✓	
E		✓									✓		✓			✓				✓		
F	✓				✓	✓		✓		✓	✓	✓	✓	✓				✓	✓	✓	✓	
G/H	✓		✓			✓	✓	✓		✓		✓		✓			✓	✓	✓	✓	✓	
I					✓																	
J																		✓				
K								✓							✓							✓

<p>A. Forestry Project            B. Da Xing An Ling Forest Fire Rehabilitation Project            C. National Afforestation Project            D. Forest Resource Development and Protection Project            E. Nature Reserves Management Project  <b>F. Forestry Development in Poor Areas Project</b>  <b>G. Sustainable Forestry Development Project</b>  <b>H. Sustainable Forestry Development Project (Natural Forest Protection)</b>            I. Guangxi Integrated Forestry Development and Conservation Project            J. Shandong Ecological Afforestation            K. Integrated Forestry Development Project</p>	<p><b>PROVINCES</b></p> <p>(1) Anhui, (2) Beijing, (3) Fujian, (4) Gansu, (5) Guangdong, (6) Guangxi, (7) Guizhou, (8) Hainan, (9) Hebei, (10) Heilongjiang, (11) Henan, (12) Hubei, (13) Hunan, (14) Jiangsu, (15) Jiangxi, (16) Jilin, (17) Liaoning, (18) Nei Mongol, (19) Ningxia, (20) Qinghai, (21) Shaanxi, (22) Shandong, (23) Shanghai, (24) Shanxi, (25) Sichuan, (26) Tianjin, (27) Xinjiang, (28) Xizang, (29) Yunnan, (30) Zhejiang</p>
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**Table B2: World Bank Supported Forest Interventions in China**

Approval Year	ID	Activity Name	Activity Type	Status in May 2012	Commitment (Forestry % of total amount)
2013	P125021	Hunan Forest Restoration and Development Project	IBRD	Pipeline	US\$80m (100%)
	P125874	Hunan Forest Ecosystem Restoration and Development Project Tiger Habitat Conservation	GEF	Pipeline	US\$8m (100%)
	P122383		GEF	Pipeline	US\$8m (100%)
2012					
2011	P121870	State Forest Reform: NE China	ESW	Active	
2010	P105872	Integrated Forestry Development Project	IBRD	Active	US\$100m (95%)
	P112759	Shandong Ecological Afforestation Project	IBRD	Active	US\$60m (80%)
	<b>P107885</b> <b>P102694</b>	<b>Forest Policy Dialogue</b> <b>Collective Forest Tenure Reform</b>	<b>ESW</b> <b>TA, Non-lending</b>	<b>Closed</b> <b>Closed</b>	
2009	P105958	Reforestation on Degraded Land in Northwest Guangxi	Carbon Offset	Active	US\$6m (100%)
2008	<b>P090719</b>	<b>Forestry Supply</b>	<b>TA, Non-lending</b>	<b>Closed</b>	
2007					
2006	P088964	Guangxi Integrated Forestry Development and Conservation Project	IBRD	Active	US\$100m (100%)
	P090649	Facilitating Afforestation Program	Carbon Offset	Active	US\$2m (100%)
2005					
2004	P085222	Reform of Forestry Administrative System	TA	Active	
2003	P071604	Task Force on Forestry/Grassland	TA, Non-lending	Closed	
2002	<b>P064729</b>	<b>Sustainable Forestry Development Project</b>	<b>IBRD</b>	<b>Closed</b>	<b>US\$94m (100%)</b>
	<b>P060029</b>	<b>Sustainable Forestry Development Project (Natural Forest Protection)</b>	<b>GEF</b>	<b>Closed</b>	<b>US\$16m (100%)</b>
2001					
2000					
1999					
1998	<b>P046952</b>	<b>Forestry Development in Poor Areas Project</b>	<b>IBRD/IDA blend</b>	<b>Closed</b>	<b>US\$200m (100%)</b>
1997					
1996					
1995	P003402	Nature Reserves Management Project	GEF	Closed	US\$18m (35%)
1994	P003557	Forest Resource Development and Protection Project	IDA	Closed	US\$200m (99%)
1993					

**Table B2 (continued)**

Year	ID	Activity Name	Activity Type	Status	Commitment (Forestry % of total amount)
1992					
1991	P091789	Changing Institutional Roles in the Forestry Sector	Institutional Development Fund	Closed	
1990	P003463	National Afforestation Project	IDA	Closed	US\$300m (100%)
1989					
1988	P003550	Da Xing An Ling Forest Fire Rehabilitation Project	IDA	Closed	US\$57m (100%)
1987					
1986					
1985	P003430	Forestry Development Project	IDA	Closed	US\$47m (100%)
<b>Total</b>	<b>23 activities</b>		<b>10 IBRD/IDA 4 GEF 2 ESW 7 Other</b>	<b>3 Pipeline 7 Active 13 Closed</b>	<b>US\$1,265m*</b>

Source: World Bank databases, May 2011

Notes: Refers to all closed, active and pipeline projects where forestry's share of the total commitment amount is 35 percent or more. Items in bold italics tentatively selected for an FY2012 cluster assessment by IEG.

\* Sum of commitment amounts adjusted by the percentage that forestry represents of total commitment.

**Table B3: Characteristics of Provinces Covered by Assessed Activities**

	Provinces Covered per Bank Activity			Province Characteristics			
	Forestry Development in Poor Areas Project	Sustainable Forestry Development Project	Forest Policy Dialogue	Regions	% of rural counties classified as poor, 1991 /1	Rural per capita income, 2009 (yuan)/2	Timber, output volume, 2009 (10,000 m <sup>3</sup> )/2
Anhui	✓	✓	✓	Central	25	4,504	373.8
Fujian			✓	Coastal	13	6,680	635.3
Gansu		✓		NW	54	2,980	4.3
Guangxi	✓			SW	35	3,980	963.6
Guizhou	✓	✓		SW	60	3,005	130.5
Hainan		✓		Coastal	29	4,744	153.3
Hebei	✓	✓		Coastal	28	5,150	58.1
Heilongjiang			✓	NE	16	5,207	530.6
Henan	✓	✓		Central	24	4,807	110.3
Hubei	✓			Central	37	5,035	219.1
Hunan	✓	✓	✓	Central	11	4,909	546.1
Jiangxi	✓		✓	Central	21	5,075	339.8
Liaoning	✓	✓	✓	NE	20	5,958	187.1
Shandong		✓	✓	Coastal	11	6,119	221.2
Shanxi	✓	✓		Central	35	4,244	5.7
Sichuan	✓	✓		SW	22	4,462	192.2
Yunnan	✓	✓	✓	SW	59	3,369	476.4
Zhejiang			✓	Coastal	5	10,007	196.6

Sources:

/1 State Statistical Bureau (1991), cited in World Bank 2001:94.

/2 China Statistical Yearbook, 2010.

**Table B4: Forestry Development in Poor Areas Project—Outcomes and outputs**

Indicator (established at appraisal)	Baseline	Mid-term		Closing		Appraisal target achieved by closing?
		Target	Actual	Target	Actual	
<b>Outcomes</b>						
Per capita income of project beneficiaries increased by 30% at mid-term and 60% at closing	Y600	Y780	NA	Y960	Y1,110	YES
3 million cu m of standing timber generated by closing	NA	NA	NA	3.0 million m <sup>3</sup>	3.75 million m <sup>3</sup>	YES
Forest cover in project counties increased from a baseline of 45% to 47% by closing	45%	NA	NA	47%	47%	YES
Gross TVE output of Y36 million produced by mid-term and Y88 million by closing	NA	Y36 million	NA	Y 88 million	Y20 million	NO
<b>Outputs</b>						
436,000 ha plantations (timber + economic crops) established by mid-term and 545,000 ha by closing	NA	436,000 ha	165,540 ha	545,000 ha	664,497 ha	YES
490,000 households participating in project by mid-term and 700,000 households by closing	NA	490,000 households	558,444 households	700,000 households	891,695 households	YES
0.4 billion Class 1 seedlings produced by mid-term and 0.8 billion by closing	NA	0.4 billion	NA	0.8 billion	1.5 billion	YES
1.5 million days of training delivered to farmers by mid-term and 3.1 million days by closing	NA	1.5 million	0.8 million	3.1 million	3.3 million	YES
60 TVEs and 8,000 jobs created by closing, with 70% of the workforce below the poverty line	NA	NA	NA	60 TVEs 8,000 jobs 70% workers poor	14 TVEs 1,500 jobs 52% workers poor	NO

Source: Bank and Borrower documents. NA Not available/applicable; TVE Township and Village Enterprises.

**Table B5: Sustainable Forestry Development Project—Outcomes and outputs**

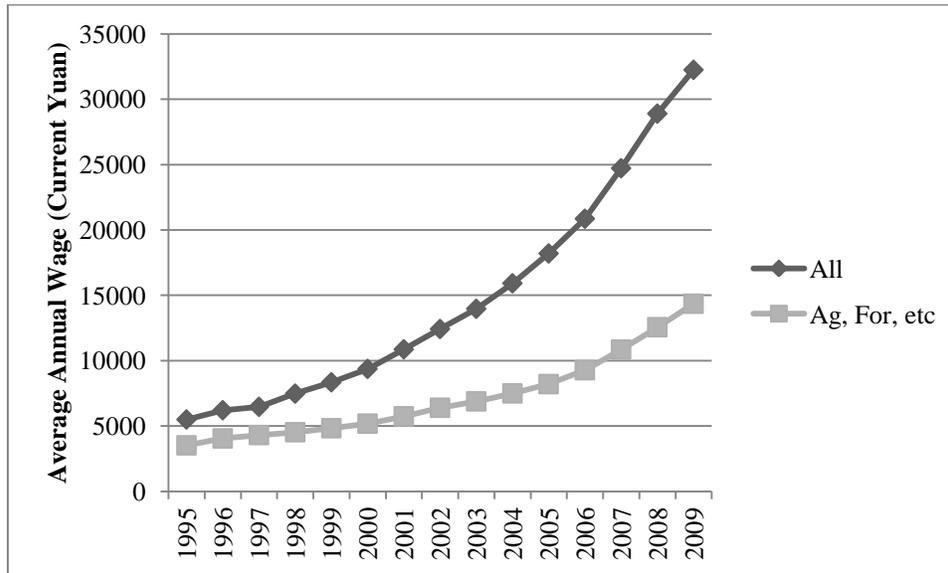
Indicator (established at appraisal)	Baseline	Mid-term		Closing		Appraisal target achieved by closing?
		Target	Actual	Target	Actual	
<b>Outcomes</b>						
13.3 million m <sup>3</sup> of timber and 2.7 tonnes of bamboo produced by 2025; Y1.1 billion of net income from tree crops produced by 2022.	NA	NA	NA	NA	NA	NA
Management of 13 nature reserves improved by 1.5 points on the International Union for the Conservation of Nature scale by project end.	2.2 (mean)	NA	Not reported	3.7	3.9 (mean)	YES
6 natural forest management locations under effective management.	NA	NA	Not reported	6	0	NO
6,900 villages benefiting from participation in project activities by February 28, 2009.	NA	NA	4,880 villages*	6,900 villages	6,812	YES
<b>Outputs</b>						
115,100 ha of commercial wood plantations established by December 31, 2008.	NA	NA	82,419 ha*	115,000 ha	201,770 ha	YES
57,900 ha of economic tree crops established by December 31, 2008.		NA	27,949 ha*	57,900 ha	42,462 ha	NO
666,900 households participating in commercial wood, economic tree crop plantations and thinning by December 31, 2008.		NA	488,029 hhld*	669,900 hhld	706,087 hhld	YES
61,300 ha of pre-commercial thinning demonstrated by December 31, 2008.	NA	NA	36,240 ha*	61,300 ha	86,228 ha	YES
265 million seedlings of improved planting stocks developed by December 31, 2008.	NA	NA	Not reported	265 million	392 million	YES
6 natural forest management plans approved by December 31, 2005.	NA	6 plans	Not reported	6 plans	0 plans	NO
13 Nature Reserve Management Plans adopted in the first two years of implementation.	NA	13 plans	13 plans*	13 plans	13 plans	YES

Source: Bank and Borrower documents.

NA Not available/applicable

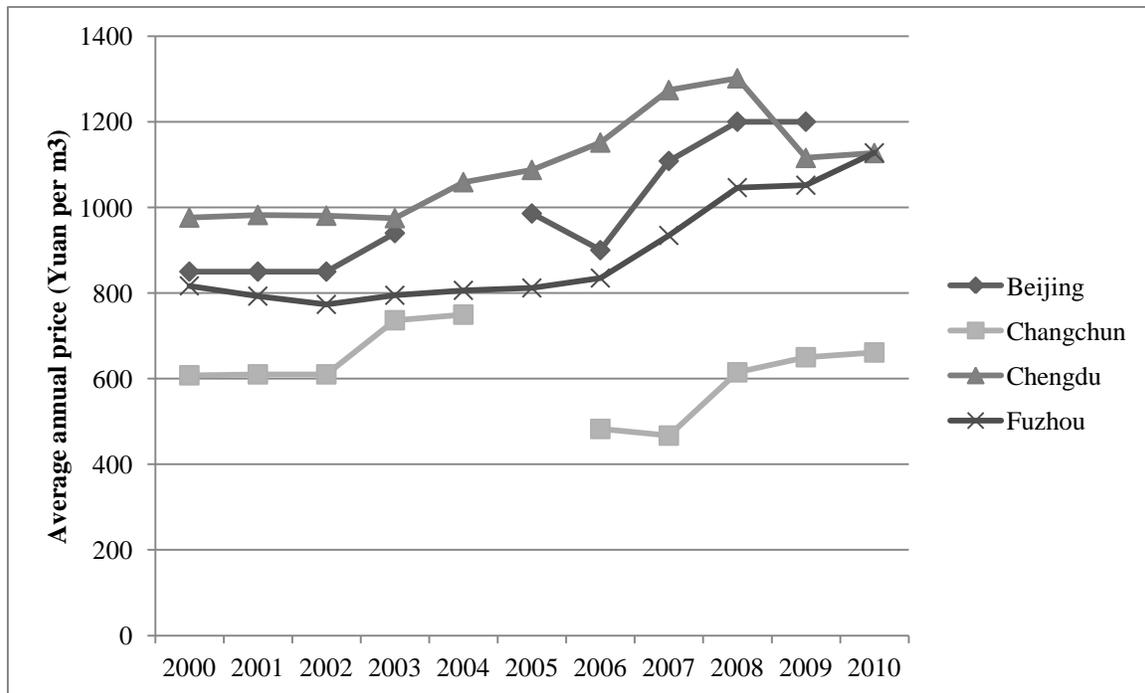
\*As of November 15, 2005.

**Figure B1: Average Wage Rates, All Sectors and Primary Sector (Agriculture, Livestock, Forestry, Fishing), 1995-2009**



Source: China Statistical Yearbook (various years).

**Figure B2: Price of Fir Logs in Select Chinese Cities**



Source: Environmental Economics Program, Beijing University.

## Annex C. Criteria for Rating Bank Economic and Sector Work

<i>Rating</i>	<i>Results</i>	<i>Strategic Relevance and Ownership</i>	<i>Quality</i>	<i>Dialogue and Dissemination</i>
HS	Meets to a high extent to a high extent <b>both</b> of the following criteria: <ul style="list-style-type: none"> <li>• Impact on government programs and/or the broader development dialogue in the country</li> <li>• Impact on the design of the Bank's program and/or the subsequent CAS.</li> </ul>	Meets to a high extent <b>all</b> of the following three criteria: <ul style="list-style-type: none"> <li>• Addresses a key development constraint and is coherent with the country assistance program</li> <li>• Delivered at the right time in relation to key decisions</li> <li>• Evidence of strong interest by government, development partners, or civil society and/or evidence of active engagement of government agencies or local institutions in conducting the work</li> </ul>	Meets to a high extent <b>all</b> of the following six criteria <ul style="list-style-type: none"> <li>• Use of appropriate knowledge and analytic techniques.</li> <li>• Analysis of existing and/or new local data</li> <li>• Effective use of cross-country comparisons and global experience<sup>a</sup></li> <li>• Evidence of clear understanding of local institutions and context.</li> <li>• Clear and actionable recommendations.</li> <li>• Subjected to adequate peer review and client feedback</li> </ul>	Meets to a high extent <b>all</b> of the following three criteria: <ul style="list-style-type: none"> <li>• Evidence of appropriate dissemination</li> <li>• Report reaches effectively the right audiences through appropriate targeted distribution and events.</li> <li>• Evidence of sustained engagement</li> </ul>
S	<ul style="list-style-type: none"> <li>• Substantial impact on both of the criteria OR substantial impact on one and high impact on the other</li> </ul>	<ul style="list-style-type: none"> <li>• No more than minor shortcomings in any of the three criteria</li> </ul>	<ul style="list-style-type: none"> <li>• No more than minor shortcomings in any of the six criteria.</li> </ul>	<ul style="list-style-type: none"> <li>• No more than minor shortcomings in any of the above areas.</li> </ul>
MS	<ul style="list-style-type: none"> <li>• Substantial or higher impact on one criterion, modest or no impact on the other.</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate shortcomings in no more than 2 criteria and no more than minor shortcomings in the third OR major shortcomings in one criterion but no more than minor shortcomings in the other two.</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate shortcomings in no more than 2 criteria and no more than minor shortcomings on the remainder OR major shortcomings in one but no more than minor shortcomings in others</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate shortcomings in no more than two of the above criteria and no more than minor in the third OR major shortcomings in one criterion but no more than minor shortcomings in the other two</li> </ul>
MU	<ul style="list-style-type: none"> <li>• At least modest impact on one criterion, modest or no impact on the other</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate shortcomings in all 3 criteria OR major shortcomings in 1-2 criteria and no worse than moderate shortcomings in the remaining criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate shortcomings in half or more of the criteria with no more than minor shortcomings in the others OR major shortcomings in fewer than half of the criteria with no more than moderate shortcomings in the others</li> </ul>	<ul style="list-style-type: none"> <li>• Moderate shortcomings in all 3 criteria OR major shortcomings in 1-2 criteria and no worse than moderate shortcomings in the remaining criteria.</li> </ul>
U	<ul style="list-style-type: none"> <li>• No impact on either criterion.</li> </ul>	<ul style="list-style-type: none"> <li>• Major shortcomings in all three criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Major shortcomings in majority of above criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Major shortcomings in all three criteria.</li> </ul>
HU	<ul style="list-style-type: none"> <li>• Negative impact on one or both of the criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Severe shortcomings 2 or more of the criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Severe shortcomings in half or more of the criteria</li> </ul>	<ul style="list-style-type: none"> <li>• Severe shortcomings in 2 or more of the criteria</li> </ul>

Note: HS – Highly Satisfactory; S – Satisfactory; MS – Moderately Satisfactory; MU – Moderately Unsatisfactory; and U – Unsatisfactory, HU – Highly Unsatisfactory /a As appropriate, contingent on the nature of the analytic work.

## Annex D. Assessment Template for the 2010 Forestry Analytic and Advisory Activities

FY/Product ID	Country Director	Sector Manager	Task Manager	Cost (US\$)	Format
P090719; P102694; P107885	David Dollar	Rahul Raturi	William Magrath	US\$639,000	Sector report and complementary technical assistance
<b>Background</b>					
<p>The package of activities assessed here (henceforth, “the Forest AAA”) aimed to provide a stronger analytic basis for government and Bank initiatives on forests in China. The sector report that emerged from the Forest AAA responded to a demand within the Bank—<i>not from China</i>—to examine the justification for continuing the Bank’s engagement with forests along the lines previously pursued (that is, exclusively devoted to establishing plantations). The concept note for the sector report observed that the combination of alternative sources of investment for forestry, stiffer lending terms, and increased costs of safeguards and other Bank requirements had challenged the relevance of the Bank’s forest interventions in China.</p> <p>The findings and recommendations of the Forest AAA sector report were organized around three themes: (1) manage the Bank’s shift out of financing plantation establishment; (2) consolidate institutional and policy reform of the collective forest sector; and (3) restructure the state forest sector (Box 2 in the main text gives more detail).</p> <p>The Forest AAA comprised a sector report (P107885) and two pre-existing technical assistance activities (P090719; P102694) the outputs from which informed preparation of the chapters in the report devoted to collective forest tenure reform and the estimation of a forest industry supply curve. The concept review meeting for the sector report was held on March 27, 2008 and the report was delivered to the client on April 8, 2010. The sector report was financed from the Bank’s budget. The cost was initially estimated at US\$100,000 but the actual cost was US\$174,000. The cost of the Bank-executed technical assistance on collective forest tenure reform (P102694) was initially estimated at US\$300,000 but the actual cost was US\$235,000. All of this was funded by the multi-donor partnership, Program on Forests (PROFOR). The cost of the technical assistance on forest supply (P090719) was initially estimated at US\$15,000 but the actual cost was US\$230,000, of which 26 percent was financed from the Bank’s budget and 74 percent was Bank-executed, using funds from PROFOR. There was a single output from this three-part AAA, a publicly-disclosed document (“China: Forest Policy—Deepening the Transition, Broadening the Relationship”) that was issued in English and in Chinese in May 2010. Given that the sector report was the only output, and given also that the two technical assistance activities supported preparation of specific chapters of that report, the three activities are not separately assessed. (<i>They are collectively referred to below as “the 2010 Forest AAA”.</i>) But it should be borne in mind that the technical assistance helped forestry staff develop analytic skills that could subsequently be applied to other areas of work.</p>					
<b>Overall Assessment</b>					
<p>The Forest AAA began the reorientation of the forest program. So far the impact on the government’s program appears limited. However, given the government’s longstanding disinclination to discuss policy with its development partners, it would be unreasonable to expect that this one piece of work—the first of its kind in the forest sector—could transform the terms of the relationship; nevertheless, the work could perhaps prove to be the first step in that transformation.</p>					
<b>Lessons Learned</b>					
<p>Progress in the dialogue on policy reform will depend in no small measure on the Bank’s ability to engage with new government agencies in China: the Project Management Center has proved to be a highly effective partner for plantation establishment—with a first-rate performance record, probably unparalleled in the world—but if the Bank is to broaden its engagement on forest interventions it needs to find another interlocutor.</p>					
<b>Ratings Summary (See Annex C for explanation of criteria)</b>					
Criterion	Rating	Comments			
(A) Strategic relevance and ownership	<i>Satisfactory</i>	There were <i>minor</i> shortcomings in two areas: “coherence with the country partnership strategy” (the CPS did not give a prominent role to forest issues even though this was a key development constraint); and “strong interest by/engagement with government and other partners” (preparation of the work engaged Chinese counterparts but there was no government champion for the report). The government has long resisted discussions with the Bank on policy so the absence of engagement is not			

		a decisive consideration in this rating. The report was relevant to the Bank's own needs to re-examine its strategy on forests in China.
<b>(B) Quality</b>	<i>Moderately satisfactory</i>	There were <i>moderate</i> shortcomings in the following two of the six criteria: "effective use of cross-country comparisons" (advice to draw on lessons from Eastern Europe and Central Asia was not taken); "clear and actionable recommendations" (the recommendations were not detailed enough to be actionable (moreover, the actors were not specified); and the recommendations were not clearly enough linked to the report's findings). There were minor shortcomings on the following criteria: "adequate peer review and client feedback" (peer review was adequate but, given the particular circumstances of China, it is hard to gauge the level of client influence on the final product).
<b>(C) Dissemination and sustained dialogue</b>	<i>Moderately satisfactory</i>	There were <i>minor</i> shortcomings in two areas: "evidence of appropriate dissemination" (the report was issued in Chinese but it is not clear what distribution it had in China); "report reaches right audiences" (workshops involving key players were staged but there is no record of the discussions with policy makers). There was a <i>moderate</i> shortcoming in one area: "evidence of sustained engagement" (there was no evidence that the Bank was regularly discussing policy with government or other partners). But discussing policy reform in China is peculiarly difficult, and the report's main audience was the Bank itself—factors that influence the rating.
<b>(D) Results</b>	<i>Moderately satisfactory</i>	There was substantial impact on the design of the Bank's activities (projects and sector work); but no discernible impact on government programs and/or the broader development dialogue in the country.
	<b>(A) STRATEGIC RELEVANCE AND OWNERSHIP</b>	
<b>CRITERION</b>	<b>RELEVANCE</b>	
<b>Did delivery of product come in time to affect relevant government policy or Bank decisions?</b>	There is no timetable in the concept note for the Forest AAA sector report linking delivery of the report to critical events for government or Bank. The preparation of the sector report coincided with preparation of two Bank-supported forest projects with objectives that echoed the sector work theme of broadening the Bank's engagement (the FY2010 Shandong Ecological Afforestation Project and the FY2010 Integrated Forestry Development Project). There may have been some cross-fertilization between the sector work and the projects but IEG could not find evidence that decisions about the design of these projects were influenced by the Forest AAA.	
<b>Was the topic identified as a "development constraint or opportunity" in...</b>		
<b>...the relevant CAS/CPS?</b>	The FY2006-FY2010 Country Partnership Strategy (CPS) is organized around several themes, of which the one bearing most closely on forestry is Resource Scarcity and Environment. The FY2006-FY2008 AAA Program that is set out in Table 17 of the CPS makes no reference to forestry; nor is there any reference to specific forest interventions in the CPS Results Matrix. In Table 17, under the section on Resource Scarcity and Environment, the AAA topics listed are: water scarcity; recycling; green accounting; climate change; and land policy reform. The last of these topics is relevant to the chapter in the 2010 Forest AAA report on collective tenure forest reform.	
<b>...previous AAA?</b>	Before the 2010 Forest AAA the Bank had published no sector work on forestry. A March 2008 Bank report (No.36797), "China—Revitalizing the Northeast," included analysis and recommendations for reforming state-owned-enterprises (some of which are forestry-based) but made no reference to forestry or the stagnation of that sector in the Northeast (a theme that was addressed in the 2010 Forest AAA). The Bank's Country Economic Memorandum of September 2003 ("China—Promoting Growth with Equity", No. 24169) had a brief section on prospects for farmers but made no reference to forestry. An October 2000 Bank report (No. 21105), "China—Overcoming Rural Poverty" also made no reference to forestry. The Bank did support an influential technical assistance mission in 2002 (China Task Force on Forestry/Grassland, P071604) which considered the likely impact of the logging ban and the forestry set-aside policy. This work did not directly address themes covered by the 2010 Forest AAA. A 2000 IEG (OED)	

	forest country case study on China noted that “to date there are no Bank forest sector reports on China, in sharp contrast to the amount of economic and sector work (often of high quality) the Bank has carried out in the agricultural sector and in poverty (sic)” (World Bank 2000: 97).
<b>...particular projects?</b>	In the 2000s, before the conception of the 2010 Forest AAA, the Bank supported two forestry investment projects: the FY2002 Sustainable Forestry Development Project (P060029; P064729); and the FY2006 Guangxi Integrated Forestry Development and Conservation Project (P088964). The 2010 Forest AAA did not address issues arising from these projects.
<b>...particular evaluations?</b>	In 2000, IEG (Operations Evaluation Department as it then was) published an evaluation of the implementation of the Bank’s 1991 Forestry Strategy; this included a China country case study (“China—From Afforestation to Poverty Alleviation and Natural Forest Management”). The case study highlighted themes that were later examined in the 2010 Forest AAA: collective forest tenure and state forest enterprises. First, the case study included regression analysis, part of which focused on the effect of forest tenure (collective vs. state-owned) on forest cover and volume (pp. 146-148). Second, the case study reviewed previous Bank-supported projects, including a reference to the FY1985 Forestry Project (P003430), where IEG (OED) lowered the rating of sustainability because of “doubts about the ability of state forest farms to manage the projects in a way that would maximize returns, and about whether some of the processing firms can survive” (World Bank 2000: 82). These same concerns are addressed in the 2010 Forest AAA report, which includes a chapter on state-owned forestry enterprises in the Northeast. The 2000 country case study notes among its conclusions that “issues of land tenure and the security of the investments of participants in an environment where contractual terms are difficult to enforce must be addressed” (World Bank 2000: 92). It also said that the Bank had not so far addressed the effect of the harvest quota system on farmer incentives to plant trees (World Bank 2000: 98), an issue picked up in the design of the 2010 Forest AAA. At the concept note review meeting for the Forest AAA in March 2008, it was noted that the analysis would put emphasis on the ways in which harvest regulation (quota award) is critical for determining and transmitting the impact of reforms on outcomes such as silvicultural effort, investment, wood production and returns to forestry.
<b>...policy dialogue with clients?</b>	The government of China had not invited the Bank to participate in a dialogue on forest sector policy. The 2000 IEG (OED) forest country case study on China observed that “the Bank presence in China has been driven more by China’s demand for specific projects rather than by a systematic analysis of the country’s forest sector policies, strategies and priority areas for Bank interventions” (World Bank 2000: 97).
<b>...donor coordination?</b>	No.
<b>Under conditions of difficult dialogue, did the product...</b>	
<b>...focus on long-term issues for better receptivity to Bank input?</b>	Yes. The work sought to ensure that in the longer-term the Bank’s work with China would not, contrary to previous experience, be mainly limited to plantation establishment projects.
<b>...address sector issues in areas where there is more receptivity to Bank input?</b>	Here the evidence is mixed. The various departments of the State Forestry Administration were not uniformly receptive to the sector issues addressed; the Policy and Legislation Department and the National Forestry Economics and Development Research Center were the most receptive.
<b>...address country issues in a regional or global context?</b>	No. The sector did not examine forestry in other countries, and made little allusion to lessons learned outside China. Most of the sources cited in the References section refer to China.
<b>OWNERSHIP</b>	
<b>Is product part of an overall AAA program to which the authorities have contributed or agreed?</b>	No.
<b>Did the client request or commission the specific product?</b>	No. The concept note for the Forest AAA sector report says that the Policy and Legislation Department of the State Forestry Administration had benefited from the study of collective forest tenure reform (one of the technical assistance activities supported by the AAA) and, in the light of this, had requested additional Bank engagement on policy issues, which might include production of a sector

	<p>report. But there is no other evidence to suggest that the AAA was produced in response to specific client request. Within SFA there was no unified support for the 2010 sector work, and the Bank's usual interlocutor, the Project Management Center (PMC), appears to have been lukewarm. The concept note indicates that PMC viewed the work as an input to the preparation of new projects, a thrust that was resisted in the Bank's concept note review meeting. At the IEG mission wrap up meeting in December 2011 PMC was only willing to discuss the project evaluations, cutting off any presentation of the mission's findings on the 2010 Forest AAA. Within SFA, participation in the work was limited to the National Forestry Economics and Development Research Center, which took part in the timber supply curve estimations that formed an important part of the sector work. The Chinese government has consistently resisted engagement with the Bank on discussion of forest policy issues. For example, background documents for the 2002 China Task Force on Forestry/Grassland note that the State Forestry Administration (SFA) was preparing a forest strategy at that time but had not discussed it with the Bank or other donors.</p>
<b>Did the client cover some or all of the costs?</b>	No. The Program on Forests funded 74 percent of the combined cost of the activities comprising the 2010 Forest AAA, with the rest financed from the Bank's budget.
<b>Did the key decision makers (as distinct from technical specialists) collaborate with, discuss or provide feedback on the product?</b>	No. A peer reviewer of the concept note that launched the 2010 Forest AAA noted that the note failed to specify the means that would be used to elicit ownership of the proposed work by senior officials of the State Forestry Administration. At the concept review meeting in March 2008 there was no discussion about how preparation of the AAA would engage decision makers in the Chinese government.
<b>Did a local institute, academy, consulting firm or government agency help to...</b>	
<b>...define the scope of the work?</b>	Inputs from previously commissioned work involving Chinese counterparts were incorporated as discrete chapters in the sector report, helping to define its scope. The relevant counterparts were the National Forestry Economics and Development Research Center of SFA and Beijing University.
<b>...plan and design the work?</b>	No.
<b>...carry out the work?</b>	Yes. The technical staff of the National Forestry Economics and Development Research Center of SFA received the training they needed to estimate the forest industry supply curve in Northeast China. The training was financed by the technical assistance (P090719) that formed part of the 2010 Forest AAA. Also, the Environmental Economics Program in China, Beijing University, carried out the household surveys underpinning the chapter on collective forest tenure reform.
<b>...analyze the results and write the report?</b>	No. The Bank task team leader was responsible for analysis and write-up, with support from consultants.
<b>...formulate conclusions and recommendations?</b>	No. Drafting of conclusions and recommendations was handled solely by the Bank task team leader.
<b>...provide peer review or comments on the draft report?</b>	The Bank's document archive indicates that written comments were received from SFA, the National Forestry Economics and Development Research Center (part of SFA) and Beijing University but IEG was unable to locate these comments. The Ministry of Finance faxed five pages of comments (in Mandarin) on November 1, 2010 and also cleared release of the report in Grey Cover. (IEG did not find a translation of these comments and so did not evaluate them.)
<b>...organize workshops or discussions about the findings?</b>	The draft report was presented at a workshop held in Beijing on March 18, 2010, which was attended by senior officials from the Ministry of Finance, SFA, the National Forestry Economics and Development Research Center, the National Development and Reform Commission, Beijing University and the Chinese Academy of Science.
<b>Discussion of Strategic Relevance and Ownership:</b>	
<p>The work was highly relevant in terms of China's forest agenda but, although Chinese counterparts contributed to its preparation, no government champions were identified to take the recommendations forward and senior decision makers were not engaged. However, the Forest AAA sector report responded to a need within the Bank to rethink the terms of the Bank's forest interventions in China. The demand for the work came from within the Bank's sector unit, not from government decision makers, or from other development partners. Forest issues do not figure prominently in the FY2006-FY2010 Country Partnership Strategy that was current when the sector work was prepared. On the other hand, the issues tackled by the sector report were highly relevant both to China's development needs (particularly the growing demand for forest products and the urgent need to balance protection of the environment with the provision of incentives for private</p>	

sector investment in forestry); and to prospects for dialogue between the Bank and the government on forest policy reform. The sector report built on two previously-commissioned technical assistance activities that involved substantial participation by and engagement with Chinese counterparts (Beijing University, and two departments of the State Forestry Administration, the National Forestry Economics and Development Research Center and the Policy and Legislation Department). However, when the sector work was planned no attempt was made to define, early on, which government agencies would be approached to take the lead on discussing the findings and promoting implementation of the recommendations. There was no evidence that senior decision makers in the Chinese government supported the work, or took forward its recommendations.	
<b>(B) QUALITY</b>	
<b>CRITERION</b>	<b>QUALITY OF CONTENT</b>
<b>Did the product...</b>	
<b>...include appropriate knowledge (i.e. make use of current and relevant knowledge from both inside and outside of the Bank)?</b>	Yes. The chapter of the report on collective forest tenure reform was based on specially-commissioned village surveys in 8 provinces which collected data on tenure status, forest resources and economic activities. This was backed up by econometric analysis aimed at identifying the factors driving collective choices over the allocation of land rights. The chapter on forest supply in the Northeast drew on data about timber management and harvesting in Heilongjiang in 2006. The data consisted of 40 individual observations (6 species/forest types, each on 5 site classes, plus plantation observations for 2 species, each on 5 sites). This information was used to derive a long-run supply curve, showing the average annual sustainable yield for each of the species and sites studied. In addition, the report included references to the global academic literature on forest property rights, without however assessing this research in depth or providing any detail about experience in other countries. Also, an early draft of the report (June 2009) included a chapter on illegal logging and corruption, a major constraint to operation of the forestry sector in China. The concept note review meeting had argued that this matter not be addressed in the report, but might be addressed through a separate activity. This chapter was omitted from the final draft of the report. One of the peer reviewers of the June 2009 draft noted the absence of any discussion of the private sector's role in logging and wood processing. This was a valid concern: the concept note had called for a critical assessment of the various business models operating in Chinese forestry, including private investment. In the Forest AAA sector report there is a chapter on boosting timber supply but no indication of how private enterprise will contribute. The same reviewer took from the draft the impression that huge areas were being reforested but, given the government's commitment to environmental protection, these areas would be off-limits to eventual harvesting (reducing the incentive for private sector participation). Also, although the report recommends support for further development of the system of forest management plans it doesn't provide any information about what proportion of China's forests is currently covered by these plans.
<b>...cite relevant examples of practice or research from other countries in the region?</b>	No.
<b>...cite relevant examples of practice or research from other regions?</b>	No. The concept note for the 2010 Forest AAA said that report would draw on the example of work conducted in the ECA Region, focusing on the consequences of transition from central planning to market-based forest sector policy, management and development. However, the final report did not include sections (e.g. text boxes) citing lessons learned from the ECA transition. Evidence from Europe and Central Asia and the United States suggests that, rather than strengthening the imposition of logging quotas devised and enforced by the government, the way forward in forestry is to give private forest owners greater freedom to set their harvesting schedule, as long as they comply with management plans that would be developed jointly between private sector and government. There is no discussion in the report of how these lessons from other countries might be applied to China.
<b>...discuss the specific institutional and policy context for the issue in this country?</b>	Yes. The report contained substantial sections on forest institutions and summarized the history of forest tenure reform in China. Detailed information of operational relevance was provided on the logging quota system and the forest management plans that are used to define the quotas. However, one of the peer reviewers of the June 2009 draft noted that the thrust of institutional and policy reform had been so much toward environmental protection that timber supply

	might be compromised; although the report had a chapter on timber supply projections this was essentially a technical exercise divorced from the policy context (and with no reference to the implications of the logging ban).
<b>...collect and analyze existing local data?</b>	Yes. The chapter on forest resources and institutions included a useful summary of some of the existing local data.
<b>...generate new evidence?</b>	Yes. See the details above of the new knowledge generated from analysis of survey results and forestry management data. Also, the forestry supply curve estimation constituted new evidence.
<b>...include recommendations?</b>	Yes. The report recommended that Bank engagement with sector leaders and authorities be organized around three themes: (a) transitioning from a focus on plantation investments to a broader approach that would tackle environmental protection and tenure reform; (b) addressing second-generation forestland tenure reform issues; and (c) reforming and restructuring of the state forest sector. One of the peer reviewers of the June 2009 draft commented that the chapters were of uneven quality in terms of their ability to derive policy recommendations from the evidence presented. While the three themes for Bank engagement were sensible, linkages to the background analysis should have been more explicit.
<b>Do the recommendations include specified actions to be taken by specified actors (including non-Bank)?</b>	No. The report recommends that the Bank engage with new interlocutors, including officials from units of SFA not currently involved in Bank investment work. The report does not name these units. It sets out the broad themes that need addressing without specifying actions or actors.
<b>Was the product team staffed with the appropriate expertise (including consultants)?</b>	Yes. The work was led by lead natural resource economist with many years of experience working on forestry, including extensive operational experience with the Bank. He recruited top-flight consultants from the University of Virginia and Beijing University.
<b>Did the product receive appropriate managerial attention?</b>	Here the evidence is mixed. The concept review meeting was chaired by the Country Director, with participation by the Sector Manager. Given that the main result of the concept review meeting was to fundamentally alter the content of the sector work, it is surprising that record states that the task team would not be required to redraft the concept note. The minutes of the meeting show that the task team was advised not to address illegal logging and corruption in the sector work; and yet the June 2009 draft has a whole chapter devoted to this theme. Although two peer reviewers commented on the June 2009 draft report there is no record of a subsequent decision meeting. There was a set of e-mail exchanges between the Sector Manager and the Task Team Leader, the main outcome of which was removal of the chapter on illegal logging and corruption. These exchanges refer to a long delay in delivering the report, because of which it was decided to drop the chapter rather than invest the time needed to redraft it in language less likely to compromise the dialogue with the government. (This was a different manager from the one who participated in the concept review meeting and he was possibly unaware of that meeting's recommendation that the sector report not address illegal logging and corruption.)
<b>Did the product receive sufficient budget?</b>	Yes. The final budget for the combined package of activities was a generous US\$639,000, 74 percent of which was funded by a global network, the Program on Forests. Preparation of the sector report was exclusively financed from Bank budget. The cost of producing the report was initially estimated at US\$100,000 but the actual amount was US\$174,000.
	<b>REVIEW OF CONTENT</b>
<b>Was the draft peer reviewed by appropriate experts?</b>	Yes. The concept note and the June 2009 draft were both reviewed by Bank natural resource management experts. (There were no external reviewers.) One of the Bank reviewers, a senior policy adviser, commented both on the concept note and the June 2009 draft. The reviewers had ample sector experience from working in several countries but none of them had recently worked on China (although one had done so many years previously). There was a possible limitation to peer reviewer influence: although their written comments were considered they did not participate in the concept note review meeting; nor did they get an opportunity to participate in a decision meeting for the June 2009 draft (no such meeting was held).
<b>Were the peer review comments taken into account as appropriate?</b>	<i>Phase 1: Concept Note Review.</i> One peer reviewer recommended that the analytic work be delinked from project preparation (a recommendation that was endorsed

	<p>by the review meeting and reflected in the draft report). As a corollary the (major) part of the budget devoted to strategic environmental and social assessment (which was supposed to help inform preparation of two projects) was dropped. One of the peer reviewers commented that the concept note was unclear about the means to ensure ownership of the work by the State Forestry Administration; this was not picked up in the review meeting and the problem had not been resolved when the draft report was delivered. <i>Phase II: Review of Decision Draft, June 2009</i>. The main change between the June 2009 and the April 2010 draft was the dropping of a chapter on illegal logging and corruption: this was a management decision and did not feature among the recommendations made by peer reviewers. In other respects, there was very little change between the two drafts; but then only one of the two reviewers made detailed comments. The reviewer that did comment in detail noted the report's recommendation that the Bank leave commercial plantation development to private enterprise but pointed out that there was no discussion of the extent or current capacity of private sector forest enterprises; nor was there any discussion of the incentives for private sector investment. Could the private sector be relied on to take up the slack, given the restrictions on timber harvesting? The revised draft did not answer this question. The same reviewer recommended that each chapter should identify the forest policy implications flowing from the findings in that chapter; the final draft did not do this. For example, the final draft of the chapter on forest supply in the Northeast removed a paragraph on "implications" that the reviewer had found unsatisfactory but put nothing in its place. Also, the final chapter on the Bank's role remained essentially unchanged and did not incorporate the reviewer's suggestion that proposals about the Bank's areas of engagement be linked more clearly to the background analysis presented in earlier chapters.</p>
<p><b>Was the feedback from the client about the product incorporated into the final version?</b></p>	<p>Here the evidence is unclear. The Bank's document archive indicates that written comments were received from SFA, the National Forestry Economics and Development Research Center (part of SFA) and Beijing University but IEG was unable to locate these comments. The Ministry of Finance (MOF) faxed five pages of comments (in Mandarin) on November 1, 2010 and also cleared release of the report in Grey Cover. However, the final reports (both the English-language and the Chinese-language versions) were simultaneously posted on the Bank's website on April 1, 2010, so the MOF fax was not germane to public release of the study. (The decision to drop the chapter on illegal logging and corruption was internal to the Bank and this chapter was not included in the draft sent to government for review.)</p>
<p><b>Discussion of Quality:</b> The report provided useful information to help Bank staff make decisions about the future direction of the Bank's engagement on forests in China. But both the content of the report and preparation process could have been stronger. There were shortcomings in the process for finalizing the design of the sector work and agreeing on the final content, suggesting a lack of close and sustained managerial oversight. The design changed substantially in response to peer review of the initial proposal but the task team was not required to redraft the concept note. The first draft included a chapter on illegal logging and corruption even though, at the concept note review meeting, instructions had been given to leave this out. There was no decision meeting to review the draft report. The final report drew on the output of two discrete technical assistance activities, both of which generated powerful results concerning collective tenure reform and the timber supply potential in Northeast China. The report proposed three areas of engagement for the Bank, each of which made sense. However, within this rubric, the report offered no detail on actions and actors, and there was no attempt to link recommendations to the report's findings. No attempt was made to draw on lessons from the reform process in Europe and Central Asia (which faced the same challenge of restructuring moribund state-owned forest enterprises). No consideration was given to the current private sector role in forestry (capacity and incentives), even though one of the recommendations was that, henceforth, commercial plantation development be funded by private capital, rather than with public funds. Peer review was of uneven quality but one of the reviewer's gave detailed advice about how to improve the report—advice that, by and large, was not followed.</p>	
<p><b>(C) DISSEMINATION AND SUSTAINED DIALOGUE</b></p>	
<p><b>CRITERION</b></p>	
<p><b>INITIAL DISSEMINATION</b></p>	
<p><b>Was the product...</b></p>	
<p><b>...made available in the local language?</b></p>	<p>Yes. A Chinese-language version of the report was posted on the Bank's website on April 1, 2010. Presumably hard copies were distributed in China because a Ministry of Finance fax in November 2010 gave clearance for release of the Grey Cover.</p>

...made available on a website?	Yes. The Forest AAA sector report was posted on the Bank's website on April 1, 2010.
...discussed with senior policy makers?	Senior officials had the opportunity to comment. The Bank's document archive indicates that written comments were received from SFA, the National Forestry Economics and Development Research Center (part of SFA) and Beijing University but IEG was unable to locate these comments. In the Bank's document archive there is no reference to the content of discussions with senior policy makers.
...presented at a workshop, conference, seminar or on-line discussion?	The Bank's document archive shows that the Bank and SFA jointly hosted several workshops, plus an international conference on Tenure and Regulatory Reform that took place in Beijing in February 2008 (at which results from the survey work on collective forest tenure reform were presented—two years before the Forest AAA sector report was delivered to the client). The draft report was presented at a workshop held in Beijing on March 18, 2010, which was attended by senior officials from the Ministry of Finance, SFA, the National Forestry Economics and Development Research Center, the National Development and Reform Commission, Beijing University and the Chinese Academy of Science. There is no reference to a dialogue with other donors.
...covered in the general or specialized media?	IEG came across no evidence of media reports.
<b>SUSTAINED DIALOGUE</b>	
<b>Did the product serve as an input to a sustained engagement with the client through...</b>	
...policy dialogue?	There is no record of this in the Bank's document archive; nor could IEG find evidence in China of a sustained dialogue between government and the Bank, although the Bank is certainly keen to promote this.
...sustained workshops/discussions with stakeholders beyond initial dissemination?	No.
...lending products (Bank and non-Bank)?	Yes. Two Bank-supported forest projects approved in the same year that the Forest AAA sector report was delivered bear the imprint of the sector report's recommendations. The FY2010 Shandong Ecological Afforestation Project includes in the statement on project rationale the following statement: "most of the previous World Bank projects focused essentially on improving timber output, quality and standards, [but] this project would focus on environmental protection by creating forest covers and shelter belts in areas prone to water and/or wind erosion, as well as in saline coastal areas." (World Bank 2010b: 2) The FY2010 Integrated Forestry Development Project went a step further, actually citing the 2010 Forest AAA. It proposed to complement "the implementation of the ongoing Government policy on forestland tenure reform by implementing recommendations of the Bank's analytical work on "Systematic Reform in China Collective Forestlands". (World Bank 2010c: 2).
...technical assistance (formal or informal)?	No.
...programmatic instruments?	No.
...other means?	No.
<b>Discussion of Dissemination and Sustained Dialogue</b>	
Although the report was published in China and findings were presented at workshops to which senior officials were invited, IEG could find no evidence of discussion of the content of the report, either with government or with other development partners. No dissemination strategy was developed at the concept phase, nor was a government champion identified. During the mission, IEG encountered reluctance on the part of the State Forestry Administration to discuss policy matters. On the other hand, the design of two FY2010 forest projects contains elements of the broadening of engagement that the Forest AAA showcased.	
<b>(D) RESULTS</b>	
<b>CRITERION</b>	<b>RESULTS INDICATORS</b>
<b>Did the product have...</b>	
...results objectives defined at inception?	Yes. According to the concept note, the objective of the sector work was to provide a stronger analytic basis for government and Bank initiatives in the forestry sector. The work sought to: (1) document and analyze the main trends affecting Chinese forestry, including investment performance,

	policy and institutional reforms, domestic market growth and changes, and international trade; (2) critically assess the various business models employed in investing in Chinese forestry, including World Bank operations, private investment, and other international donor supported projects; (3) provide rapid response to Government's priorities for advice and input on priority forest policy challenges; and (4) bring forward recommendations for policy reforms and investments in plantation forestry, natural production forest management, protected areas management and institutional strengthening and other priorities that can be addressed in the next cycle of proposed projects. <i>(However, some of these topics—private investment, natural forest management and protected areas—were not covered in the draft report.)</i>
...indicators defined at inception?	No.
...strategy to achieve results?	No.
<b>RESULTS ACHIEVED</b>	
<b>Did the country use the findings...</b>	
...in policy, law, regulation or implementation?	No. The concept note for the 2010 Forest AAA says that the Policy and Legislation Department of the State Forestry Administration had benefited from the ongoing study of collective forest tenure reform, results of which were included in the Forest AAA sector report. In light of this, the Policy and Legislation department had requested additional Bank engagement on policy issues. However, this Department did not formally champion the work and in the course of the mission IEG found that, overall, the State Forestry Administration was not interested in discussing the findings from IEG's assessment of the Forest AAA; the Policy and Legislation Department was not invited to the IEG wrap-up meeting.
...in design of public expenditure?	No.
...to raise stakeholder awareness?	No.
...to build a coalition for change?	No.
...to build in-country capacity?	No. There was a possibility that the timber supply modeling for Heilongjiang would be scaled up to other provinces thus building capacity by increasing the number of China forestry staff capable of applying this analytic tool. However, when IEG asked if there were plans to replicate the work, officials said there was no budget to do so. Also, when IEG visited the forestry bureau in Hailin (a county of Heilongjiang) it found that none of the senior managers interviewed were familiar with the supply modeling exercise; they said that the restrictions on felling have become more stringent in recent years, raising doubts about whether the supply potential could actually be realized.
...to influence the donor community?	No.
...to change institutions?	No.
<b>Did the Bank use the findings...</b>	
...in the design of Bank lending products?	Yes. The concept note envisaged that the work would provide a platform for developing two new projects but at the review meeting the project team was advised not to treat the sector work as a medium for project preparation. Nevertheless, some of the recommendations in the sector report are reflected in the approach taken by subsequent projects. The report recommended that the Bank diversify out of commercial forest plantations, concentrating its efforts on public good plantations. The FY2010 Shandong Ecological Afforestation Project includes in the statement on project rationale the following statement: "most of the previous World Bank projects focused essentially on improving timber output, quality and standards, [but] this project would focus on environmental protection by creating forest covers and shelter belts in areas prone to water and/or wind erosion, as well as in saline coastal areas." (World Bank 2010b: 2) The FY2010 Integrated Forestry Development Project went a step further, actually citing the 2010 Forest AAA. It proposed to complement "the implementation of the ongoing Government policy on forestland tenure reform by implementing recommendations of the Bank's analytical work on "Systematic Reform in China Collective Forestlands". (World Bank 2010c: 2). In line with the report's recommendations, the project contained a component that would pilot forest management plan development involving local

	forest authorities, village leaders and farmers. This was envisaged as an alternative to the logging quota system which, as the report made clear, was an obstacle to the sustainable management of forests.
<b>...in Bank strategy formulation?</b>	No. The Bank's corporate strategy on forest resources has not been updated since 2002. For country strategy, see below.
<b>...in subsequent knowledge products?</b>	Yes. The FY2012 North East State Forest Reform Study (P121870) built directly on the 2010 Forest AAA, in particular the chapter dealing with reform of state forest enterprise. The North East State Forest Reform Study aimed to develop a roadmap for the State Forestry Administration of China to support policy and institutional reforms in the management of state-owned forests in Northeast China, with a view to enhancing management efficiency, economic viability resource sustainability, and local livelihoods. The approach to this study suggested that a lesson had been learned from the 2010 Forest AAA: the minutes of the concept review meeting refer to the need, from the very beginning, to ensure early input and buy-in from the key government agencies.
<b>...to inform country strategy?</b>	As yet there is no successor to the FY2006-FY2010 Country Partnership Strategy so it remains to be seen how the findings of the 2010 Forest AAA and related work will be reflected. Forests did not feature prominently in the 2030 flagship study that the Bank recently prepared with the government of China.
<b>Is there evidence that results are sustainable?</b>	From the Bank side, the design of projects and sector work prepared after the 2010 Forest AAA shows clearly that the 2010 recommendations are having a long-term impact on the Bank's approach. From the side of the government, there is clearly a commitment to reform but it is too early to say if this will result in the changed relationship with the Bank that the latter envisages: the Bank's most prominent interlocutor on forestry remains the Project Management Center of the State Forestry Administration and at the time of IEG's mission they showed a reluctance to discuss policy matters.
<b>Did the Bank or client assess the product's impact on results?</b>	No.
<b>Discussion of Results:</b> Bank activities since the 2010 Forest AAA was completed show clear traces of the recommendations from the sector report: the design of projects and sector work reflects a push to strengthen the role of forest management plans and to restructure state forest enterprises. The 2010 Forest AAA engaged Chinese counterparts in carrying out the work, helping to strengthen the skills of forestry staff and academics. It is unclear too early to conclude whether these Bank inputs will lead to major policy and institutional outcomes; while there is considerable reform momentum in China, past experience suggests that it is difficult to attribute changes to the work of external partners.	

## Annex E. List of People Met

NAME	DESIGNATION
<i><b>In Beijing</b></i>	
Jiang Xishan	Deputy Director-General, World Bank Project Management Center (Plantation Development), State Forestry Administration
Zhang Lei	Director-General, Department of Rural Forestry Reform and Development, State Forestry Administration
Dai Guangcui	Professor and Deputy Director-General, China National Forestry Economics and Development Research Center, State Forestry Administration
Li Shuxin	Chief, Department of Policy and Law State Forestry Administration
Zhang Kun	Associate Professor, China National Forestry Economics and Development Research Center, State Forestry Administration
Wang Huanliang	Professor, China National Forestry Economics and Development Research Center, State Forestry Administration
Ronghua Ye	Chief Engineer, Natural Forest Protection Center, State Forestry Administration
Michela Tagliaferri	Project Officer, Development and Cooperation, European Union
Li Ping	Project Manager, German Development Cooperation (KfW)
Dong Hui	Senior Accountant, World Bank Project Management Center, State Forestry Administration
Cheng Jinghua	Senior Engineer, World Bank Project Management Center, State Forestry Administration
Jin Liu	Senior Rural Development Specialist, World Bank
Ulrich K.H.M. Schmitt	Senior Natural Resources Economist, World Bank
<i><b>In Heilongjiang</b></i>	
Li Wen Da	Deputy Director-General, Heilongjiang Forestry Enterprise, Harbin
Xu Jiang	Director, Division of Policy and Legislation Heilongjiang Forestry Department, Harbin
Lu Yu	Deputy Director, Division of Resource Management Forestry Department, Harbin
Liu Lijun	Director, Forest Tenure Reform Yichun Forest Bureau, Yichun
Li Jingping	Division of Foreign Affairs, Heilongjiang Forestry Department, Harbin
Wei Hailin	Division of Planning and Finance, Heilongjiang Forestry Department, Harbin
Zhu Tianbo	Division of Silviculture, Heilongjiang Forestry Department, Harbin Forestry Department,
Wang Shuliang	Division of Silviculture,

	Heilongjiang Forestry Department, Harbin Forestry Department,
Qu Yanfeng	Vice-Director General (Timber Production), Hai Lin Forest Enterprise, Hai Lin
Shi Guangjian	Vice-Director General (Human Resources), Hai Lin Forest Enterprise, Hai Lin
Guo Wenkui	Vice-Director General (Finance), Hai Lin Forest Enterprise, Hai Lin
Guo Maojin	Director, Division of Production and Silviculture, Hai Lin Forest Enterprise, Hai Lin
Wang Yongde	Director, Hai Lin Forest Enterprise, Hai Lin
Gao Jinyu	Director, Administration Office, Hai Lin Forest Enterprise, Hai Lin
<b><i>In Hunan</i></b>	
Dai Chengdong	Deputy Director, Foreign Fund Project Management Office, Hunan Forestry Department, Changsha
Wen Zhenjun	Deputy Director-General, Hunan Forestry Department, Changsha
Lou Yunqing	Head of Township, Wu Dao Shui Township, Shangzhi County
Chen Dafu	Project Officer, EU-China Natural Forest Management Project
<b><i>In Sichuan</i></b>	
Zou Liyong	Deputy Director, Division of Wildlife Conservation, Sichuan Forestry Department, Chengdu
Long Tinglun	Senior Engineer, Division of Wildlife Conservation, Sichuan Forestry Department, Chengdu
Zhao Jia Gou	Manager, Bamboo Sprouts Special Cooperative, Dujiangyan City
Zhang Dengxiang	Vice-Governor, Forest Bureau, Xuyong County
Hang Jijian	Section Chief, PPMO
Zheng Jingjie	Chief Engineer, PPMO
Ye Zhiguo	Deputy Director, Luzhou City Forest Bureau
Zeng Kiang	Section Chief, Afforestation
Liu Xing	Registered Scientist, PPMO
Cheng Lu Fu	Director, Forest Bureau, Xuyong County
Cai Wenhua	Deputy Director, Forest Bureau, Xuyong County
Weng Yong	Unit Head, Afforestation, Forest Bureau, Xuyong County
Li Zhaode	Head of Research and Extension Station, Forest Bureau, Xuyong County
<b><i>In Yunnan</i></b>	
Long Yongcheng	Chief Scientist, China Program The Nature Conservancy
Guo Huijun	Vice Director-General, Yunnan Forestry Department, Kunming
Xu Zhijiang	Director, International Cooperation Division, Yunnan Forestry Department
Si Zhi Chao	Director, Wildlife Conservation and Nature Reserve Management Division, Yunnan Forestry Department

Li Bao Chun	Director, Department of Finance, Government of Yunnan Province
Li Zhai Xia	Deputy Director, International Cooperation Division, Yunnan Forestry Department, Kunming
Sun Ru Lin	Researcher, Forest Industry Development Division, Yunnan Forestry Department, Kunming
Yang Fang	Deputy Director, Conservation Division, Yunnan Forestry Department, Kunming
Jiang Zhu Tan	Officer, Conservation Division, Yunnan Forestry Department, Kunming
Li Bo Ping	Senior Accountant, International Cooperation Division, Yunnan Forestry Department, Kunming
Xie Hong Fang	Director-General, Baimaxueshan Nature Reserve, Weixi County
Li Ruchun	Deputy Director-General, Baimaxueshan Nature Reserve, Weixi County
Zhao Weidong	Director, Project Management Office, Baimaxueshan Nature Reserve, Weixi County
Shi Fang Qin	Senior Forest Engineer, Baimaxueshan Nature Reserve, Weixi County
Mao Wei	Director, Administration Office, Baimaxueshan Nature Reserve, Weixi County
Yang Pei Fang	Forestry Engineer, Baimaxueshan Nature Reserve, Weixi County
Dong Xialing	Forestry Engineer, Baimaxueshan Nature Reserve, Weixi County
<i><b>In Washington, DC</b></i>	
William B. Magrath	Lead Natural Resources Economist, SASDA, World Bank
Peter A. Dewees	Lead Specialist, ARD, World Bank
Susan S. Shen	Operations Adviser, OPCIL, World Bank
Diji Chandrasekharan Behr	Natural Resources Economist, ARD, World Bank
Jintao Xu	Consultant, DECAR, World Bank (Professor, Department of Environmental Management, Peking University)
Ede Jorge Ijjasz-Vasquez	Sector Director, LCSSD, World Bank

## Annex F. Borrower Comments

### Comments from the Project Management Center, State Forestry Administration

Upon the receipt of the Draft Project Performance Assessment Report (PPAR) developed by Independent Evaluation Group (IEG) of the World Bank, World Bank Loan Project Management Center (PMC) of China State Forestry Administration (SFA) reviewed carefully the two chapters of PPAR regarding the two World Bank loan projects of Forestry Development in Poor Areas Project (FDPA) (CN039; L4325) and Sustainable Forestry Development Project (SFDP) (L4659) and would like to provide our comments which are summarized as below.

1. We agreed with the contents and conclusion of **Chapter 2** about Forestry Development in Poor Areas Project (FDPA) (CN039; L4325) and have no comments.
2. As PMC, SFA was the executive agency of the two World Bank supported project components of Plantation Establishment (PE) and Protected Areas Management (PAM) under SFDP while Natural Forest Management Component (NFM), another project component of SFDP, was financed by European Union (EU) and implemented and managed by Natural Forest Protection Center (NFPC), SFA, we would like to give our comments on the components of PE and PAM.

1) **Summary: Para. 6:** We disagreed with the statement of “**in the absence of household survey evidence, it is not clear by how much the incomes of participating households rose during implementation**” and would like to suggest deleting the sentence because the objectives of SFDP were greatly different from those of other projects like FDPA, there were no monitoring indicators on variation of household income in the project design.

2) **Summary: Para. 9:** We think that “**Risk to the two outcomes of sustainable forest resources management and protection of the natural environment is rated moderate overall**”, the conclusion is irrational as it was drawn on the consideration of the “high level” of that of Natural Forest Management Component of SFDP. Taking into account of the fact that the three project components varied in terms of funding source, management approach and project activity, we would like to suggest separate evaluation to make on the three project components.

3) **Summary: Para. 11:** We disagree with the third lesson drawn in the report which are “**Where the Bank has a successful long-term partnership with an implementing agency geared to investment operations, there may an element of inertia that makes it hard to broaden the sphere of engagement**” and we think the conclusion was derived from Para. 5.5 of Chapter 5. Please refer to our comments below on the revision of Para. 5.5 of Chapter 5.

4) **Chapter 3: Para. 3.59:** We disagree with the conclusion stated here which are “**the overall risk to development outcome is rated moderate.**” Now that the IEG’s report acknowledges “**the preponderant share of total benefits**” were “**accounted for by plantation establishment**”, why was the conclusion made simply by balancing these divergent levels of risk rather than making risk evaluation for the three project components respectively.

5) **Chapter 3: Para. 3.62:** We would like to suggest deleting the description of the paragraph from “**At appraisal, the intention was expressed that..... Therefore, it is hardly surprising that this component became detached from the wider project**” for the following reasons: a) the conclusion stated here that PMC “had no tradition of collaborating with other departments of the State Forestry

Administration” is a lopsided point of view. The first half of this paragraph objectively describes the World Bank’s intention to jointly implement and management the project component with EU but the effort has failed and the component has unfortunately become a separate project, which is believed to be one of the weakness in the project design and the World Bank is fully aware about this; and b) World Bank loan projects are only part of PMC’s operations and as one of departments of SFA, PMC has maintained an excellent coordination with other departments under SFA, which Mr. Heath could not be possible to fully aware only through two discussion meetings in SFA.

6) **Chapter 3: Para. 5.1:** We would like to suggest deleting the last sentence of this paragraph which is **“but if the Bank is to broaden its engagement on forest interventions it needs to find another interlocutor. This is the main challenge ahead”** for the following reasons: a) PMC, SFA has never restricted the World Bank to cooperate with other units in the forestry sector and as a matter of fact welcome broadening such co-cooperations; and b) PMC, SFA has maintained a sound partnership with the World Bank for almost 30 years, exploring innovative approaches in several aspects to address issues in the forestry sector and played an important demonstration role in this field.

7) **Chapter 3: Para. 5.5:** It is suggested deleting the statement of this paragraph from **“But PMC has few incentives to coordinate horizontally with other departments of State Forestry Administration .....**” to **“and it was disinclined to coordinate with the Natural Forest Protection Center—the department of the State Forestry Administration responsible for implementing the natural forest management component”**. The reason for the suggestion is the same as No. 5 mentioned above. We believe that the undesirable result of Natural Forest Management Component is resulted from the weakness of the project design, not from PMC’s **“inclined to coordinate with NFPC”**. It is known that PMC and NFPC are the two paralleling departments of SFA, took respective responsibilities to implement and manage different project components at the request of the World Bank and EU.