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# PROJECT PERFORMANCE ASSESSMENT REPORT

## GOVERNMENT OF CHINA

## NATURE RESERVES MANAGEMENT PROJECT
## (TF028301)

**May 30, 2008**

*Sector Evaluation Division*
*Independent Evaluation Group*

## Currency Equivalents *(annual averages)*

*Currency Unit = Chinese Yuan*

(Exchange Rate Effective September 3, 2002)
Y8.30= US$ 1.00
US$ 1.00 = YO.12

2002 US$1.00
2003 US$1.00
2004 US$1.00
2005 US$1.00
2006 US$1.00

**Abbreviations and Acronyms**

| | |
|---|---|
| CBIMS | China's Biodiversity Information Management System |
| CCM | Community Co-management |
| CFB | Changqing Forestry Bureau |
| CIG | Community Investment Grant |
| DNR | Division of Nature Reserves |
| DWC | Department of Wildlife Conservation |
| GEFPD | GEF Project Document |
| GIS | Geographic Information System |
| GOC | Government of China |
| ICR | Implementation Completion Report |
| IFAW | International Fund for Animal Welfare |
| IUCN | International Union for the Conservation of Nature |
| NFPP | National Forest Protection Program |
| NGO | Non-government Organization |
| NR | Nature Reserve |
| NRMP | Nature Reserves Management Project |
| ONR | Office of Nature Reserves |
| PMC | Project Management Center |
| PRA | Participatory Rural Appraisal |
| QCNR | Qinling Cluster Nature Reserves |
| SFA | State Forestry Administration |
| SOE | State-owned Enterprise |
| SPFD | Shaanxi Provincial Forestry Department |
| WWF | World Wildlife Fund |
| XNR | Xishuangbanna Nature Reserve |

**Fiscal Year**
Government: January 1 December 31

| | | |
|---|---|---|
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**IEGWB Mission: Enhancing development effectiveness through excellence and independence in evaluation.**

**About this Report**

The Independent Evaluation Group assesses the programs and activities of the World Bank for two purposes: first, to ensure the integrity of the Bank's self-evaluation process and to verify that the Bank's work is producing the expected results, and second, to help develop improved directions, policies, and procedures through the dissemination of lessons drawn from experience. As part of this work, IEGWB annually assesses about 25 percent of the Bank's lending operations through field work. In selecting operations for assessment, preference is given to those that are innovative, large, or complex; those that are relevant to upcoming studies or country evaluations; those for which Executive Directors or Bank management have requested assessments; and those that are likely to generate important lessons.

To prepare a Project Performance Assessment Report (PPAR), IEGWB staff examine project files and other documents, interview operational staff, 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 IEGWB peer review, Panel review, and management approval. Once cleared internally, the PPAR is commented on by the responsible Bank department. IEGWB incorporates the comments as relevant. The completed PPAR is then sent to the borrower for review; 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.

**About the IEGWB Rating System**

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***Outcome:*** The extent to which the operation's major relevant objectives were achieved, or are expected to be achieved, efficiently. The rating has three dimensions: relevance, efficacy, and efficiency. *Relevance* includes relevance of objectives and relevance of design. Relevance of objectives is the extent to which the project's objectives are consistent with the country's current development priorities and with current Bank country and sectoral assistance strategies and corporate goals (expressed in Poverty Reduction Strategy Papers, Country Assistance Strategies, Sector Strategy Papers, Operational Policies). Relevance of design is the extent to which the project's design is consistent with the stated objectives. *Efficacy* is the extent to which the project's objectives were achieved, or are expected to be achieved, taking into account their relative importance. *Efficiency* is the extent to which the project achieved, or is expected to achieve, a return higher than the opportunity cost of capital and benefits at least cost compared to alternatives. The efficiency dimension generally is not applied to adjustment operations. *Possible ratings for Outcome:* Highly Satisfactory, Satisfactory, Moderately Satisfactory, Moderately Unsatisfactory, Unsatisfactory, Highly Unsatisfactory.

***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.

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**TABLES**



This report was prepared by Mr. Ashwin Bhouraskar, Consultant, who assessed the project in . Ms. Marie Charles provided administrative support.

# Principal Ratings

| | *ICR** | *ICR Review** | *PPAR* |
|---|---|---|---|
| Outcome | Highly Satisfactory | Satisfactory | Moderately Satisfactory |
| Institutional Development Impact** | High | Substantial | Not Applicable |
| Risk to Development Outcome | Not Applicable | Not Applicable | Substantial |
| Sustainability*** | Likely | Likely | Not Applicable |
| Bank Performance | Highly Satisfactory | Highly Satisfactory | Satisfactory |
| Borrower Performance | Highly Satisfactory | Highly Satisfactory | Satisfactory |

* The Implementation Completion Report (ICR) is a self-evaluation by the responsible Bank department. The ICR Review is an intermediate IEGWB product that seeks to independently verify the findings of the ICR.
**As of July 1, 2006, Institutional Development Impact is assessed as part of the Outcome rating.
***As of July 1, 2006, Sustainability has been replaced by Risk to Development Outcome. As the scales are different, the ratings are not directly comparable.

# Key Staff Responsible

| *Project* | *Task Manager/Leader* | *Division Chief/ Sector Director* | *Country Director* |
|---|---|---|---|
| Appraisal | Richard G. Scobey | Joseph Goldberg | Nicholas Hope |
| Completion | Susan S. Shen | Mark D. Wilson | Yukon Huang |

# Preface

This is a Project Performance Assessment Report (PPAR) for the Nature Reserve Management Project (NRMP, Trust Fund No. 28301). The NRMP was approved in June 1995 for a Global Environmental Facility (GEF) Trust Fund grant of US$17.9 million equivalent. The project formally closed on schedule in June 2002, although due to a delay in the completion of some sub-components the project's duration was extended for an additional year.

The NRMP was selected for an IEG assessment because it was the first World Bank-GEF project for biodiversity conservation and protected-area management strengthening in China, and would thus help to inform the IEG review, *Effectiveness of World Bank Group Assistance for the Environment,* being concurrently conducted and covering the Bank Group's environmental performance in China and other major borrowing countries across the different regions. Lessons from the NRMP may also help in the design of similar operations in China and other borrowing countries.

The evaluation is based on the Implementation Completion Report (ICR, Report No. 24807) issued on November 20, 2002, the Bank's project documents, interviews and internal Bank publications. An IEG mission visited China in October 2006 to discuss the effectiveness of the Bank and GEF's assistance in the project with the Government, project implementing agencies at the national, provincial and nature-reserve levels, non-governmental environmental institutions, and beneficiary communities, and included field visits to Shaanxi and Yunnan provinces. The cooperation of government agency staff in granting interviews and providing data is gratefully acknowledged. The substantial assistance provided by the Department of Wildlife Conservation of the State Forestry Administration during the mission is especially appreciated.

In accordance with standard IEG procedures, a copy of the draft PPAR will be sent to the Borrower for their review and comments. The Borrower's Comments will be reflected in the final draft and will be placed in Annex D of the PPAR.

# Summary

Approved in 1995, the Nature Reserve Management Project (NRMP) was the first project the GEF and the World Bank supported for conserving biodiversity and strengthening the management of protected areas in China.

The objective of the project, which targeted nine of China's nature reserves of international biodiversity importance, was to enhance biodiversity conservation through innovative approaches to organization, planning, skills development, information management, and the integration of local communities into reserve management. Its aims also included reducing timber harvesting to a sustainable level in an area critical for Giant Panda habitat by restructuring the state-owned timber enterprises concerned, transferring their workers to more environmentally sustainable employment, and creating a new national-level nature reserve (NR).

The project's ***outcome*** is rated ***moderately satisfactory*** overall, as there were moderate shortcomings in the achievement of the objective. While all of the approaches adopted were innovative within the context of China's NR system and conservation of biodiversity, only some were effective in enhancing conservation management and strategy. The NRMP developed new capacities for NR management and conservation planning at all levels in the system, and provided the necessary procedures and infrastructure for enhanced field-level protection. Yet the transfer of the displaced timber workers to new livelihoods encountered various difficulties, and enterprise restructuring was not demonstrated as a model that could be replicated for enhancing conservation in other areas. The contribution of the information management methods and tools was modest, as monitoring and data analysis for improved NR management has been weak. Similarly, community involvement for developing eco-friendly livelihood activities did not succeed in cultivating government interest in supporting environmentally sustainable development, and had a negligible impact on biodiversity. Owing to weak M&E and the influence of non-project interventions, the NRMP's outcomes in terms of species abundance and diversity are unclear.

The ***risks to development outcome*** are rated ***substantial***. While the knowledge acquired under the NMRP has been sustained and extended to improve management in other NRs, and the risks to any biodiversity gains are small, support for critical NR management activities at most of the sites has been insufficient due to problems in the intergovernmental fiscal transfer system. ***Bank performance*** is rated ***satisfactory*** overall. Quality-at-entry was moderately satisfactory owing to insufficient appraisal to ensure the effectiveness and efficiency of enterprise restructuring and worker transfer, weak M&E design, and the low importance given to addressing the strong human pressure on biodiversity. Bank supervision, however, was highly satisfactory as the Bank gave focused attention to addressing the challenges to enterprise restructuring and capacity-building in order to achieve the development objectives, and held a forum to share project experiences with, and draw on the knowledge of, other donors and NGOs in biodiversity conservation.

***Borrower performance*** is rated ***satisfactory*** as well. The government showed significant commitment overall to this first, major biodiversity conservation project in China, reflected partly by its creation of a new national-level NR, and the implementing agencies were committed to achieving the project objectives. However, in some cases, counterpart funding for developing eco-friendly community livelihood sub-projects did not materialize and activities were implemented without following prescribed procedures. M&E performance was also weak.

The assessment of the NRMP offers the Bank and GEF the following lessons for their future assistance in strengthening protected-area management and conserving biodiversity:

- In order for sophisticated approaches to planning and information management to be useful for biodiversity conservation, protected-area managers first need to have a strong understanding of the adaptive management approach and skills in each of its steps; defining outcomes, formulating measurable objectives targeted to achieving them, collecting and analyzing data on the relevant indicators with reliable methods to assess the success of efforts, and revising approaches in light of the results.

- For greater effectiveness and relevance, projects or components facilitating the development of biodiversity-friendly, community-supported livelihood schemes where borrower agencies lack experience with them will need to: (1) provide for greater training, closer monitoring and continuous technical support of staff responsible for engaging with communities to identify and plan sub-projects, and (2) demonstrate the biodiversity and livelihood impacts of such schemes on meaningful scales, particularly in countries where resource use pressures on biodiversity is high. These steps will make it more likely that capacity in this area will be sustained and extended to other protected areas, and greater borrower ownership and resources for biodiversity-supporting poverty reduction will be generated.

- Biodiversity conservation in protected areas requires sustained financing, national and local, and fiscal and budget allocation systems and trends at these levels need to be understood to make certain real borrower commitment exists and the resources for long-term effective management can be delivered, or to help design reforms that will make this possible. If sustained support is not guaranteed, there are substantial risks that GEF and Bank resources will be used inefficiently, as improved management capacities that have been developed will go largely unutilized and threats to biodiversity from poaching and resource use will remain.

- Programs to scale-down or close resource-extraction enterprises in remote, rural areas for the benefit of biodiversity, and to equitably transfer workers displaced as a result to new livelihoods, can face numerous challenges; weak, uneven and unpredictable markets and opportunities, government economic policies, and the skill-level and social composition of the displaced workers. Such programs therefore need to carefully consider and be tailored around these factors, including the viability of alternate enterprises and existing opportunities in other sectors in the region. Furthermore, it is important that their design involves local government, as it has the knowledge of local realities and hence of what would be feasible.

Vinod Thomas
Director-General
Evaluation

# 1. Background and Context

1.1 Since China began to initiate reforms in the late 1970s, it has experienced rapid economic growth. As it has shifted from a centrally-planned to a market economy, China has succeeded in maintaining GDP growth of about 9% per year, and lifting roughly 400 million people out of poverty. With a population of 1.3 billion, it recently became the world's fourth largest economy and third largest trading nation. Yet China in many ways remains a developing country, with GDP per capita at about $1,740 and more than 135 million people living on less than $1 a day. Partly as a consequence of its rapid economic growth, it also faces significant challenges, among them serious environmental degradation and unsustainable resource use, which could limit China's future achievements if they are not addressed.

1.2 Even as China has gone in its relationship with the World Bank from being a client to a development partner, it remains among the largest borrowers of the Bank and recipients of GEF grant assistance, with annual World Bank lending ranging from US$ 1 to US$ 1.5 billion. Although Bank Group and GEF assistance currently constitute only about 2 percent of total support in China for development and environment, the institutions continue to have a unique influence on practice in these areas. World Bank assistance has gone to all of China's sectors, including, with the GEF, the environment and its various sub-sectors. Since the GEF was established, China has been one of the largest recipients of its support, including for biodiversity conservation.

1.3 Ranked as one of the top 12 countries in the world with the highest percentages of biodiversity, China hosts a rich composition of wildlife and plant species, equal to one-eighth of the world's species, owing to its size, and climatic, topographical, and latitudinal variations. As a consequence of high population pressure, rural poverty, a history of unsustainable resource use, the illegal trade in species, and, in more recent years, wastewater pollution from urban centers, China's natural ecosystems have been under significant threat and in absolute terms its number of threatened species is high. In 2006 the IUCN listed 356 wildlife species, among them the Giant Panda, as threatened.

1.4 Recognizing a need to protect its biodiversity, China in the 1980s began to dramatically increase its number of protected areas. By the mid-1990s, there were more than 700 reserves, and today there exist 1,961 protected areas, or nature reserves as they are termed in China (China does not use IUCN categories of protected land), covering 156 million hectares, or about 16.2 percent of the country's area. The 1980s also saw the development of a series of laws and regulations to protect biodiversity, which facilitated the creation of a nature reserve system, and China became a member of international conventions, ratifying the Ramsar Convention in 1992 and the Convention on Biological Diversity in 1993.

1.5 While the number of reserves and the share of the land they cover is impressive, a large percentage of the reserves are relatively small (two large reserves in Qinghai and Tibet account for the high total area of land covered) and they are highly fragmented. Additionally, institutional capacity in the vast majority of them is weak, the necessary infrastructure is

lacking, and high human populations reside within or adjacent to them, using the NRs' resources and exerting pressure on their habitats and species. As a result, these reserves continue to be only "paper parks" and their biodiversity remains under significant threat. In response to the lack of effective reserve management and protection, China, the GEF and the World Bank developed the Nature Reserve Management Project (NRMP).

1.6 Based on a Biodiversity Conservation Action Plan that China developed in 1994 with GEF, World Bank and UNDP assistance, and that ranked China's reserves by conservation priority, 9 out of 40 reserves of the highest and of globally-significant biodiversity value were selected for support under the NRMP. The project was associated with the larger World Bank China-Forest Resources Development and Protection Project (US$ 200M IDA credit), and together were to constitute a new comprehensive sectoral approach that capitalized on economic and environmental linkages across different forest areas, but also integrated national and global benefits into sector planning and management. As the projects were with the Ministry of Forests (now the State Forestry Administration, SFA), the 9 reserves selected were those under its management authority. Jurisdiction over China's reserves has been distributed across several ministries and agencies, with little coordination for protection among them. The largest share of reserves has been under SFA authority (about 80 percent today).

1.7 The NRMP was the GEF and the World Bank's first project for biodiversity conservation in China, as well as the first large-scale and donor-funded project for this goal China had received, at US$ 17.6M. The project along with subsequent World Bank-GEF efforts for biodiversity in China have differed from those of GEF and its other partner agencies in scope as the latter have tended to focus on policy and institutional reforms, and from international NGOs regarding scale and field presence. The World Bank-GEF partnership remains one of the principal founders of biodiversity protection in the country, and in the late 1990s, it largely replicated the NRMP's objectives and activities in a component of the China- Sustainable Forestry Development Project (FY98).

## Project Objectives

1.8 The objective of the Nature Reserves Management Project (NRMP), as stated in the GEF Project Document and grant agreement, was general in nature; to enhance biodiversity conservation through innovative approaches to organization, planning, skills development, information management, and the integration of local communities into reserve management. The project targeted nine nature reserves of international biodiversity importance in five reserve areas, as listed in Table 1. Its aims also included the creation of a new national-level nature reserve (NR), Changqing NR, in the Qinling mountains. The project consisted of five components (see Table 2). Annex 1 provides a detailed description of them.

**Table 1. Project Nature Reserves**

| Project Nature Reserve Areas | Biodiversity Significance |
|---|---|
| 1. Qinling mountains | Consisting of four NRs, Foping, Niubeiliang, Zhouzhi, and Taibaishan, and Nipponia Nature Station, in Shaanxi Province, and their surrounding natural forest areas where healthy populations of giant pandas still reside |
| 2. Xishuangbanna NR | A cluster of five sub-reserves, Mengla, Mengkao, Menglun, Mengyang and Shanyong, in tropical southwest Yunnan, China's most biodiversity-rich province |
| 3. Wuyishan NR | The highest and richest peak in southeast China straddling the borders of Fujian and Jiangxi Provinces |
| 4. Poyang Lake NR | China's most important wetland site, in Jiangxi Province |
| 5. Shennongiia NR | An area of very rich pristine forest, in Hubei Province |

# Project Components

**Table 2. NRMP Components**

| Component | Estimated Cost | Actual Cost |
|---|---|---|
| 1. Nature Reserves: to develop more effective management and protection systems in the five reserve areas through investments for (a) the preparation and implementation of new NR management plans; (b) strengthening field-level protection, and (c) expanding the role of local communities living within and adjacent to NRs in their planning and management. Pilot community co-management sub-component: to create community incentives for long-term sustainable biodiversity resource use in a total of 8 villages in 6 of the NRs through (i) community participation; (ii) training for NR staff in participatory rural appraisal; (iii) formation of stakeholder committees to help identify community needs; and (iv) preparation of Community Resource Management Plans and Co-Management Contracts. The project would support implementation of these plans and contracts through: (a) a community investment grant program to support non-consumptive economic activities consistent with sustainable resource use; (b) education programs; (c) community outreach programs; and (d) M&E to ensure effective implementation. | 7.96 | 6.37 |
| 2. Enterprise Restructuring: to reduce forest degradation from heavy logging in an area adjacent to the Qinling reserve cluster and important for Giant Pandas by restructuring 2 state-owned timber enterprises under the Changqing Forestry Bureau for more sustainable harvesting and the transfer of workers to more environmentally sustainable employment. The project was to support the following policy reforms and investments: 1) legal designation of the entire area as a national-level nature reserve; (2) core-zone protection activities; (3) sustainable timber harvesting in the experimental zone to maintain biodiversity; (4) preparation of a management plan, reforestation of degraded areas, and training and TA for improved silvicultural management. The labor force of the enterprises was to be restructured in line with the revised cutting program, with the redundant workers redeployed to other economic activities or terminated with a relocation package. | 7.97 | 10.33 |
| 3. Capacity Building: to strengthen technical and managerial skills in | 4.86 | 5.53 |

| | | |
|---|---|---|
| biodiversity through development of a national team that would provide training at all levels of the NR system; and enhance the organizational capacity of the Division of Nature Reserves through: (a) preparation of a national conservation plan; (b) financing of equipment and related TA; and (c) preparation of a series of policy studies on biodiversity conservation. Additionally, it would strengthen the Office of Nature Reserves of the Forestry Department of Yunnan Province, which contains the largest diversity of species in China, through preparation of a provincial conservation plan and development of a provincial geographic information system. | | |
| 4. Management Information System: to support improved management decision- making for the 9 NRs through: (a) investment in computers, software and other equipment; (b) TA in database structure, data analysis and information management; and (c) development of a comprehensive monitoring and evaluation program for NRMP. | 1.95 | 1.34 |
| 5. Research: to strengthen existing national biodiversity conservation research through: (a) financing research infrastructure and equipment at the NRs; and (b) establishing a national small-scale competitive research grants program. | 0.9 | 1.12 |

# 2. Implementation issues

## Quality at entry

2.1 In accordance with the project's management capacity-strengthening goal, the Bank chose to have the Ministry of Forestry's Division of Nature Reserves (DNR, later the State Forestry Administration's Department of Wildlife Conservation, DWC) at the national level and the NRs develop their own M&E frameworks for the project as a whole and for biodiversity at the NR level, respectively. While this was understandable, the Bank had an obligation to see that these frameworks were developed during appraisal and were rigorous so that M&E of the objectives and expected outcomes could be done from the beginning of project implementation. The borrower's M&E plans were finalized two years after effectiveness and were more oriented to outputs rather than outcomes.

2.2 There was insufficient appraisal to ensure the enterprise restructuring objective would be effectively and efficiently achieved and this accounted for the difficulties the component experienced during implementation. To be sure, there were a number of considerations that appeared to limit the options available for maintaining the livelihoods of the displaced Changqing Forestry Bureau workers (CFB). Bank staff interviewed for this assessment stated that worker redeployment was pursued because the Bank and Government of China (GOC) believed the employees should still be able to receive the social benefits they were entitled to under the CFB. Correspondence during appraisal and interviews with Bank staff indicate that a limit was placed on the allocation for relocation since it involved severance payments, and although Bank policy had been evolving from a view of severance payments as unproductive to seeing them as assisting in labor shedding for restructuring inefficient state-owned enterprises (SOEs), an official policy on them was still lacking. Concerns also existed during preparation that if the relocation program were expanded and was unsuccessful in its outcome, a large number of people would suffer decreased livelihoods. Additionally, as

Bank staff stated in interviews, the project enterprises embodied reforms that had been made in the SOE sector.

2.3 However, most importantly, the NRMP enterprise retained many of the characteristics of older SOEs that made them inefficient and financially unviable. Private and collectively-owned rural township and village enterprises constituted China's fastest growing sector in the late 1980s and early 1990s, but it was known that SOEs continued to remain economically and managerially inefficient, as well as hindered due to various national economic, institutional, legal policies relating to employment, social service provision and ownership. Bank AAA available at the time illustrated this.[1] A more careful assessment of whether an enabling institutional and economic environment existed would likely have predicted difficulties with the worker redeployment program and suggested the need to develop additional livelihood substitution components to manage the risks. In fact, there is no mention in the GEF Project Document (GEFPD) of the substantial risks the component faced. Had the Bank assessed the age composition and skills of the CFB workforce during appraisal, it might have enabled some targeting of the relocation and transfer programs to specific groups, or, again, created awareness of the need for some modification or of an additional program to address the high number of retirees and reduce the burden they would place on the enterprises. Evaluating the feasibility of the existing and new enterprises, and creating the latter, during project preparation were also essential, but these were done during implementation instead.

2.4 Considering the high level of human pressure on biodiversity in China, the extent to which the NRMP sought to address this problem in the selected NRs by introducing CCM as an approach was inadequate, even as a demonstration pilot. According to the GEFPD, at the time of appraisal approximately 51,000 people in roughly 190 villages resided within the project NRs, and a comparable number lived adjacent to them. Yet the NRMP's CCM component involved only a total of eight villages. The low assistance for the component was the principal issue that borrower agencies at all levels raised concerning the project.

2.5 Although government funding to sustain NR management activities after the project has been inadequate at both the national and local levels, the Bank had received assurance at appraisal of the borrower's financial commitment for this purpose. On other Quality-at-entry criteria Bank performance was satisfactory.

## Financing arrangements

2.6 The system developed to channel the GEF grant to the different levels in the NR system was challenging at first for the implementing agencies, but reflected care on the part of the Ministry of Forestry's World Bank Loan Project Management Center (PMC) that created it. Counterpart units at the DNR, provincial and NR levels to manage the disbursement, procurement and related activities for those units were created. For job creation under the enterprise restructuring component, GEF gave concessional loans to the

1. Cf. The World Bank. 1992. *Rural Enterprise Development in China, 1986-90.* World Bank Discussion Papers, China and Mongolia Department Series; The World Bank. 1994. *Enterprise Reform and Restructuring In Transition Economies.* Policy Brief, Policy Research Department, The World Bank.

enterprises, repayments on which were to be used for a revolving fund to support future job creation schemes necessary for the cessation of timber extraction in biodiversity-rich forests.

2.7 Although the total GEF grant was US$ 17.9 M, the actual contribution was slightly less, at US$ 16.24 M, because the grant was denominated in SDRs, but disbursed in US$, and the US$ depreciated against the SDR over the project. The total project cost at appraisal was US$ 23.6 M. The actual cost was US$24.7 M, and Chinese counterpart sources provided US$ 8.45 M of it, compared to US$5.74 M at appraisal, largely for implementing the enterprise restructuring component.

# 3. Monitoring and Evaluation

3.1 The overall rating for performance in this area is **Modest**. Although there were significant weaknesses in the design, implementation and utilization of M&E, the project did succeed in introducing M&E concepts and methods for NR management and its effects on biodiversity where there had been virtually none.

## Design

3.2 An M&E framework for the project was not developed at appraisal. Establishing M&E systems through the provision of training and equipment to enable the NRs to track species, ecosystem conditions and livelihoods and adapt management based on information they collected was one of the very aims of the project and was to be done by the counterpart agencies during implementation. Several useful ecosystem and species indicators, at different landscape scales, their relevance for each of the reserve areas, and the data sources for them, were suggested in the GEFPD. Also provided were a number of valuable socio-economic and institutional accountability and performance indicators that could possibly be used in the M&E plans the NRs developed, and an elaborate activity implementation schedule with the targeted outputs.

3.3 Nevertheless, intermediate and project outcomes, along with indicators for them, for institutional and capacity development could have been developed at appraisal. Only the enterprise restructuring component was designed with some outcome targets, mainly in regard to the workers to be transferred or relocated.

3.4 The M&E system for the project as a whole was developed only in mid-1997 by the DNR, two years after project effectiveness. This prevented the proper M&E, with baseline information, of not only improved NR management, but also of systematic patrolling, a critical activity for biodiversity protection. The plan and its indicators, moreover, were largely to track outputs rather than to assess the extent to which management capacity improved. Equally serious, the 1997 guidelines did provide a framework with indicators and targets for ecological and socioeconomic monitoring at the NR level.

3.5 There were a number of weaknesses in the design of M&E for enhanced biodiversity in the NR management plans. The plans, which were to present the monitoring frameworks

to be used, were finalized only in 1998-99. However, IEG found that even after their late completion, in the management plans made available to it, from Xishuangbanna (XNR) and the Qinling NRs, M&E plans were either absent (Zhouzhi NR) or insufficiently developed (Xishuangbanna, Taibai and Foping NRs).

3.6 Some data collection of animal and plant species, to which ecological monitoring was largely confined, did begin earlier, as it was conducted by patrol guards (and periodically by more skilled staff) and improved patrolling commenced at that time. But data from monitoring/patrol rounds, recorded on standardized observational data sheets, could not be catalogued or effectively analyzed until 2001, when the information management system became operational.

3.7 Perhaps more problematic was the weak scientific basis of the monitoring methodology, especially in relation to species that are rare, inconspicuous or that conceal themselves, as species population size assessments were attempted without appropriate statistical approaches that consider the different species' unique ecological characteristics, and using only raw data collected on species sightings and signs along patrol and transect routes. The data collection technique used could have provided reliable estimates of relative population changes, if the information was analyzed with statistically rigorous models, but it could not generate statistically reliable estimates of absolute species abundance. Additionally, patrol and monitoring staff would have required considerable field training to ensure accurate detection. At the same time, the goal of monitoring all species was too ambitious. M&E frameworks that focused on only the few key species of a reserve, but which also employed reliable approaches for interpreting data, by involving international or domestic experts, would have been preferable, especially given the low level of NR capacity at the project's commencement. Considering that the NR M&E plan development and baseline data collection were to be carried out during the project, it was unrealistic assume that monitoring and analysis to assess the outcomes for biodiversity at the end of the project could be conducted on time and generate meaningful information.

3.8 Under the project, NRs were also to conduct M&E on the livelihood outcomes of communities participating in the community co-management (CCM) sub-component. However, M&E plans for socio-economic monitoring were not included under the CCM objective in the NR management plans. Furthermore, although data was supposedly collected on villages in and around the NRs, many of the management plans did not include information on some of the most basic livelihood indicators, such as average household income. And, in some NRs, CCM was initiated before management plans had been completed and PRA, which would collect additional livelihoods related information, was not carried out in all the sites.

## Implementation and Utilization

3.9 Ecological baseline surveys were reported as having been performed, but no data from these exercises were presented in the management plans of XNR or the Qinling cluster of NRs (QCNR). Population data collected on Giant Pandas in Foping NR, and on golden monkey and takin populations in Zhouzhi NR, before the NRMP became effective are presented in the respective management plans. But in both cases, the information was the

product of research projects by other institutions in the past. There appeared to be no coordination between the Bank and these institutions for data-gathering and evaluation for the project. During the project, patrol guards recorded information on species sightings, destructive practices and offences, but in addition to the methods being unreliable for estimating species population changes, there was weak analysis of the data. Apart from the late installation of the shared database, none of the agencies, NR, provincial or State Forestry Administration (SFA), assumed the task of regularly analyzing the data in it for decision-making and providing direction for improved management at the NR level. Moreover, once the information system was operating, there was little time remaining in the project for monitoring data to be effectively utilized for resource reallocation and strategic redirection. Compounding these problems, the sustainability of NR monitoring (and other activities) was also likely affected due to often inadequate resources for environmental conservation at the sub-national level and the GOC's 1998 logging ban, which impacted 17 provinces, including those in the project, and led to a decline provincial revenues, which were used to support NR staff. Regarding project M&E, although the DNR collected information regularly once it formulated an M&E plan, because the approach tracked outputs rather than outcomes, its value was limited.

## Other Issues (safeguards, fiduciary, unintended impacts-positive or negative)

3.10 Environmental assessments were carried out satisfactorily for all infrastructure development in the NRs and for the construction and expansion of the enterprises under the enterprise restructuring component. The establishment of the corridor linking Wuyishan NR's core zones in 1998 required the application of the Bank's involuntary resettlement safeguard policy since it involved 155 households from 5 villages losing access to their lands for tea and bamboo cultivation and processing in the targeted area. At appraisal, the precise land area and number of households was not known, as the arrangement was to have the NR's management plan determine these. However, adequate assurance was obtained that if resettlement was found to be necessary the borrower would submit a resettlement plan satisfactory to the Bank and conduct all steps in accordance with the Operational Directive.

3.11 An appropriate resettlement plan was developed and the affected households were given compensation payments for 5 years for the land lost in the corridor, and provided assistance for improving productivity on land outside the area of the same size as that lost in the corridor. A bamboo processing facility was also relocated. Based on income monitoring conducted, the NRMP appears to have restored the livelihoods of those the corridor affected. Bamboo productivity increased from 325 to 731 stems per hectare (95 percent of the 750-stem target figure), and net stem earnings are also reported to have increased from RMB 5 to 17 per stem. From 1995 to 2005, average per capita income of the households rose from RMB 2,672 to RMB 4,300, mainly from tea and bamboo production, but also from the employment of household members in patrolling and tourism. This increase is largely consistent with the increase in incomes and inflation in China's rural economy. NR officials stated that during the process of following the Bank's guidelines they believed the justifications for them were tenuous and the procedures arduous, but after implementing them and observing the outcomes, they concluded that the guidelines were sensible and effective. The Bank was diligent in ensuring that the implementing agency followed all the

safeguard procedures and provided the necessary information. The enterprise restructuring and worker redeployment component did not trigger this safeguard policy because it did not involve workers losing land.

3.12 The Bank's safeguard policy on indigenous peoples came into affect for the project activities in XNR, an area with a high population of ethnic minorities. As XNR is governed under the Xishuangbanna Dai (minority) autonomous prefecture of Yunnan province, discussions with it and local government at appraisal constituted consultations with these bodies as representatives of the minority communities. The NRMP did not propose or result in any activities harmful to the communities, and in fact sought their participation for developing eco-friendly livelihood schemes.

# 4. Ratings

## Outcome

The ***outcome*** of the project is rated ***moderately satisfactory*** overall.

## Relevance

4.1 The relevance of the NRMP's objectives remains high. Most of China's nearly 2,000 NRs still lack effective management, including monitoring, patrolling and planning, as well as basic infrastructure. Furthermore, heavy resource use in and around NRs continues to exact a toll on habitats and biodiversity, though, given this, the NRMP did not seek sufficiently to address this problem. Formulating a strategy to protect biodiversity in order to help China meet its international environmental conventions is a goal under the Bank's 2006 Country Partnership Strategy for China, and the GOC has increased its financing and taken policy measures for biodiversity conservation. The objectives were also highly relevant to the GEF's current strategic priorities for its biodiversity work.

4.2 However, relevance of the project's design is lacking. There was a clear causal link between Bank funding and the inputs on the one hand, to the intended outcomes on the other, but the objectives, as stated, lacked specificity and were unable to serve as a strong guide for the development of an M&E framework and targets for it. Furthermore, as mentioned above, the M&E plan was developed two years after implementation had begun and outlined indicators and targets more for the completion of outputs involved in the project rather than for the achievement of the desired objectives and outcomes.

## Efficiency

4.3 The grant and other resources in the project were used in a relatively cost-effective manner, with the exception of the enterprise restructuring component and monitoring and information management. The enterprises involved were financially unviable and burdened with social service and pension payment obligations for non-working and retired staff, and the worker transfer process was inefficient as a whole as the displaced workers had to be shifted to other programs when it was realized that those they had been in could not

accommodate them. The financial rates of return on the CCM-related sub-projects for which data is available (for one village in Taibai NR) were substantial. Those for the schemes in other villages that were launched are unknown, but based on interviews with implementing agencies appear to be positive. In two CCM villages, sub-project investments resulted in negative returns as necessary counterpart funding did not materialize.

## Efficacy

4.4 The rating for the project's efficacy is modest overall. There were shortcomings in the achievement of the objective, for although all of the approaches adopted were innovative within the context of China's NR system and efforts for biodiversity conservation, some were effective in terms of enhancing conservation while other equally important approaches were not. It should also be noted that the efficacy rating is based on an assessment of outcomes at two levels, the extent to which conservation management, defined broadly, was improved, and the increases in species abundance and diversity that resulted.

4.5 Skills development through expert training led to enhanced capacity in several important areas of biodiversity conservation and NR management at all three administrative levels in the SFA's NR system, and to deeper institutional development impacts on SFA's NR system. A reported total of 1,000 DNR, provincial and NR level officials and staff took 13 courses in various basic and advanced management and technical areas, raising capacity, which in many areas was low or non-existent, especially at the NR and ONR levels, before the NRMP, to where conservation administration is now functional and effective. The promotion of many of the training recipients to leadership positions within the NR system has also strengthened the system's capacity overall. Based on the capacity development outcomes, the DNR under the project created an in-house national training program whereby trainees, particularly at the NR level, provided training to other NRs. Foping NR, for example, gave four management-plan development courses for 10 other NRs. Conservation research capacity was also developed in SFA and external institutions as a competitive research grant programs helped add knowledge on baseline conditions in NRs and supported 59 smaller targeted projects. The latter projects, however, were not tailored to meeting NR management needs.

4.6 The benefits gained in terms of improved management capacity have been sustained at the national level and extended to non-project NRs. The national NR management training-of-trainers capacity development system has been maintained within SFA's Department of Wildlife Conservation (DWC, previously the DNR), and a curriculum developed under the project and covering the key areas of management has been used since the NRMP closed to train personnel of other NRs. The DWC has held nine national-level courses since the project, training 430 staff, and several ONR-level trainings as well. NRMP-trained staff have also become consultants for donors and NGOs on their biodiversity projects.

4.7 Conservation planning abilities at the NR level have improved as a result of the development of NR management plans. However, capacity gaps at the NR level remain and management for conservation is still at a basic level. Indeed, the value NR staff have for the principles of effective reserve management appears to be less than the project expected. The

NRMP developed NR management planning skills in China where previously even priority NRs lacked plans and decision-making was ad hoc in nature. NR staff, through training, formulated management plans of quality and for the first time for their respective reserves (see Annex B Part A for a more detailed description of the plans). Targeting NRs with capacity-strengthening—a new approach in China—rather than adopting a top-down approach for improved management, led their staff, an international NGO observed, to develop greater ownership and the knowledge and skills to implement plan activities, unlike in the past. When local public budgets allowed, activities planned were actually implemented. Enhanced planning abilities have allowed NRs to obtain support from and collaborate with international NGOs after the NRMP closed, and long-term goals in the management plans have been the basis of future activities the NRs have developed with WWF and other NGOs in various activities (Annex B Part A contains a discussion of the remaining capacity gaps).

4.8 Planning methods introduced improved decision-making and prioritization for biodiversity conservation in the Wildlife Conservation Office of Yunnan Province and in the DNR. Through training and GIS assistance, Yunnan's Wildlife Conservation Office developed and implemented a provincial NR master plan to increase biodiversity protection in key areas. Scientific and GIS research on biodiversity for the master plan established the value of potential areas for reserve coverage and identified priority areas for legislative approval as NRs. Data the Office gathered led the State Council to expand two NRs, and upgrade and join to another NR a third. Management plans were also developed for the NRs. The NRMP thus developed provincial-level leadership for conservation in Yunnan, China's most biodiversity-rich province. Unlike Yunnan, the other participating provinces that did not receive such focused assistance experienced only modest capacity gains. (Annex B Part B discusses the modest levels of planning capacity developed in the other provincial agencies).

4.9 The SFA developed a National Forestry Nature Reserve System Plan, based on an analysis of the gaps in biodiversity conservation in land under its jurisdiction, recommending an enlarged system, for more effective coverage of critical biodiversity areas, and in accordance with IUCN criteria, ranked 87 NRs as Class I or II, thus deserving priority conservation attention in China's 10th Five-Year Plan. For these NRs, the System Plan developed five-year budget needs estimates. However, the recommended level of support did not materialize, leaving the System Plan uncompleted.

4.10 Organizational development at the NR level, consisting of staff reorganization and strengthening, infrastructure investments, training and performance incentives, have improved the quality of biodiversity management and protection. NR personnel restructuring raised the number of patrol guards and reduced NR bureau staff to bring greater field-protection and improve other site-based activities. In XNR, for example, forest guards increased from 35 to 63 and office staff declined from 63 to 32. Yunnan province's Wildlife Conservation Office's management capabilities were strengthened as its staff increased. Significant gains to protection and management came from the basic and critical infrastructure and equipment including for communication and research that was provided and had been almost entirely lacking before. Civil works implementation included the

creation in Wuyishan NR of a 3,878 ha-corridor linking its core areas that is managed as a buffer zone. Greater presence of wildlife in the corridor has been reported.

4.11 However, all infrastructure was constructed only after the management plans had been approved, which was in 1998-99, and as part of their implementation, thus delaying the benefits of increased protection. As the ICR and several NR and SFA staff have stated, the management plan development process was too long and the NRMP was near to closing by the time the plans were completed. To facilitate completion of all the components, although the project closed on schedule, its duration was extended by one year. Despite this, the devaluation of the grant meant that the infrastructure planned had to be scaled back.

4.12 Sound and rigorous patrolling guidelines were introduced through training and standardized across the NRs, and these have also allowed for monitoring, improved supervision of protection activities, and training of other NR staff. Patrol routes and schedules have been established in each NR. Local residents have been employed as guards, a cost-effective measure that has also generated some ownership and benefits for them. To ensure field staff carry out their responsibilities at high quality, some of the major NRs, namely Foping NR and XNR, initiated an incentive system tying salary and promotions to performance on specific tasks and achievements. The better working and living conditions for personnel and their families made possible through the infrastructure provided have also increased staff incentives.

4.13 However, due to a lack of public funds for environmental aims at the sub-national levels, NRs have been unable to sustain patrolling and other management activities, leaving illicit resource use at high levels. As M&E has also been affected, it is unclear to what extent enhanced protection has benefited the biodiversity of the NRs although it is likely it has had some positive effect. Due to weaknesses in China's system of fiscal decentralization that have existed since before the project, and to the 1998 logging ban, which has reduced the revenues of the provinces affected, most of the NRs, especially those in the poorer regions, have lacked the sub-national support for staff salaries they require to conduct field activities on a sustained basis. Although NRs generally claim that poaching has declined, data documenting this and linking it to improved protection is lacking as the necessary M&E was not carried out. According to a wildlife rehabilitation organization in Shaanxi, poaching remains fairly high in the Qinling mountains, and hunting remains a serious problem in some XNR sub-reserves. Only in NRs receiving support from NGOs or the Ministry of Finance, such as Foping NR, are patrolling and/or monitoring regular.

4.14 The closure of the CFB's timber enterprises enabled the creation of a new national-level NR for Giant Panda protection in the Qinling mountains, but the impacts on the species' population are not known. A 30,000-hectare area at the logging-affected site was declared Changqing NR, as the CFB was closed rather than its activities scaled down to sustainable levels. The closure along with the NFPP have led to forest and panda habitat restoration in the area, including in degraded corridors that had prevented panda movements, and with the adjacent Foping NR has increased the total contiguous habitat for the species in the area. However, the outcome in terms of the panda population is not known. While some increase can be assumed, no specific data was provided to IEG and it is not clear that M&E was done.

4.15 Yet the approach of enterprise restructuring and redeployment, inefficient and ineffective as it encountered numerous obstacles, did not demonstrate itself as a model that in the given context could be replicated for enhancing biodiversity conservation. The NRMP sought through a job-creation program to transfer the majority of workers[2] the closure affected to three existing and two new SOEs associated with the CFB. Though the existing SOEs had incorporated the recent sector reforms, they were already being managed inefficiently and without regard to market principles before receiving the new workers. The new SOEs became financially unviable due to market conditions, the low skill levels of the transferred workers and of management, and the retirement of a large portion of the workers shortly after their transfer and the need to pay their social benefits. Because of pressure to create the new NR, the enterprise feasibility studies did not present the actual viability of the companies. It was reported to IEG that as of 2005 all of these SOEs were performing poorly, with debts outweighing assets in most cases, and the ratio of working to non-working employees being about 1:2. Because the enterprises were unable to pay the GEF concessional loans they received, the facility proposed to recycle the repayments to fund future job creation schemes that would allow the closure of other logging enterprises did not materialize (see Annex B Part C for a detailed discussion of the NRMP's experience with enterprise restructuring and redeployment).

4.16 Owing to an inability of the job-creation program to absorb the number of workers anticipated, and the CFB closure's displacement of a larger number of workers than expected, the Bank and SPFD sought to transfer the remaining workers with earmarked capital to SOEs outside Changqing, although nearly half of them retired and were supported by the province. Those transferred to new SOEs were ultimately laid off and their new employers were unable to pay their social benefits, leaving them to be supported by the province as well. Owing to the difficulties and added costs that redeployment involved, counterpart funding was increased. Livelihoods monitoring of the workers in the job-creation and worker-transfer programs was not conducted. Considering that because the participating SOEs have been economically unviable many of the workers might have received non-working status to receive only subsistence support, it is likely they are experiencing lower living standards than before.

4.17 The NRMP provided relocation packages to 150 employees. The program's selection process and the relocation were conducted in a transparent and fair manner through quality consultations with employees, an NGO that observed the process confirms. Although the workers' living standards after relocation and satisfaction with the program were reported as good, the quality of the M&E conducted was weak, leaving it uncertain how the participants have fared. An additional 37 employees were given reduced relocation packages once the difficulty with the job-creation program became apparent.

4.18 The information management methods and tools introduced contributed only modestly to enhanced conservation management due to weak preparation, design and implementation of M&E, the late installation of the Chinese Biodiversity Information Management System (CBIMS) and continued technical problems with it, and the lack of

[2] See Annex B Part D for the lack of clarity on the number of workers the CFB's closure affected and how many participated in each of the worker redeployment programs.

clarity within the NR system on the responsibilities for data analysis for improved NR management. Procedures for improved and detailed biodiversity monitoring were introduced and have been practiced in the NRs to an extent, but the M&E plans were developed only during implementation and it is unclear what biodiversity indicators have been used. Significant monitoring also began rather late and without quality baseline studies as a foundation, and methodologies have not been scientifically reliable. These factors have limited the agencies'—and the Bank's—ability to determine the project's contribution to biodiversity abundance in the NRs and meant that NR M&E capacity was only partially developed. Technical difficulties with CBIMS, the GIS-interfaced database accessible to agencies at all levels in the NR system, led to its late installation, in 2000, which meant a significant delay in the analysis of monitoring and patrol data. The system has continued to malfunction and counterpart agencies find it complicated, preventing its effective use. Though it has some potential, CBIMS is not being utilized in many of the NRs at this point.

4.19 More seriously, the chronic budget gaps for environmental activities at sub-national levels mean that it is likely regular monitoring in most of the NRs is not being conducted. An international NGO IEG interviewed corroborated this. Indeed, although data was to be collected on a large number of indicators, in most of the NRs it is quite sparse and weak in quality, covering only a few species and not scientifically reliable. Only where an international NGO is involved in species monitoring is data reliable. An additional problem has been the lack of ownership within the NR system of the task of data analysis for improving NR management, as each level claims the task is performed at another level. Consequently, the links between data collection, analysis and improved management action are tenuous, and considering the large amount of data that has been entered into CBIMS, and the shared access to the system, the opportunities for information analysis to enhance NR management have been significantly underutilized. The NRMP aimed to introduce objectives-oriented decision-making with ongoing environmental and socioeconomic monitoring, but evidence indicates that this occurred minimally (Annex B Part D discusses these modest achievements in greater detail).

4.20 The NRMP's "community co-management" approach did not seek so much to integrate local communities into NR management as it did to engage them in the participatory reduction of natural resource use. Community co-management (CCM) contracts were developed between NRs and the eight selected villages, but these agreements were general and did not contain any real management responsibilities for the communities or benefits tied to their achievement other than the receipt of one-time community investment grants (CIGs) for environmentally sustainable economic activities or educational projects.

4.21 The actual approach, while it had potential to be effective, contributed little to developing biodiversity conservation management. One reason is that the NRs did not adequately cultivate participation and counterpart funding did not always materialize. In perhaps only two cases, Taibai NR and possibly Foping NR were the CCM procedures to cultivate participation and identify issues properly followed. In most of the villages, the steps were not conducted fully or at all, as NRs began to carry out CCM without the necessary training, and NR and local leaders tended to choose the sub-projects to be pursued. The CIGs supported a variety of small-scale schemes, such as bee-keeping, tree-crop cultivation and fuelwood-saving stoves, and some of these tended to benefit only a modest percentage of the

households in a village. In XNR's two villages, where CCM implementation was poor, counterpart funding was not provided owing to inadequate local budgets for conservation and hence sub-projects did not materialize. Despite the overall weak implementation of CCM, the concept transformed the NR management paradigm in the SFA, and NRs sought to extend CCM to other non-NRMP villages during and after the project. However, resources for it have been scarce. Hence as a pilot to develop the interest of local government in environmentally sustainable development by showing the benefits it can deliver, the component did not succeed.

4.22 Furthermore, sub-projects were designed without clear benefits to biodiversity, and while the absence of M&E means that CCM's outcomes for habitats and species are not known, they are likely to be negligible given the small scale of the NRMP's CCM effort. The economic activities CIGs supported were primarily to improve livelihoods and in most cases NR officials had an insufficient understanding that the sub-projects were to generate conservation benefits as well. Because the link between livelihood improvement and biodiversity enhancement in the schemes was weak no real economic incentives for conservation were developed. As there was no M&E of the environmental impacts of CCM, it is unclear what the schemes' effects were on biodiversity. The livelihood effects on the communities are also not clear because socio-economic M&E was inadequate. However, CCM likely contributed negligibly to conserving NR habitat given the problems discussed above, the small scale of CCM and the heavy human pressure on the NRs by the more than 50,000 people living within the NRs at appraisal, according to the GEFPD.

4.23 The project nevertheless improved relations between the NRs and selected communities, laid a foundation for community-based conservation by other donors and NGOs, and led the NR system to incorporate CCM as an activity. The NRMP moved NR management from an authoritative command-and-control approach to one that understood the necessity of addressing community needs, even where NR-community relations had been antagonistic. The new relationships appear to have provided the villages with some social incentive for conservation. The project also laid the groundwork for other donors and NGOs to implement participatory and environmentally sustainable livelihood activities in China's NRs, and the DNR has adopted CCM as an approach for the NR system to follow. However, unless it receives GOC support, it is unlikely that it will be replicated on a significant scale due to the low support available for it at local government levels (Annex B Part E provides an in-depth assessment of CCM's contributions to enhanced conservation).

## Outcomes for Biodiversity

4.24 All the NRs report that the biodiversity in their respective reserves has been enhanced since the mid-1990s, and that these gains are attributable in large part to the NRMP. Table 3 below contains all the quantitative data the NRs provided to IEG. Population figures today as opposed to those immediately after the project would actually better reflect the contribution of the NRMP since improved management would have had time to affect species and because actual management actions and monitoring commenced only mid-way in the project. But as the quality and frequency of monitoring has been poor in most of the NRs, it is difficult to ascertain what the benefits to biodiversity have been. Indeed, some of the reported increases below, for example of mouse deer in XNR, seem quite unrealistic. If

species abundance and diversity are greater today than they were before the project, to what extent they can be attributed to the NRMP is not clear, although it is likely that the improved protection the project brought made some contribution, because the GOC and several NGOs and donors have also taken various conservation measures, including the 1998 logging ban, in and around the NRs since the mid-1990s. At the same time, local or global threats may have emerged or risen since the project. In Poyang Lake, according to an international NGO, bird populations sometimes vary considerably from year to year and there is some disagreement among scientists on whether low numbers in some years signify that the species are suffering adverse effects.

**Table 3. Reported Changes in Populations of Key Species in the NRs**

| Nature Reserve and Key Species | Population Estimates | |
|---|---|---|
| | **1990s** (exact year varies) | **2005** (unless otherwise indicated) |
| Foping | | |
| *Giant Panda* | 70 ("before 1995") | >90 |
| *Takin* | 600 (1995) | 1000 |
| *Golden-haired Monkey* | 400 (1995) | 600 |
| **Poyang Lake** *(average nos. of wintering birds)* | | |
| *Siberian Crane* | 1800 ("before or during project") | 3100 |
| *Oriental Stork* | 800 " " | 2500 |
| *Swan Geese* | 30,000 " " | 60,000 |
| **Shennonjia** | | |
| *Golden-haired Monkey* | 760 (1998) | 1200 |
| **Xishuangbanna** | | |
| *Asian Elephant* | 200 (1996) | 250 ("after project") |
| *Mouse Deer* | 100 (1996) | 1200 (2006) |
| *Parashorea chinensis (tree)* | 361 ha ("before project") | 395 ha ("after project") |
| **Zhouzhi** | | |
| *Golden-haired Monkey* | 1100 (1996) | 1210 (2001) |

# 5. Risks to Development Outcome

5.1 The rating for this criterion is **Significant**.

5.2 The enhanced skills acquired at all levels in the NR system have been, and will likely continue to be, further utilized to extend improved management to other NRs and to obtain additional support, and the project NRs have been bolstered through other measures as well. Finally, the risks to any biodiversity gains achieved are small. Improved management planning capacity has enabled the DNR and NRs to generate additional support. The DNR has received increased funding from the GOC that also includes a budget for infrastructure in

the project NRs, and NRs as well as ONRs are able to obtain increased support from NGOs and donors. The DNR has continued to exercise its enhanced knowledge through its efforts to extend better management abilities to other NRs in SFA's system. To replicate the NRMP's benefits, 51 national-level NRs will create management plans in a new pilot project. The NRMP is serving as a model for other SFA NR-strengthening efforts as well. Hence some funding for national-level efforts did materialize although at project close, as the ICR states, the replication prospects were only modest. Capacity in terms of management knowledge is likely to be sustained at all levels within the NR system. Five years after the NRMP, NRs are still committed to carrying out effective management activities, when funding makes this possible. There has also been greater attention to the project NRs in the country and various actions have been taken to increase protection. The areas of some NRs were expanded or new NRs were created adjacent to them, signifying the continued importance of the NRs for the GOC, and legislation and regulations have been developed for some NRs, such as Poyang Lake, to facilitate their protection. Lastly, the risks to Changqing NR existence, and to the populations of key species that genuinely increased, to the extent the increases can be attributed to the project, are not significant.

5.3 Yet at the NR level, which the NRMP focused on and where resources are most essential for proper management to take place, support has been quite deficient for most of the NRs. This has also meant that the project's piloted CCM could not be up-scaled to be more effective in tackling resource use pressures on biodiversity. Financial support from the GOC for the project NRs and others, while it has increased, has remained grossly inadequate. As the NR System Plan developed under the project states, "national and local governments have not incorporated sufficient investments for development and management of nature reserves into annual budgets... Funds are never sufficient or secure...[and] funds are often earmarked for specific activities without input from NR managers." The MOF continues to hold the conventional view that biodiversity conservation primarily requires infrastructure and it provides support only for this. Only for a select few NRs, such as Foping NR because it is a key Giant Panda reserve, does it finance all activities. The project NRs depend for their staff salaries and support for eco-friendly community schemes on sub-national governments, and as the budget allocations of these units for environmental purposes have been small, especially in the less-developed, biodiversity-rich regions, the NRs have been unable to sustain on a regular basis the benefits in terms of improved critical management activities, such as patrolling and monitoring, and perhaps even others.3

5.4 Insufficient local resources have also prevented the NRs and the DNR from scaling-up CCM to effectively address the principal threat of heavy human pressure. Although the logging ban has improved and expanded areas for biodiversity, resources for NRs are even fewer after the ban as provinces have experienced declines in revenue. While the NRs have improved abilities to obtain external funding, an absence of other major sources exists, especially for endangered species conservation. As CBIMS has had technical problems, the risks to its continued use where it does occur are significant if more user-friendly systems

4. One study estimated that in 2000, public expenditures, investment and current, for national protected areas were of the value of US$1.13/ha. Han, N. 2000. *Study of the Sustainable Management Policies for China's Nature Reserves*. China National Committee on Man and Biosphere, Scientific and Technical Documents Publishing House, Beijing.

become available. Specifically regarding XNR, although is a high-priority NR, a Bangkok-Kunming highway is being built through it and is bound to have adverse impacts. The risks to the NRMP's development outcomes at the time of this assessment are thus greater than the level the ICR implied at the end of the project with its sustainability rating of Likely.

## Bank Performance

5.5 The overall rating for Bank performance is Satisfactory. The Bank's performance during appraisal is discussed above under "Quality at entry" (paragraph 2.1) and is rated Moderately Satisfactory. This section covers supervision performance, which is rated Highly Satisfactory.

5.6 The Bank gave strong attention during project implementation to ensure that the development objectives were achieved, addressing the challenges to enterprise restructuring, developing counterpart capacity one step at a time, requiring greater DNR ownership and supervision, and reminding borrower agencies on the need for quality in their tasks and the timely submission of reports. In managing the difficulties encountered with the worker transfer program and in an effort to make certain that all employees were redeployed in a just manner, the Bank team was able to adapt and innovate to develop solutions. There was careful attention and high commitment to achieving the objectives of this major component.

5.7 Although the NRMP's design was ambitious in its capacity development expectations and this led to some delays, it nevertheless remained important for the counterpart agencies to build their foundation in one area before they proceeded to the next, and the Bank in its management ensured that this occurred. The Bank sought to maintain a logical order of the activities and even postponed deadlines for some outputs, such as the NR management plans, and insisted NRs undergo training in CCM before engaging with communities so the work would be of quality. The decision on whether the next activity should be pursued was based on careful supervision assessment. One factor that contributed to capacity development shortcomings at the NR level was insufficient DNR oversight and the Bank pressed the agency to adopt greater ownership and supervision. The Bank also redesigned CBIMS after it had been installed due to the difficulties counterpart agencies were experiencing with it. The Bank team during supervision was unable to correct for all the gaps either in Quality-at-entry or implementation performance, especially those of the latter that occurred late in the project. However, it did address many of them with its high degree of focus on achieving the development outcomes.

5.8 The Bank was also careful in its analysis of studies and reports the borrower agencies submitted and indicated gaps in information to be filled. Based on an examination of project files and interviews with DNR officials, it was also scrupulous in requiring all documents in timely manner to ensure that the project was on track to achieve its objectives. This was true for the project as a whole as well as for each sub-component. For example, the team gave significant attention to the details of household compensation for the Wuyishan NR's corridor creation. Supervision mission were frequent and usually staffed by specialists in several different areas. Reporting on the project's performance was also detailed and honest. The DNR also noted that the experience of working with the Bank in implementation itself

was beneficial, as it learned from it clear and logical implementation with articulated objectives and outcomes in mind and based on sound supervision monitoring.

5.9 The Bank team also developed a platform during the project to share among project and external stakeholders lessons emerging from the NRMP. The Bank held two formal meetings with other NGOs and donors involved in biodiversity conservation to share with them the project's experiences with pursuing the various objectives, and draw on their knowledge. These organizations included WWF-China, the Ford Foundation, UNDP, GTZ, Friends of Nature, a local NGO, and others, and also involved the DNR. This engagement not only provided these other institutions with information on the first large-scale biodiversity conservation project in China, but also helped establish a common understanding of the challenges and opportunities in conservation in the country, and agreements on which areas require future collaboration.

## Borrower Performance

5.10 Borrower performance is rated overall as Satisfactory, with the Government Performance rating being Moderately Satisfactory and implementing agency performance qualifying as Satisfactory.

5.11 The government gave significant importance to the project objectives of this first major biodiversity conservation project in China that was also reflected in the level of counterpart funding provided. However, there were performance weaknesses in some key areas. Commitment to conservation more broadly was seen in the declaration of Changqing NR as a national-level NR and the related decision on logging. Considerable government ownership existed as well, although on occasion it was more of measures at the national rather than the sub-national levels. During the project, counterpart funding was provided in a timely manner, and in fact actual borrower spending, at US$8.45M, was greater than the appraisal estimate of US$5.74M. The only funding shortfall was the lack of counterpart resources for CCM schemes in XNR. There were some additional performance gaps as well. The GOC, along with sub-national levels, also shared responsibility with the Bank for not having foreseen the risks of NRs failing to receive the support they required from local level governments after the project, and they did not develop arrangements for sustained NR financing for the transition to regular operation. Another performance weakness was that an enabling environment for the worker redeployment program was not created, leaving the sub-component destined to face problems.

5.12 Implementing agency performance was satisfactory, with the gaps having consisted of the implementation of activities without following the prescribed procedures, and weak accomplishments in M&E. The implementing agencies at the national, provincial and NR levels showed strong commitment to achieving the project outcomes and ownership of the processes for their respective tasks. However, in some instances they proceeded with activities without the planned and necessary training. Beneficiary involvement in CCM was generally weak, but NRs did involve local residents in management activities to provide them benefits from, and give them ownership of, conservation.

5.13 The project being the first large-scale, GOC-organized and externally funded project for NRs in China, the DNR had had no prior implementation experience with projects of this kind or with the Bank, and was not entirely confident the NRMP would succeed. Although challenging, a project management structure was created with an entity at each level thus mirroring the administrative structure, to ensure procedures were properly followed, and this enabled the different levels within the NR system to work effectively together. Through diligence, procurement requirements were met and outputs were delivered. Given the complications of the enterprise restructuring component, the SPFD performed effectively, and it was inventive in devising with the Bank alternatives for the worker transfer scheme and implementing them as efficiently as possible. Plans for M&E were developed only during the project and late, and were output- rather than outcome-oriented, but the fault here lies more with the Bank's project preparation. To sustain and extend the project's benefits for its regular operations, the DNR had planned during the project to pursue in-house training for other NRs in the system.

# 6. Lessons

6.1 The main lessons drawn from the assessment of the NRMP are the following:

1) Before sophisticated approaches to planning and information management can be useful for biodiversity conservation, protected-area managers first need to have a strong understanding of the adaptive management approach and skills in each of its steps; defining outcomes, formulating measurable objectives targeted to achieving them, collecting and analyzing data on the relevant indicators with reliable methods to assess the success of efforts, and revising approaches in light of the results.

2) For greater effectiveness and relevance, projects or components facilitating the development of biodiversity-friendly, community-supported livelihood schemes where borrower agencies lack experience with them will need to: (1) provide for greater training, closer monitoring and continuous technical support of staff responsible for engaging with communities to identify and plan sub-projects, and (2) demonstrate the biodiversity and livelihood impacts of such schemes on meaningful scales, particularly in countries where resource use pressures on biodiversity is high. These steps will make it more likely that capacity in this area will be sustained and extended to other protected areas, and greater borrower ownership and resources for biodiversity-supporting poverty reduction will be generated.

3) Biodiversity conservation in protected areas requires sustained financing, national and local, and fiscal and budget allocation systems and trends at these levels need to be understood to make certain real borrower commitment exists and the resources for long-term effective management can be delivered, or to help design reforms that will make this possible. If sustained support is not guaranteed, there are substantial risks that GEF and Bank resources will be used inefficiently, as improved management capacities that have been developed will go largely unutilized and threats to biodiversity from poaching and resource use will remain.

4) Programs to scale-down or close resource-extraction enterprises in remote, rural areas for the benefit of biodiversity, and to equitably transfer workers displaced as a result to new livelihoods, can face numerous challenges; weak, uneven and unpredictable markets and opportunities, government economic policies, and the skill-level and social composition of the displaced workers. Such programs therefore need to carefully consider and be tailored around these factors, including the viability of alternate enterprises and existing opportunities in other sectors in the region. Furthermore, it is important that their design involves local government, as it has the knowledge of local realities and hence of what would be feasible.

# Annex A. Project Components (as described in the GEF Project Document)

**1. Nature Reserves**: to develop more effective management and protection systems in the 5 reserve areas through investments for (a) the preparation and implementation of new NR management plans; (b) strengthening field-level protection with guard posts, communications systems, field kits and other equipment: and (c) expanding the role of local communities living within and adjacent to NRs in the planning and management of reserves.

**Pilot community co-management sub-component**: to create community incentives for long-term sustainable biodiversity resource use in eight villages in six reserves, Foping (1), Poyang Lake (1), Taibai (1), Shennongjia (2), Xishuangbanna (2), and Zhouzhi (1), through 4 activities; (i) community briefing by NR officials on the objectives and scope of co-management, and solicitation of community participation; (ii) training for NR staff in participatory rural appraisal (PRA) and other participatory and advocacy skills; (iii) formation of stakeholder committees at each community to help NR staff conduct PRAs, collect and analyze resource use data, and identify and rank community problems and needs; (iv) preparation by stakeholder committees and NR staff of Community Resource Management Plans and Co-Management Contracts that identify the respective roles and responsibilities in managing resource use. The project was to support the implementation of these plans and contracts through: (a) a community investment grant program to support non-consumptive economic activities consistent with sustainable resource use; (b) education programs to strengthen community and public environmental awareness; (c) community outreach programs such as summer nature camps; and (d) detailed monitoring and evaluation to ensure equitable and effective implementation and to facilitate adjustments over the life of the project.

**2. Enterprise Restructuring**: to reduce forest degradation from heavy logging in an area adjacent to the Qinling reserve cluster and important for Giant Pandas by restructuring 2 state-owned timber enterprises under the Changqing Forestry Bureau for more sustainable harvesting and the transfer of workers to more environmentally sustainable employment. This program -- the first of its kind in China -- is expected to establish a model for sustainable land-use management and enterprise restructuring that would be disseminated to other protected areas in China.

The following policy reforms and investment requirements would be supported. First, the entire area would be legally designated as a national level nature reserve, with a core zone of 11,000 ha and an experimental zone of 19,000 ha. The core zone would comprise the main panda habitat and all harvesting, road construction, and other human interventions would be prohibited there (the government has already stopped all these activities as of December 1, 1993 in preparation of the project). The project would support a variety of protection activities for the core zone. The experimental zone would be managed on a sustainable basis. The farms would still be permitted to harvest timber in this area, but the following new conditions would apply: (a) the annual cut would not exceed the mean annual growth of the forest; and (b) new silvicultural management practices would be introduced to maintain biodiversity values. The project would support improved management of the experimental zone through preparation of a management plan,

reforestation of degraded areas, and training and technical assistance in improved silvicultural management techniques. Second, the labor force of the forest farms would be restructured in line with the revised cutting program, with the 1,193 redundant workers redeployed to more conservation-oriented economic activities in the project area or terminated with a relocation package. The project would finance (a) sub-loans to develop employment opportunities for 1,043 redundant workers at existing and new enterprises; and (b) relocation packages for 150 redundant workers that would comprise specific expenditures related to worker and family relocation costs, worker retraining and placement costs, and livelihood development.

**3. Capacity Building**: to strengthen technical and managerial skills in biodiversity through development of a national team that would provide about 900 person months of operation and management training at the national, provincial, and NR levels. It would also enhance the organizational capacity of the Division of Nature Reserves (DNR) in the Ministry of Forestry (MFO) through: (a) preparation of a national conservation plan; (b) financing of computers, office equipment, and related TA; and (c) preparation of a series of policy studies on biodiversity conservation. Additionally, it was to strengthen the Office of Nature Reserves (ONR) of the Forestry Department in Yunnan Province (YPFD), which contains the largest diversity of species in China, through preparation of a provincial conservation plan and development of a provincial geographic information system.

**4. Management Information System**: to support improved management decision making for the 9 NRs through: (a) investment in computers, software, climatic recording equipment, and other scientific and office equipment; (b) TA in database structure, data analysis and information management; and (c) development of a comprehensive monitoring and evaluation program for NRMP.

**5. Research**: to strengthen existing national biodiversity conservation research through: (a) financing research infrastructure and equipment at the 5 reserve areas; and (b) establishing a national small-scale competitive research grants program.

# Annex B. Supplemental Information on the Efficacy of the NRMP

## Part A. The NR Management Plans, and the Remaining Capacity Gaps at the NR Level

***Management planning capacity has improved in the participating NRs as a result of training and the development of management plans, but the plans, along with the project's expectations of NR capacity to implement them, were overambitious, and analysis for how to address threats to biodiversity continues to need improvement.*** The management plans IEG examined (for three of the Qinling Mountains NRs, Foping, Taibai and Zhouzhi, and for Xishuangbanna NR) reflected an in-depth understanding of the various external social, economic and ecological threats, and internal capacity, institutional and budgetary challenges facing the reserves, along with baseline information in some areas. They specified in detail the NR's objectives, actions and resources needed to address these obstacles and perform essential reserve management functions, and listed the responsible NR-level unit(s) for each action. However, the plans were overambitious in terms of the number of issues they sought to address, especially in light of the resource and capacity constraints the NRs were experiencing, and did not identify the objectives that were of priority and realistic in nature.

In the Taibai and Foping NR plans, the analysis behind the identification of options to address the various threats, along with the choice of options to be adopted, also tended to be superficial. As discussed earlier, another weakness was that M&E plans and targets were either insufficiently developed or absent. As the ICR and several NR and SFA staff have stated, the management plan development process was too long and the NRMP was near to closing by the time the plans were completed. Indeed, the plans contained several descriptive sections (on the NR's history, relevant legislation, geology, etc.) that were not essential for management actions to be formulated, and these might have been added later to enable not only a more timely implementation of the plan but, given the low capacity of the NRs, also greater focus in capacity-building on management; i.e. determining priorities, deciding based on sound analysis how the key internal and external challenges could be realistically and effectively addressed, collecting information to assess performance and adapting management in light of results. Four NRs, including XNR, also produced ecotourism plans, and IEG reviewed this NR's plan. Reflected in the plan was an undeveloped concept of ecologically sustainable tourism from which local communities could possibly benefit. The plan merely proposed ideas on how tourism in general in the prefecture's capitol and region might be increased, with the implication that this expanded tourism would increase the number of visitors to the NR.

***Management for biodiversity in the NRs has been effective although it is at a basic level.*** Although educational and skill levels of NR staff are still relatively low, capacity-strengthening under the NRMP has translated into improved management for species protection and habitat conditions at the NR level. The collection and analysis of basic data has informed and enhanced decision-making and has led to measures benefiting endangered wildlife, even though the data analyses, the links between the data and interventions taken, and the nature of the interventions

have often been fairly rudimentary. In some cases, or more recently in particular NRs, data analysis for management has been more sophisticated. Advanced monitoring and GIS mapping of elephant population distribution and movements in XNR's Shanyong sub-reserve have enabled the NR to target patrolling resources in key areas to prevent hunting. However, this higher-quality work, found also now in Foping NR, is due significantly if not entirely to the support and involvement of other conservation NGOs in these NRs, such as the International Fund for Animal Welfare (IFAW) in the case of elephant monitoring in XNR and WWF Giant Panda monitoring in Foping NR, in the NRMP's last years and after. Nevertheless, these more advanced activities were made possible because the project established a foundation in various management areas for other organizations to build upon.

***However, the value NR staff have for the principles of effective reserve management appears to be less than the project's expectations, as staff cite improved patrolling as having the greatest positive impact on the reserves and better management consisting primarily of CCM.*** When IEG asked senior staff at the NR and provincial levels their understanding of good management, it found the responses to reflect that staff in most cases had not entirely absorbed the principles of quality conservation management. Officials now state that good management requires various activities; monitoring, patrolling, CCM, education, ecotourism, giving staff incentives for performance, and others, and that they now plan for them. But what constitutes management in their opinion are activities. A developed understanding of the concepts involved in effective management and of the need to structure the different activities in particular sequences to be able to pursue objectives, determine biodiversity outcomes and reassess strategies is generally somewhat lacking, although there was some variation in the responses. In fact, for many NR-level officials "management" improved essentially because the NRMP provided basic infrastructure and equipment, and technical skills, and when asked what factor was most responsible for improved biodiversity in the reserve, the answer universally given was patrolling (although the NRs have not conducted M&E of patrolling's impacts).

When asked how the project changed their concept of management, NR officials replied that the CCM notion brought the most important shift in their thinking, and it led them from seeing their role as "a door-keeper", preventing resource use in the reserves and punishing communities for illegal use, to viewing communities almost as partners and realizing that their livelihood needs have to be met if biodiversity is to be conserved. NR staff even cited CCM as the second factor behind the improvements in biodiversity they believe had occurred (although the NRs did not conduct M&E of CCM's effects on biodiversity or habitat). In every interview with NR staff, improved decision-making was only the third most important factor stated.

## Part B. The Management Planning Outcomes in the Provinces Other than Yunnan

***The capacities for biodiversity conservation planning in the Yunnan Forestry Department's Wildlife Conservation Office were significantly enhanced and enabled provincial-level leadership for conservation in Yunnan, unlike in the other participating provinces.*** Because provincial-level assistance was provided only to Yunnan, the province in its coordinating capacities is an exception among the others in the NRMP. Owing to the project's focus on NR

capacity-strengthening, other provincial NR offices, including Shaanxi, a key province, acted more as intermediaries between the DNR and their respective NRs and only served to review management plans. This is despite training they received in management-plan development, database management and other areas. The lack of provincial-level capacity-building resulted, even by admission of staff at this level, in weak provincial involvement and oversight in the project, and poor knowledge of the activities and outcomes at the NR level. Capacity is significantly greater among the NRs than it is at the provincial level, aside from Yunnan. One provincial staff member stated that provinces were to provide guidance and management to the NRs, but that it was not clear how this was to be done. Given the large number of NRs in Shaanxi in the NRMP and the involvement of several donors/NGOs there for Giant Panda conservation, assistance for the province to develop a NR master plan similar to that provided to Yunnan would have been merited and highly beneficial.

## Part C. The NRMP Experience with Enterprise Restructuring and Redeployment

Workers that the CFB's closure displaced participated in one of three programs, relocation, job creation and worker transfer with earmarked capital. Determining precisely how many workers were affected and how many were involved in each program is difficult as there is much inconsistency among the sets of figures the SFA, Shaanxi Provincial Forestry Department (SPFD) and the Bank team in the ICR provided, as well as lack of clarity and inconsistency within the data available from the different borrower agencies' and the Bank. Nevertheless, they all provide roughly the same picture on the performance of the different programs. Provided in Table 4 below are the ICR figures to offer some sense of it.

**Table 4. ICR Figures on Participation in Enterprise Restructuring Worker Programs**

| Worker Program and Status of Displaced Employees | Number of Workers |
|---|---|
| Appraisal Estimate of Total No. of CFB Workers Displaced | 1193 |
| Actual Total of Displaced Workers | 2262 |
| Changqing NR Staff | 220 |
| Employed on enterprise restructuring | 150 |
| Retired | 549 |
| Relocation | 187 |
| Transfer with earmarked capital | 150 |
| Job creation, initially, of which: | 1006 |
| *Employed* | 206 |
| *Retired or transferred to different jobs* | 448 |
| *Idle by mid-2002, because participating enterprises downsized* | 352 |

***The NRMP compensated 187 workers with expenses for relocation, training and livelihood development through a transparent and fair process, and their living standards are reported to be good in comparison to those they experienced before relocation, although the quality of livelihoods M&E was low.*** The different sets of figures agree that ultimately 187 employees were relocated with financial assistance for moving, training, and developing agricultural or off-farm activities. Based on the estimated relocation cost per worker (US$8,000), the project's allocation for relocation allowed 150 individuals to receive it. The program and the selection process were shared with the employees through quality consultations, an NGO that observed the process confirms, and recipients were chosen using a lottery given an excess demand for the package. Due to the lower actual average cost (US$6,400 per worker) and difficulties encountered later with the other programs, 37 additional workers received relocation assistance.

Provincial officials claim that the compensation levels were substantial—and recipients did receive their pensions in addition—and an assessment of the program's outcomes regarding the livelihoods of the former workers was conducted that concluded the participants were generally satisfied with the program. However, how they have fared in livelihood terms is unclear for the methodology used in the assessment lacked rigor and the verdict of the report even contradicts much of the data in it. Related to this, information IEG received on the program did not outline the approach used to develop the budgets for the new livelihood activities in agriculture and off-farm income generation.

***The remaining majority of workers were eventually redeployed to different enterprises, but due to inefficiencies in this sector along with insufficient Bank preparation, the process encountered numerous obstacles and the enterprises have not been economically viable, resulting most likely in negative livelihood outcomes for many of the employees.*** Regarding the job-creation program, the three existing SOEs in the NRMP, like others in their sector and associated with the CFB, were already being managed inefficiently and without regard to market principles; burdened by debt, excess workers, and the obligations to pay support for non-working employees and retiree pensions, and had already been encountering economic difficulties. The new SOEs became financially unviable due to market conditions, the low skill levels of the transferred workers and of management, and the retirement of a large portion of the workers shortly after their transfer and the need to pay their social benefits. The enterprises also had to borrow from and repay local banks as they reported that GEF concessional loan financing was inadequate. Indeed, the Bank reduced the total investment in the two new enterprises, the Trading Company and the Construction Company, because it did not want to spend on them an average unit cost per worker that was more than that under the relocation program.[4] Though the participating SOEs had incorporated the recent sector reforms, they were unable to compete with the growing township and village enterprise sector. It was reported to IEG that as of 2005, all of these SOEs were performing poorly, with debts outweighing assets in most cases, and the ratio of working to non-working (but employed under the Chinese economic system) employees being about 1:2. As the enterprises were unable to pay their loans, the facility proposed to

2. China-Nature Reserve Management Project, Mission Report, May 1996.

recycle the repayments to fund future job creation schemes that would allow the closure of other logging enterprises did not materialize.

One year after project effectiveness the Bank realized that "the initial implementation experience [of the job creation program] has suggested that the original project design overestimated the scope for developing new, environmentally sustainable employment within the Changqing area..." Because the job creation program was unable to accommodate as many workers as anticipated, owing partly to the CFB closure's displacement of a larger number of workers than expected and to SPFD's withdrawal of its proposal for a third, uncompetitive enterprise, the Bank and SPFD developed the job transfer with earmarked capital program for the remaining employees. Some workers were transferred to SOEs outside Changqing with funds consisting of a payment to the enterprises to hire the workers, relocation training and placement support, and a small equity investment in the enterprise for civil works or equipment, while nearly a half retired and were supported by the province. Those transferred to new SOEs were ultimately laid off and their new employers were unable to pay their social benefits, leaving them to be supported by the province as well. Owing to the difficulties with redeployment and the added costs involved, counterpart funding was increased.

Substantive monitoring of the livelihoods of workers in the job creation and worker transfer programs was not conducted. The SPFD reports only that the livelihoods of those transferred with earmarked capital compared to area standards are "low" in some cases and at "a middle level" in others. Considering that the five SOEs in the job creation program have been economically unviable, although their non-working staff are receiving some subsistence support, they are likely experiencing lower living standards than before. It should be noted that the 1998 national logging ban and the decline in provincial revenues it has led to has brought some economic downturn in the region.

What led to the enterprise component's lack of success and the dependence on job creation to address the unemployment from CFB's closure were several factors. One was the higher number of workers displaced by the State Council's decision to cease instead of reduce logging. A second factor was the unrealistic view the DNR states it held on the feasibility of job creation. Perhaps a third was a Bank inclination to favor larger-enterprise and market-oriented solutions over relocation-type assistance. The GOC's decisions left the SPFD to manage the process, and provincial authorities informed IEG that, aware of the difficulties that would be experienced in absorbing labor, were skeptical about the component's success and hesitant to close the CFB. As the existing SOEs involved in the NRMP were required by administrative order to accept redundant workers and there was pressure to both establish Chanqing NR and conduct the redeployment, insufficient analysis was done for the enterprise feasibility studies. The studies, which the province's Design and Planning Institute conducted and which otherwise used sound criteria that the Bank required to approve GEF loans to the companies, consequently did not present the actual viability of the enterprises, the SPFD informed IEG, although they did mention many of the same factors discussed above that would pose as obstacles to performance. Finally, enterprise creation was problematic because during the process market conditions and factor prices kept changing. Based on the ICR, job creation, at the average cost of US$10,800 per worker, was more costly than relocation and worker transfer (US$3,400). The SFA drew lessons from the

experience as it developed the National Forest Protection Program to help provinces cope with the effects of the 1998 national logging ban, and, moving away from an initial idea for job creation, developed a program modeled on the relocation component.

The enterprise restructuring component only brought greater complexity and risks to an already ambitious project. But as Bank staff have pointed out, given the developments at the time of preparation critical panda habitat would have been lost had Changqing NR not been established. As discussed under "Quality at entry", had the Bank appraised the situation better and taken steps to minimize the various risks the provision of more secure substitute livelihoods for CFB's employees might have been facilitated.

## Part D. The Modest Achievements in Improving Information Management

***Procedures for improved and detailed biodiversity monitoring were introduced and have been practiced in the NRs to an extent, but the M&E plans were developed only during implementation and monitoring methodologies have been inadequate, limiting the ability to determine the project's contribution to biodiversity abundance in the NRs.*** The NRMP provided training in enhanced techniques for data collection and monitoring of plant and wildlife species and standardized these across the NRs. Transect routes specifically for monitoring were established and patrol guards also collect data on species presence indicators during their rounds. The standardized data sheets the NRMP designed for them are still being employed. In NRs where little or no ecological data-gathering had previously occurred, this has been a significant positive step, and where monitoring was conducted before the NRMP, such as in Shennongjia and Foping NRs, the project improved the quality of data collection, enabling the discovery of species thought absent.

The frequency of the activity though varies among the NRs due to various factors, the level of local funding available for NRs being one of the chief ones among them. While the procedures introduced were not advanced, they required recording information on a large number of species and indicators. More significantly, the approach has lacked scientific reliability as raw data on species has been used to assess population abundance changes rather than data analyzed with species-specific statistical models. In some of the NRs, international NGOs have been involved in more scientific and advanced species monitoring, but staff in them as well as in NRs without this activity appear to possess only low capacity for scientific data analysis. The NRMP's data analysis course, it was stated, was difficult to apply. In cases where the NRs or provincial offices conduct their own population estimations, the results cannot be regarded as valid or used as indicators of improved management.

Also making any biodiversity data from the project problematic is that some NRs began data-gathering before the training was received and used methodologies inconsistent with those the Bank proposed, thus producing poor quality information. In QCNR, outside institutions were hired for data collection, which meant at least initially that no NR capacity-building occurred. In fact, the NRMP was unrealistic in expecting to have quality baseline biodiversity data collection occur before management plan development when this requires

significant training and more than a year to perform. Third, significant monitoring generally began rather late, after the management plans had been developed. Finally, the M&E plan for the project as a whole and for assessing biodiversity outcomes was developed only during implementation and completed 2 years after effectiveness, whereas it should have been completed during appraisal. In fact, it remains unclear from the management plans what biodiversity monitoring indicators were used.

***The installation of the Chinese Biodiversity Information Management System (CBIMS) was delayed due to technical problems with it, and this also meant a delay in the analysis of monitoring data.*** Even after the system was established it was difficult to use and frequently malfunctioned, preventing its effective use in many cases. Interfaced with GIS, CBIMS was designed to create a new knowledge base on NRs and biodiversity, showing dynamic changes occurring and available for all administrative levels in the NR system. Data gathered during monitoring and patrols on species, ecosystem conditions, and offenses, and on personnel and budgets was to be entered into CBIMS, allowing for its analysis. Yet from the start, CBIMS posed challenges due to its complexity and instability, and had to be redesigned during implementation. It was not available at the NR level till late 1999, and at the provincial and DNR levels till 2000. Even after installation, the system has not worked properly, failing to show recently inputted data and requiring sub-reserves and NRs to submit their latest data to higher levels on paper or computer disks. While some staff have lacked the skill to use CBIMS, even some provincial officials responsible for data analysis and skilled NR-level staff find the system too complicated.

While according to some external stakeholders the system can be useful and a few NRs have used employed it effectively, CBIMS is not being utilized in many of the NRs at this point. Given its potential, SFA now wishes to retain but improve CBIMS and has requested MOF support to extend CBIMS to other NRs and for training other staff. But SFA is also establishing a separate platform for personnel and budget data which will be used alongside a simplified CBIMS once the former is available.

***More seriously, chronic budget gaps for environmental activities at sub-national levels in less-developed areas are an endemic problem in China's decentralized system and as a result it is unclear to what extent regular monitoring is actually being done in the NRs. Indeed, data of some NRs in these areas is quite weak.*** Since the early 1990s, despite some improvements China's system of fiscal decentralization has possessed weaknesses that leave the biodiversity-rich poorer, central and western provinces without the financial resources they require to meet their responsibilities and a lack of clarity of the responsibilities of each administrative level. Coupled with biodiversity conservation receiving lower priority, NRs in these provinces often do not receive the necessary support to conduct management activities and the majority of reserves, even high-priority ones, are dependent on sub-national funding for staff salaries and benefits. Since the 1998 logging ban, budgets have been further reduced. Provincial officials IEG interviewed reported that local budgets have been insufficient for agencies to maintain all of functions and services, and one official stated that staff in some reserves are not being paid on a regular basis. The Bank ought to have factored in these conditions when planning the project's financing and obtained the necessary borrower commitment.

Based on the lack of resources, it is quite likely that even basic monitoring is not being conducted regularly in many of the NRs and sub-reserves in the poorer provinces. An international NGO interviewed corroborated this and added that even when data is collected it is often not reported accurately because it is not what higher-level managers want to see and staff are concerned about the repercussions they will face as a result. Monitoring was to be done on species, habitats, environmental services, and the extent and nature of threats. While some data collection on these was likely done, no analytical monitoring to track and make sense of changes in these indicators. In some of the NRs IEG visited, no biodiversity monitoring data was presented although IEG made a formal request for this information during mission preparation. Where IEG made repeated requests for it, it was discovered that the data available was very poor, as it covered only a few species and was nonexistent even for many endangered ones. Only where an international NGO was involved and providing support for species monitoring, such as IFAW's elephant monitoring in XNR's Shanyong sub-reserve since 2003, was data available and of quality.

***Additionally, within the NR system there has been little ownership by any level of the task of data analysis for improving NR management.*** Considering the large amount of data entered into CBIMS for various indicators, and the shared access to the system, the opportunities for information analysis to enhance NR management have been significantly underutilized. The chain linking data collection at the NR level to analysis at higher levels and then back down to improved management action at the NR or sub-reserve level is weak. In fact, it is unclear which level has responsibility for information analysis, as NR and sub-reserve directors say that they supply their data for analysis to the next highest level, but officials at these levels claim that they conduct only some analysis with the lower units sharing in the task, and that revised management action is decided at the field level. Aside from the lack of clarity over which unit is responsible, analysis for improved management that does not substantially involve NR or sub-reserve staff is problematic because the NRs and sub-reserves are too large and important, and the developments in them too complex, for removed, upper-level units to make the decisions. Last year XNR's Shanyong SR begin to examine its own data on a CBIMS-adapted system better tailored to its ecological issues and informational needs. In addition to the difficulties with CBIMS and the lack of resources for regular monitoring, which also influence data analysis, analytical capacity at the NR and provincial levels is not strong. While data collection training was provided for all NRs, that for data analysis was not available in all cases. Again, only when NGOs with expertise became involved was there good analytical use of data that had been collected.

At a deeper level, there appears to be an insufficient appreciation of the function of monitoring and its value for NR management and biodiversity protection. This is related to a broader tendency observed that sees management and its activities as actions that can be achieved merely by following externally-provided rules and steps rather than requiring a critical and analytical perspective. The NRMP was thus too ambitious in expecting quality monitoring and analysis and the full use of CBIMS when the baseline capacity of the NR system was low. A central NRMP aim was to introduce objectives-oriented decision-making; baseline data collection and systematic analysis, ongoing monitoring of environmental and socioeconomic factors, and the updating of plans and actions. But

available evidence indicates that this occurred minimally, and where it did was at the simplest level.

## Part E. The Community Co-management Experience

***"Community Co-management contracts" were developed between the NRs and the selected villages, but these agreements were general and did not involve any real management on the part of the communities.*** The NRs formed CCM contracts with the eight villages selected to participate. The contracts, according to the GEF Project Document, were to define the respective roles and responsibilities of the parties in managing resource use, and to support them community investment grants (CIGs) would be provided for environmentally sustainable economic activities. The contracts, however, were quite general, stating only that the village should help protect the resources from illegal and destructive activities and would lose the NR's assistance if they did not. The term "co-management" was perhaps erroneous as the contracts did not contain any specific management obligations and responsibilities for the parties, nor statement of benefits for the village that were tied to the achievement of these responsibilities.

***The quality of the implementation of the CCM process varied significantly among the NRs, from strong to inadequate. There was an association between the quality of implementation and the success of livelihood sub-projects.*** IEG visited or met with the residents of three out of the eight CCM villages (Da Wan, Taibai NR, and Xiahuibian and Xinlongshan, XNR), and visited two villages, in Zhouzhi and XNR NRs, to which CCM had been extended outside the NRMP. It also discussed with the officials of the other NRs their CCM experiences. What criteria were used to select the pilot villages is unclear, as the villages varied considerably in terms of accessibility, standard of living, and their relationship with their respective NRs. Many villages, it should be noted, were unwilling to participate in the component.

In perhaps only two cases, namely Taibai NR, as the international CCM consultant provided direct guidance and leadership for the exercise there, and possibly Foping NR were the procedures for CCM were followed well. Communities were presented with the CCM concept, and its scope and benefits, Leading Groups composed of village and external stakeholders were formed, participatory rural appraisal (PRA), including data collection and analysis, was performed to understand resource use and identify and prioritize economic activities, and community natural resource management plans were developed.

Yet in most instances, stakeholder committees were not formed, and NR staff did not conduct any PRA or cultivate participation in decision-making. With local leaders they determined the sub-projects for the villages to pursue, the prime example being XNR. In fact, even in Taibai NR's Da Wan village, the level of village participation in decision-making appears to have been low, as involvement grew gradually only after village leaders adopted the economic activities. Indeed, in IEG's meetings with the villages, ordinary villagers were practically absent and local leaders and their associates alone spoke. The Bank team had realized during implementation that CCM activities had been initiated without staff having

received training, which had resulted in village leaders "identifying a wish-list of projects without having gone through a participatory consensus-building exercise."[5]

New or existing economic schemes the CIGs supported in the various villages were mainly for improved bee-keeping, tree-crop and herbal medicine cultivation, potable water, fuelwood-saving stoves, and pig-raising, and spending was mainly on training and technical assistance. The NRs tended by their own admission to involve only households with prior skills in the activities, bee-keeping being an example, and saw those without any capacities as unable to benefit, and this has meant that only a modest percentage of the village's households have participated in a scheme. The schemes were co-financed, according to project rules, by the communities, NRs from their own budgets, or local government, and household participation generally increased over time, particularly in tree-crop growing and the use of more efficient stoves. Despite some NRs not having fully carried out CCM procedures, they did seek to extend CCM to other non-NRMP villages with their own resources or special GOC funds, indicating that the project had changed their management paradigm. However, nearly all the NRs complained about the NRMP's low level of support for CCM and the difficulty this created for sustaining and extending community economic activities.

In XNR's two CCM villages, where CCM implementation was poor, irrigation schemes were not established largely because county and prefecture governments, while they were involved in the Leading Groups, were ultimately unable to provide counterpart financing. Greater participation and analysis of resource use may have identified less costly schemes, but local government budgets in Yunnan and elsewhere were also limited for conservation-oriented community schemes for the same reasons they could not sustain NR management activities, and there has been some dispute as to whether the NR system or local governments are responsible for addressing unsustainable resource use in NRs. However, that there would be difficulties in launching, sustaining and extending CCM-related activities due to the unavailability of resources at the local level was not discussed as a risk in the GEF Project Document. Hence as a pilot to provide lessons to local governments on the benefits of CCM, the component did not succeed.

***Although CIGs supported new economic activities, these activities were primarily to improve livelihoods and in most cases were not designed with the intent to produce clear conservation benefits***. Some of the schemes, such as fuelwood-saving stoves, clearly reduced use of the NR's resources, and the authorities most likely supported them for this reason. However, with the exception of activities in Taibai NR's villages, precisely what environmental harm many of the other activities were to prevent or minimize was not determined. Indeed, NR officials placed an emphasis in the sub-projects on income-generation and there was inadequate understanding that these needed to generate conservation benefits as well. The link between livelihood improvement and biodiversity enhancement in the schemes was weak and as a consequence no real economic incentives for conservation were developed. Sub-projects seemed to be based on the mistaken assumption that increased income would necessarily lead to reduced resource use. Whether the economic

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3. China Nature Reserves Management Project (GEF Grant 28301) Report of Supervision Mission, conducted May 6-June 9th, 1996.

activities actually resulted in less resource use is unknown since the NRs did not conduct any analyses of the impacts.

Various environmental education sub-projects for youth were carried out in Foping NR and in XNR. However, the NRs did not conduct any basic surveys to assess the effects of the schemes on the participants' attitudes. IEG visited one scheme, a "green culture room" with environmental education and recreation activities, in a CCM extension village in XNR. Based on discussions with the youth, the activities have taught them the importance of conservation, though primarily for the benefit of their livelihoods.

***Overall, CCM contribute little to conserving NR habitat. Furthermore, there was no M&E of environmental impacts and even monitoring of community livelihood impacts was inadequate.*** Given the small number of villages the component involved and the minor scale of most of the schemes, the biodiversity gains for the NRs were negligible and resource use by the roughly 51,000 people living in the NRs (not including those adjacent) according to the GEFPD was little impacted. Where energy-efficient stoves were introduced, the fuelwood saved was not insubstantial. However, no M&E of the effects of this and other schemes on biodiversity or habitat was conducted. Similarly, some livelihood activities, mainly tree-crop cultivation, appear to have generated sizeable incomes for participants, but M&E was not done at most sites, and where it took place was of insufficient quality to isolate whatever contribution each activity might have made. Generally, according to data from basic monitoring of income changes that was done (in Foping, Shennongjia, and Zhouzhi NRs), village incomes rose by the same rate or slightly higher than that for the rural sector as a whole.

***The project laid the groundwork for other donors and NGOs to implement participatory and environmentally sustainable livelihood activities in China's NRs, and the DNR has adopted CCM as an approach for the NR system to follow. However, to what extent it can implemented on a wide-scale is unclear due to the low support available for it at local government levels.*** The Bank and GEF succeeded in introducing CCM in NR management in China and thus made a significant contribution. Late in the project and after, several donors and NGOs, such as WWF and UNDP, began work in other communities of the participating NRs or others that replicated or resembled the processes under the CCM component. WWF-China, for example, in 2000 initiated eco-friendly livelihoods projects in three villages in the QCNRs, including in the new Changqing NR, and CCM trainees/coordinators under the NRMP have served as advisors for them. With all levels in the NR system viewing CCM as having transformed their approach to NR management, CCM was incorporated into the National Forest Nature Reserve Management Plan, which requires all A-level SFA reserves to establish and operate Community Affairs Units. CCM has been extended to other NRs and published guidelines and examples based on the NRMP experience have been disseminated. Yet unless the intergovernmental fiscal transfer system is reformed, the heavy resource-use pressure on biodiversity and ecosystems in NRs will continue.

# Annex C. Basic Data Sheet

## NATURE RESERVE MANAGEMENT PROJECT (TF-28301)

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

| | *Appraisal estimate* | *Actual or current estimate* | *Actual as % of appraisal estimate* |
|---|---|---|---|
| GEF grant | 17.90 | 16.24 | 90.70 |
| Co financing | NA | NA | NA |
| Government | 5.74 | 8.45 | 147.2 |
| Total project cost | 23.64 | 24.70 | 104.5 |

### Project Dates

| | *Original* | *Actual* |
|---|---|---|
| Departure of Appraisal Mission | | 01/01/1993 |
| Appraisal | | 03/01/1995 |
| Board approval | | 06/06/1995 |
| Effectiveness | 07/18/1995 | 07/18/1995 |
| Mid-Term Review | 09/20/1998 | 09/20/1998 |
| Closing date | 06/30/2002 | 06/30/2002 |

### Staff Inputs (staff weeks)

| | *Actual/Latest Estimate* | |
|---|---|---|
| | *N° Staff weeks* | *US$US$('000)* |
| Preparation | 49.60 | 176.00 |
| Appraisal | 26.50 | 89.30 |
| Supervision | 96.88 | 445.30 |
| Completion | *9.55 | *42.59 |
| Total | *182.53 | *753.19 |

*Estimate figure

## Mission Data

| | Date (month/year) | No. of persons | Specializations represented | Performance Rating | |
|---|---|---|---|---|---|
| | | | | Implementation Progress | Development Objective |
| Identification/ Preparation | 3/92 | 9 | 1FS, 2EC, 1SNS, 1ECO, 1NREC, 1MS, 1ReS, 1IMS | | |
| | 11/92 | 6 | 2FS, 2EC, 1ECO, 1MS | | |
| | 5/93 | 5 | 1EC, 1FS, 1ECO, 1FA, 1SE | | |
| Appraisal/Negotiation | 11/93 | 5 | 1ECML, 1ECO, 1SE, 2EC | | |
| | 8/94 | 3 | 1EC/ML, 1ECO, 1OA | | |
| Supervision | 8/95 | 2 | 1EC/ML, 1ECO | S | S |
| | 6/96 | 2 | 1EC/ML, 1ECO | | |
| | 5/97 | 2 | 1EC/ML, 1ECO | HS | HS |
| | 10/97 | 3 | 1ECO/ML, 1BS, 1OO | | S |
| | 3/98 | 4 | 1ECO/ML, 1OO, 1DO, 1EC | | HS |
| | 9/98 (Mid-Term) | 6 | 1ECO/ML, SPOO, 1S, 1WB, 1FE | HS | HS |
| | 2/99 | 4 | 1ECO/ML, 1BS, 1M&E, 1TA | HS | HS |
| | 6/99 | 3 | 1ECO/ML, 1BS, 1SPOO | S | HS |
| | 1/00 | 3 | 1ECO/ML, 1DO, 1PO | HS | S |
| | 3/00 | 3 | ÈCO/ML, 1M&E/ES, 1TS | S | S |
| | 6/00 | 2 | 1ECO/ML, 1M&E | S | S |
| | 11/00 | 5 | 1ECO/ML, 1DO, 1PO, 1RS, 1SDS | HS | S |
| | 6/01 | 4 | 1IECO/ML, 1RS, 1BS, 1EC | HS | S |

| | Date (month/year) | No. of persons | Specializations represented | Performance Rating | |
|---|---|---|---|---|---|
| | | | | Implementation Progress | Development Objective |
| | 12/01 | 4 | 1IECO/ML, 1RS, 1PS, 1BS | S | HS |
| | 3/02 | 2 | 1ECO/ML, 1BS | HS | HS |
| ICR | 6/02 | 3 | 1GEF RC/ML, 1BS, 1SS | | |

**Note:**
*Identification/Preparation Missions were part of China Forest Resource Development and Protection Project (FRDPP) missions.

**BS**: Biodiversity Specialist; **DO**: Disbursement Officer; **EC**: Economist; **ECO**: Ecologist; **ES**: Environment Specialist; **FA**: Financial Analyst; **FE**: Forest Economist; **FS**: Forestry Specialist; **GEF RC**: GEF Regional Coordinator; **IMS**: Information Management Specialist; **ML**: Mission Leader; **M&E**: Monitoring & Evaluation Specialist; **MS**: Marketing Specialist; **NREC**: Natural Resource Economist; **OA**: Operations Analyst; **OO**: Operations Officer; **PO**: Procurement Officer; **PS**: Procurement Specialist; **RS**: Resettlement Specialist; **ReS**: Research Specialist; **S**: Sociologist; **SDS**: Social Development Specialist; **SE**: Socio-Economist; **SNS**: Seed Nursery Specialist; **SPOO**: Social Policy Operations Officer; **SS**: Social Scientist; **TA**: Team Assistant; **TS**: Training Specialist; **WB**: Wildlife Biologist

# Annex D: People and Agencies met

## List of Persons Met

**Ministry of Finance**
Mr. Zou Ciyong, Director, International Department

**State Forestry Administration**
Mr. Yan Xun, Deputy Director General, Department of Wildlife Conservation
Ms. Cheng Jinghua, Senior Engineer, World Bank Loan Project Management Center
Ms. An Lidan, Deputy Director, Department of Wildlife Conservation

**Fujian Provincial Forestry Bureau Wild Fauna and Flora Conservation Management Center**
Mr. Zhou Dongliang, Senior Engineer

**Hubei Provincial Forestry Bureau Wild Fauna and Flora Conservation Division**
Mr. Zhou Lijia, Principal Staff

**Jiangxi Provincial Forestry Department Wildlife Fauna and Flora Conservation Management Bureau**
Mr. Wu Yinghao, Deputy Director

**Forestry Department of Shaanxi Province**
Mr. Hou Lingyu, Senior Engineer, Administrative Office of Natural Reserve and Wildlife
Mr. Zhou Lingguo, Deputy Director, Conservation Division
Mr. Fong Jinxu, Director, Industry Division, Resource Bureau

**Forestry Department of Yunnan Province**
Mr. Guo Huijun, Vice Director-General
Ms. Zhong Mingchuan, Deputy Director, Wildlife Conservation Office
Mr. Chen Lixian, Deputy Director, Wildlife Conservation Office
Mr. Zhang Bao, Deputy Director, International Cooperation Project Office

**Poyang Lake National Nature Reserve Management Bureau**
Mr. Ji Wei Tao, Director and Senior Engineer

**Shennongjia National Nature Reserve Management Bureau**
Mr. Yu Jie, Director, Office for International and Domestic Cooperation

**Taibai Nature Reserve Management Bureau**
Mr. Liu Mingshi, Director
Mr. Wang Zhicheng, Deputy Director
Mr. Ma Yisheng, Deputy Director
Mr. Liang Qihui, Former Director, GEF Project Office,
Community Co-management Consultant
Ms. Ruan Mouqin, Former Officer, GEF Project Office (information management system and training)

**Wuyishan National Nature Reserve Management Bureau**
Mr. He, Director

**Xishuangbanna Nature Reserve Management Bureau**
Mr. Huang Jianguo, Deputy Director
Mr. Yang Hongpei, Deputy Director of the Research Institute of Xishuangbanna Nature Reserve
Mr. Liu Linyuan, Director of the Research Institute of Xishuangbanna Nature Reserve
Mr. Wang Lifang, Director, Shangyong Sub-reserve
Mr. Tao Qing, Deputy Director, Shangyong Sub-reserve
Mr. Zeng Rong, Director, Mengyang Sub-reserve Management Station
Mr. Li Zhongyuan, Deputy Director, Mengyang Sub-reserve Management Station
Mr. Zhang Shuzhong, Head, Guanping Sub-station
Mr. Yang Yinchun, Patrol Guard, Guanping Sub-station
Mr. Wang Xiao'an, Patrol Guard, Guanping Sub-station

**Zhouzhi Nature Reserve Management Bureau**
Mr. Ma Junzheng, Deputy Director
Mr. Yu Wendao, Deputy Director
Mr. Wei Wuke, Head, GEF Office
Mr. Ma Jingui, Community Co-management Staff

**Local Communities in NRMP**
Cheng Ping Village, Zhouzhi Nature Reserve
Da Wan Village, Taibai Nature Reserve
Xiahuibian Village, Xishuangbanna Nature Reserve
Mangnalang Village, Xishuangbanna Nature Reserve
Xinlongshan Village, Xishuangbanna Nature Reserve

**Wetlands International**
Ms. Zhang Xiaohong, Deputy Director and Senior Technical Officer

**Conservation International**
Ms. Lu Zhi, China Country Director

**IUCN-The World Conservation Union-China Liaison Office**
Mr. Seth Cook, China Program Coordinator

# Annex E. Borrower Comments

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