

Guangxi Integrated Forestry Development and Conservation Project

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Social Assessment Report

Prepared for the Guangxi Forestry Bureau

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List of Acronyms

CFA	Community Forestry Appraisal
CNY	Chinese Yuan
EMDP	Ethnic Minority Development Plan
GEF	Global Environment Facility
GIFDC	Guangxi Integrated Forestry Development and Conservation project
GZAR	Guangxi Zhuang Autonomous region
NTFP	Non-Timber Forest Products
NR	Nature Reserve
OD	Operational Directive of the World Bank
OP	Operational Policy of the World Bank
PMO	Guangxi Forestry Bureau World Bank Project Management Office
PRA	Participatory Rural Appraisal
PRCDP	Poor Rural Community Development Project
SA	Social Assessment
SFA	State Forestry Administration

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Executive Summary

1. Methodology

Social assessment approach. A full social assessment has been undertaken during the design of the Guangxi Integrated Forestry Development and Conservation Project (GIFDC). A team of independent consultants has carried out the social assessment under the responsibility of the Guangxi Forestry Bureau. It started early during the process of project design in January 2005, and draft recommendations for each component were provided to the design team in April 2005. GIFDC is the second forestry project funded by the World Bank in China for which a full social assessment is conducted. The forestry sector context has evolved markedly since the previous project was prepared in 1999. This social assessment was an opportunity to use the concept of “people-based” forestry since sustainable development has become the overall provincial strategy in the forestry sector in Guangxi. The social assessment itself has used a participatory approach and trained local forestry staff in the approach. It has also finalized, in addition to the assessment itself, a project information leaflet and application forms for dissemination to the project areas. 11800 copies of have been printed in the form of a leaflet and a poster.

Social assessment activities and status. The 4 national social assessment experts have surveyed 26 villages in 8 candidate counties for the plantation establishment and ecological forest management components, 18 villages in the 7 nature reserves, and 4 candidate forest farms and enterprises. This assessment has allowed consultation with households, village cadres, county governments, nature reserves, forest farms and enterprises. A provincial stakeholder consultation meeting was then carried out. County teams have carried out a similar survey in the remaining candidate counties for the timber plantation establishment component. A baseline survey with some 600 households has thus been completed. The international social assessment consultant has joined in for interviews with a cross-section of stakeholders.

2. Main Findings of Stakeholder Analysis

Regional contrast. In summary, the project area includes 3 types of contrasted areas: (a) relatively better-off coastal areas and areas close to major cities, (b) relatively poorer red soil hills and mountains, and (c) very poor karst hills and high-elevation mountains. All three types of areas (except karst hills) would participate in the timber plantation establishment component, while the other components would mostly be located in poorer areas. The timber plantations might however be preferentially established in poorer areas where small and large tracts of collective unallocated land remain available for afforestation.

Contrasted household participation. The social assessment survey indicated that, in better-off counties, up to half of the households would be interested in individual loans. in the remote counties, conversely, it is very likely that the number of households directly taking loans for timber plantations will be modest and mostly limited to better-off households or individual entrepreneurs. In the poorer areas, households will mostly be involved as seasonal workers and/or by receiving payments for land where the plantation takes place. The communities, i.e. the administrative and natural village collectives, will be actively involved in commercial forestry contracts with enterprises, in ecological forest management and in co-management in nature reserves. By July 2005 applications from 1300 villages had been received. An average 13 households or individual entrepreneurs per administrative village have applied for project loans. These loans will account for 25% of the component.

Contractual production arrangements. While the forestry sector has long been developed in Guangxi through contractual arrangements between local communities or groups and other stakeholders, this project will take place at a time where the stakeholders providing these contracts are becoming large or very large commercial operators. As a result, the issue is not so much which types of production arrangements should be promoted under the project, but how to ensure that vulnerable groups enter these contracts on a fair and transparent basis.

Natural and administrative villages. The social assessment demonstrates the importance of paying attention both to administrative villages and natural villages, whereas many forestry activities currently tend to by-pass the former to work directly with the small communities at natural village level. Administrative villages, which are a legal entity, have an important role to play in administrative matters under the project, while the role of the natural villages, which are in charge of managing land resources but are not a legal entity, would be mostly in technical matters.

Nature reserves and co-management. The project will take place at a time when national nature reserves increasingly refer to co-management, i.e. community participation, in their plans and operations. In addition to the nature reserve and the local communities, local governments have become important stakeholders in co-management.

Karst rehabilitation and conservation. The project will take place at a time when rehabilitation of vegetation cover in the Guangxi karst, a region where much of poverty is still concentrated, benefits from a high level of consensus from farmers to all levels of government. It has become feasible for farmers to adjust their land use patterns to more sustainable practices. Karst rehabilitation, and conservation in the nature reserves, will be a thread behind the project that has potential not only for environmental rehabilitation, but also to restore local identity, and such improved identity can become a valuable asset for local development.

3. Ethnic Minority People in the Project Area

Consultation with indigenous people. Nine of the ethnic minority groups present in the project area can be considered as indigenous people, including (a) the Zhuang, the main group, and 5 small nationalities from the same ethnolinguistic group, (b) the Yao and Miao upland groups, and (c) a small Yi area in upland NW Guangxi. The social assessment has carried out field surveys in villages from all indigenous groups.

Gap with the mainstream society. Guangxi is an autonomous region of the Zhuang nationality. In spite of this legal status, most ethnic minority people in Guangxi overall remain vulnerable compared to the rest of the population due to a remaining gap with the mainstream society and to their location in remote, disadvantaged areas. The social assessment confirms that this gap is higher among the Miao and Yao (as well as the Yi) so that these groups are distinctly more disadvantaged. Among the Zhuang and the related groups, social differentiation between village communities is more visible than the gap with the mainstream society. At the same time, the Zhuang-related small groups express a strong desire to preserve their individual cultures.

Participation in the project. The vulnerable ethnic minority communities surveyed have expressed high interest to participate in the various components, and there are few limiting factors that would restrict their access. However, in each component, a number of risks of potential negative impact from participation in the project have been identified, some of them specific to ethnic minority people, others not specific but often higher than for non-ethnic minority people. Several of these risks relate to their specific cultures.

4. Main Risks and Opportunities Identified.

Overview. Potential risks of negative impact, as well as opportunities to maximize the project's positive impact, have been identified in each of the components. The largest range of risks was identified in the timber plantation establishment component. In the ecological forest management component, there is a different set of risks and opportunities in each of the three subcomponents (carbon fund, shelterbelt plantations and karst rehabilitation). A substantial range of opportunities for positive impact has been identified in the nature reserve management component, as well as in the capacity building and M&E component.

Timber plantation establishment component.

Risks of negative social impact	Opportunities
1. Limited access to information among communities and households and their low capacity for negotiation with enterprises might lead to production arrangements with these enterprises that may not be fully appropriate or fair. 2. Lack of transparency in contracts with enterprises and in plantation accounting might lead to unclear or unfair benefit sharing for communities or households. 3. There is an on-going large-scale expansion of land leasing. This land tenure arrangement might be inappropriate to local ethnic minority cultures. In addition, possibly in the near future, should a banking system reform allow the use of sloped land as collateral, those engaged in long-term land leasing might lose the opportunity to use their land in this manner to access the banking system. 4. Seasonal workers, who are very poor men and women, live on the planting sites during the tree planting season in very basic conditions. They are exposed to health risks, e.g. due to lack of safe water. 5. A limited number of ordinary households might take loans themselves. Household participation might be limited under this project, and this might further reduce scope for smallholder forestry development in the future. 6. The communities and households that will take loans might face substantial risks. They might also not receive sufficient technical support to successfully manage the plantation. Individual entrepreneurs might be encouraged to take excessively large loans. 7. There might be competition between forestry and animal husbandry in land use, and the project might reduce opportunities for poor communities to participate in the on-going development of animal husbandry.	1. Through the capacity building component, community capacity for negotiation and management could be improved. 2. Road development linked to the commercial plantations would improve remote communities' access to the road network. 3. Through the capacity building component, a broad number of households might acquire technical skills.

Ecological forest management component: karst rehabilitation.

Risks of negative social impact	Opportunities
1. If implementation started in poorer villages, households who still carry out subsistence agriculture would be affected. 2. If access was simply totally restricted after hill closure, communities would be unnecessarily affected. 3. If the subcomponent was closely linked to the nature reserve management component, this would reinforce the impact of restricted access by nature reserves on neighboring communities.	1. There is scope for disseminating best practice from local and international programs regarding sustainable and participatory management of community karst forests.

Ecological forest management component: shelterbelt plantations.

Risks of negative social impact	Opportunities
1. If plantations are promoted on village land remote from houses, participation of communities and households might be very limited; plantations might be undertaken directly by the forestry administration. 2. If plantations are located on land close to villagers, risks similar to the first component might be observed.	1. There is scope for reserving access of this grant component to communities to support the development of forestry generating income to poor communities.

Ecological forest management component: carbon fund. Since this activity is a part of ecological forest management component, risks and opportunities are similar to those under the this component, with the following additional risks and opportunities:

Risks of negative social impact	Opportunities
1. Enterprises might pay communities or households in accordance with the cash flow they receive from the carbon fund. Payments would then be delayed compared to production arrangements that allow for early payment. 2. Compliance with carbon fund regulations might reduce the level of participation by communities and individuals on whose land plantations are established.	1. There is scope for invite enterprises to submit applications in which innovative production arrangement with increased participation of communities or households would be a selection criterion.

Nature reserve management component.

Risks of negative social impact	Opportunities
1. Stopping encroachment activities will create a range of localized impact on rural communities. These have been listed. It might create substantial impact around the 3 Southwest nature reserves depending on the conservation options that will be selected. 2. Tourism development might provide limited benefits to local communities. It might also have some impact on local cultures. 3. There might be no viable mitigation measure to the increasing wildlife damage to farmer crops. 4. Appropriate technology for household-based and environmentally friendly income generation activities might not be locally available. 5. Local development programs might continue to avoid targeting communities within and around nature reserves.	1. The improved attitudes of nature reserve staff towards co-management are an important opportunity. There is scope for developing a more problem-solving approach to co-management. 2. There is scope for fully integrating ethnic minority cultures in the protection of the nature reserve resources. 3. There is scope to incorporate a comprehensive management and development strategy in the nature reserve management plans. This would facilitate the creation of an overall positive social and economic impact on communities inside and adjacent to nature reserves. Such a strategy in the Guangxi karst nature reserves is likely to include, to various degrees in each nature reserve: (a) building on the cultural values of indigenous people towards the environment, (b) tourism development based on historical heritage and cultural landscapes, with positive impact on communities, and (c) income generation using local skills.

Capacity building and monitoring & evaluation component.

Risks of negative social impact	Opportunities
1. The monitoring system might not differentiate between households joining the different production arrangements with contrasted benefits.	1. There is scope for developing an information and training program for community leaders in non-technical issues to improve community ability to enter contracts with large companies. 2. A computerized system would create the opportunity to monitor in a precise way actual numbers of beneficiaries and to facilitate household access to project loans.

5. Summary of Recommendations to the Design Teams

Detailed recommendations are provided in the report for each component and subcomponent. These recommendations overall relate to the following points:

- **Participatory design.** Allowing a high level of participation by local communities and households is a key recommendation in all components. One set of guidelines for local staffs need to be prepared, one for the various types de plantations, one for the karst rehabilitation subcomponent. In terms of timing, detailed design should take place not before the year when forestry activities start in a given village. In the nature reserve management component, participation should be integrated in the preparation and implementation of the management plan. Detailed preparation of the co-management process in light of strengthening community relationship to nature reserve management is needed. Processes to ensure participation of stakeholders at all levels need to be prepared.
- **Access to information and capacity building.** A solid set of information provision and non-technical training activities is needed to increase transparency in enterprise contracts and community capacity to enter these contracts for the plantations, as well as to increase their capacity to manage community plantations. A key condition for success will be to organize these activities at administrative village level, not natural village level. A range of trainers and information providers broader than the local forestry administration should be invited to join these activities. Ideally, a semi-independent information provider, e.g. an academic institution or a forestry design institute, would serve as a resource for designing and supplying information and for training trainers.
- **Land tenure.** Serious measures need to be taken to reduce the risks related to land tenure while developing commercial forestry in a region that is mostly populated with ethnic minority people, many of them still very poor. It is strongly recommended that, in contrast to current practice in Guangxi, no plantations under the project, in any of the components, take place under a land lease arrangement whereby land use rights could be legally fully transferred to a commercial operator in the long term. A maximum duration for contracts between communities or households and enterprises or government bodies needs to be determined. It should be significantly lower than current practice.
- **Household access to the project.** Maximizing access of households to the project will be challenging in all plantation activities. An expanded menu of production arrangements has been prepared under the social assessment and disseminated

through the project information leaflet. Beyond this, arrangements that are more appropriate to the poorer households, i.e., early annual payments and enterprise contracts including technical support, need to be encouraged. Loan procedures that allow access of households with lower risks remain to be designed. And an operational monitoring system is needed to keep track of how many households will actually take a loan or enter various types of contracts.

- Avoiding unnecessary closure of local access to resources. In all components, forestry development or the conservation of forestry resources can easily take place, thanks to Guangxi's wet tropical climate that allows quick tree growth, side by side with other types of uses (especially households-based animal husbandry), or with sustainable harvesting regimes (for example for NTFPs). Innovative approaches, including detailed participatory processes, need to be tested and extended.
- Integration of local ethnic minority cultures. Ethnic minority cultures can become an integral part of the ecological forest management and nature reserve components. While much care will be required, especially in the field of tourism development, project design should prepare practical means to ensure that this integration actually happens under the project.

6. World Bank Social Safeguard Policies.

Safeguard policies applying to the project. The Guangxi Forestry Bureau will ensure full compliance with the World Bank operational policies through the following measures:

- Indigenous people operational directive (OD 4.20). An ethnic minority development plan (EMDP) will cover all four project components. The plan will provide (a) social assessment findings on status of ethnic minorities in the project area, (b) outcomes of the social assessment consultation with ethnic minority communities regarding preferences in project participation, (c) quantified information reported by each county PMO and nature reserve on ethnic minorities in the project area, (d) profiles for each of the 9 indigenous people groups, and (e) an action plan for incorporation of ethnic minority issues in project implementation and monitoring.
- Land acquisition / involuntary resettlement policy (OP 4.12). No road construction has been proposed in the project design. However small amounts of land acquisition might occur for widening of forest tracks when plantations are mature the timber plantation establishment component, the carbon fund subcomponent and potentially in some shelterbelt plantations, or for village activities undertaken with project grants under the protected area component. A land acquisition and resettlement policy framework will be prepared. In the nature reserve management component, a process framework is being prepared. It will provide guidelines to make the nature reserve management plans an opportunity for positive impact on communities living inside and close to the nature reserves and avoid any restriction in resource access (including resettlement) that would not contribute to biodiversity conservation. It should also cover the karst rehabilitation subcomponent.
- Cultural property operational policy (OP 4.11). There is a number of simple temples, historical sites and ethnic minority sacred forests in areas covered under the karst rehabilitation subcomponent and the nature reserve management component. However no occurrence of cultural sites with value has been identified. This operational policy therefore does not apply to the project. Meanwhile the opportunity to survey and conserve sites and forests of local cultural value is taken into account in karst rehabilitation and in the nature reserves.

1. Introduction

Social assessments started to be incorporated into World Bank project feasibility studies in 1984. The function of social assessments was strengthened in 1987 with the creation of a social development department. In the 1990s, an increasing focus in the international community on “people-oriented” development and on sustainable development has reinforced the role of social assessments in project design. Social assessments have become an element in project appraisal together with environmental assessments and economic analysis. The Guangxi Integrated Forestry Development and Conservation Project is the fifth forestry development project supported by the World Bank in China and the second one for which a full social assessment is conducted.

Participation is embedded into the social assessment approach. The social assessment assesses social aspects of project design through an analysis of the project’s stakeholder framework on the basis of a systematic survey. The social assessment combines social science approaches, including sociology and anthropology, and project appraisal tools. This provides a balanced assessment of potential risks of negative social impact that might occur as a result of the project, and of opportunities to reinforce the positive impact of the project. Recommendations are designed to avoid or mitigate any negative impact.

The social assessment is designed to be beneficial to the project appraisal process. The social assessment is a tool that supports the sustainable development strategy of the forestry sector in China and Guangxi. Taking into account stakeholder roles and social aspects can enhance the economic benefits expected from the project. It can also contribute to effective management of natural resources and of the environment. Overall project preparation is thus made more comprehensive and decisions relating to project design are made in a more scientific manner.

Finally, the social assessment process is a tool to reinforce public participation and to build capacity among the borrower’s administrative staff in the assessment of social aspects. This is also a factor that contributes to sustainable development.

This social assessment has used standard tools including transparent information and consultation of the public, stakeholder analysis, and local capacity building. Special attention has been paid to equitable access of ethnic minority people to the project, to gender equity and to participation of the poor.

The structure of this report aims at facilitating access by readers:

- Each component is addressed separately as far as possible. There is no specific section on the capacity building component but the opportunities offered by this component are discussed under each of the other components.
- All specific points related to ethnic minority people are grouped in a separate section.
- The electronic version includes 3 files: the current one, an annex file and a map and picture file.

2. Methodology

2.1. Social Assessment Process

Social assessment team and schedule. Based on terms of reference provided by the World Bank, the social assessment was carried out by a team of national consultants led by a forestry expert and including one sociologist, one anthropologist and one nature reserve specialist. The social assessment was carried out early during the design process in order to ensure timely availability of its outcomes in overall project preparation ([Annex 1.1](#)). The assessment started in January 2005 after the identification mission, and operational recommendations for each component were provided to the design team in April 2005.

Participation of Guangxi forestry staff. A substantial proportion of consultations were carried out by local forestry staff themselves after a training course on participatory approaches held by the national consultants. The team members and local staff have used a shared assessment tool prepared by the social assessment team leader: the “Guangxi integrated forestry development and conservation project social assessment manual”. Village visits and household interviews carried out by local staff have provided not only information for this social assessment report but also additional baseline data for more than 1000 households in 20 counties that will be available for impact monitoring during project implementation.

Project information. In addition to assessing risks and opportunities related to the project, the social assessment team has provided support to the Guangxi Project Management Office to launch the project’s participatory process. The process started with the above training course on participatory approaches. More than 150 cadres and technicians from 33 counties, 14 forest farms and 7 nature reserves took part in the training course. A project information material covering all project components was prepared, reviewed by the World Bank, and finalized in early May 2005. It has been broadly disseminated. The project management office has printed more than 20,000 copies including leaflets and posters for public display. Project application forms were also prepared to allow villages and households to apply to participate in the timber plantation establishment and ecological forest management components. By the end of July 2005, applications had been received from 1300 villages from 316 townships in 31 counties. These documents are provided in [Annex 1.4](#).

2.2. Social Assessment Tools

Participatory approach. A participatory approach was used in the social assessment to ensure comprehensive identification of potential risks of negative social impact from the project. The social assessment team was able to access detailed information regarding local conditions thanks to the use of participatory tools ([Annex 1.2](#)). Households were consulted regarding social assessment recommendations in order to respect fully their local knowledge. Operational recommendations prepared on this basis aim to make the project fully adapted to community needs and to the actual future users of the project. The participatory approach also aimed to increase project ownership among relevant stakeholders including local residents. More information was shared, allowing in turn improved decisions to be made in terms of project preparation. Information access was more transparent, allowing fair and equitable project access.

Stakeholder interviews. The social team carried out interviews with the full range of stakeholders identified. Field visits were carried out in 8 counties with 26 villages and in 7 nature reserves. In each village, semi-structured interviews and focus group discussions using PRA tools were combined with the use of a village questionnaire and a household questionnaire covering 10-15 households in each village and more than 6000 households in total. Questionnaires are available in Annex 1.2. In addition, discussions were held with the Guangxi PMO, relevant county government offices, corporations and forest farms, and nature reserve staff. A final row of interviews with a cross-section of 44 stakeholders was held by the national SA team leader and the international consultant. Stakeholders interviewed at that stage included corporation and forest farm managers, county and township governments, village cadres, seasonal workers, and nature reserve managers and staff (Annex 1.3).

Survey sample. The survey sample of villages and households was selected based on the following criteria:

- Areas visited cover all components including the timber plantation establishment component, the ecological forest management component and the nature reserve management,
- The counties visited were representative of the diversity of forestry resources in Guangxi with one county in the Northern Guangxi Forest Region, one in the Eastern Guangxi Forest Region and one in the Baise Forest Region in NW Guangxi,
- Each county selected four administrative villages for the survey, with one better-off, one medium and one poorer village.
- The villages selected included both villages from the Han nationality and villages from minority nationalities.

3. Policy and Legal Framework

The purpose of this section is to identify (a) key features in the policy and legal framework that are relevant to the project, and (b) any potential gap between this framework and the World Bank's social safeguard policies. The planning framework is also examined due to its importance. Legal document references are provided in [Annex 2.1](#).

3.1. Timber Plantation Establishment Component

3.1.1. National Legal and Policy Framework relating to Forestry and to Land

Forest plantations. A full legal and policy framework started to be established for the forestry sector in China started as early as 1949. In contrast with this long history, forestry policies have remained very stable since then. For example, the new version of the Forestry Law is strikingly similar to the original edition. In particular, the development of plantations remains based on two concepts: long-term land zoning with land defined as forest land as opposed to agricultural land, and afforestation plans based on areas zoned as "barren land". Article 5 in this Forest Law states that forestry construction shall be guided by an approach based on forest management, great afforestation efforts, combined logging and planting, and long-term utilization. And in Article 8, Section 1, the State shall impose a quota on forest harvesting and encourage forest planting and mountain closure in order to expand forest cover rate.

This favorable framework for plantations however existed side by side with a logging policy based on natural forest. Formal shift from natural forest to plantation forest for logging purposes and clarification of harvesting rights in timber plantations only took place in August 2002 when the State Forestry Administration amended the cutting management policy of timber plantations in order to meet the needs of a socialist market-oriented economy and of the forestry sector development. The management of logging quotas shifted to a legal license system based on improved zoning. Quotas are expected to become more market-oriented and based on scientific principles and on the principle of sustainable forestry management and development.

Land use. No competition between commercial plantations of eucalypt or other fast-growing species with crop production is expected. Forestry land zoning is regulated. In accordance with Article 14 of the Land Law, approval from People's government at county level is required for both organizations and individuals to shift agricultural land into non-agricultural land. Article 36 in this Land Law furthermore states that no cultivated land shall be used for non-agricultural activities where barren land can be used. Occupation and use of basic farmland for the development of forestry (as well as for fruit industry or aquaculture) shall be prohibited ([Annex 2.2](#)).

3.1.2. Guangxi Legal and Policy Framework

Afforestation plans. Similarly to the national framework, the Forest Law of the Guangxi autonomous region has a strong focus on afforestation plans. According to its Article 11, People's governments at all levels should render economic assistance to afforestation. Article 13 further states that the region as well as prefectures and counties should pursue forest cover rate targets and afforestation plans taking into account both the overall plan of the autonomous region and actual local situation. Specific features in the Guangxi plans are rather related to forestry technology. For example, Article 14 in the Forest Law stipulates that various afforestation techniques may be used on barren hills suitable for plantation: vegetation burning after tree harvesting is an acceptable option provided it is completed early after a new plantation is completed.

Development of fast-growing plantations. In 2002, the Guangxi government issued a "Proposal concerning the accelerated development of fast-growing and high-yield forest". Fast-growing and high-yielding timber plantations have become a priority. The plantations are exempted from logging tax and fees. All timber is allowed to enter the market directly. Plantations are exempted from reforestation fees ("two funds and one fee"). Access to State policy loans is facilitated with interest rates reduced by 30%. This new policy is in sharp contrast with the previous 16 years: in 1987, the Guangxi autonomous government made a "Decision concerning protecting forest, developing forestry, aiming at basically making Guangxi green in 15 years". Forest resources have increased rapidly while harvesting of natural forest was stopped. Most natural forest was turned to ecological forest and the government launched the State ecological forest grant program on a pilot basis while logging quotas became scarce.

Table 1. Major recent historical events in the timber plantation sector in Gangxi

Date	Activity	Substance
1987	Decision concerning protecting forest, developing forestry, aiming to basically make Guangxi green in 15 years	The forest reserves of Guangxi are to be increased fast, the key projects for forestry industry being pushed, and the forest ecological system primarily formed. The harvesting of natural forest, water-sourced forest and shelter-forest was stopped and the government launches and carries out the "Pilot Project of Subsidy to State Forest Ecological Benefit".
1990	First WB forest project in Guangxi	46 million USD loan have been invested for the establishment of plantation areas of total 233,000 ha in 50 counties. Forest coverage in Guangxi increased from 22% in 1985 to 41% nowadays.
1996	The APP group starts plantations in Guangxi	20 forest farms & a large-scale tree nursery with the annual capacity of 150 million piece elite eucalyptus clone seedlings and 438 employees are involved. Total investment in fast-growing plantations to date has been over 300 million CNY, with plantation areas have exceeding 1 million mu, much of it mature.
2000	Guangxi is allowed to become a key production base of fast-growing & high-yield forest by State Forest Administration.	With preferential policies granted by central government, GZAR Government made the decision to develop forestry as a backbone provincial industry and set up the goal to establish 10 million mu fast -growing & high- yield forest within the 15 th Plan period in GZAR.

2001	Conversion of sloped land into forestry begins on a pilot basis	Land conversion was linked to economic restructuring in order to develop the following industries: 1/ Tree seedling nurseries of species with both ecological and economical benefits for plantation so as to speed up the development of forestry industry, 2/ Expanding the industries of wood-paper/wood-pulp and wood-chemical making and the timber processing, as well as the industry of forest-based tourism; 3/ Developing animal husbandry and medicinal herbs on converted land to promote the native economy and increase household incomes
2002	“Proposals about accelerating the development of fast-growing and high-yield Forest” are issued by GZAR Government.	Favorable policies in harvesting, taxation and fee, circulation, loan and mortgage. Availability of timber harvesting quota and 50% reduction of “tax or toll” applied (called “two funds one fee”) for fast-growing forest plantations. Timber from fast-growing forest project is allowed to enter directly market. Discount of up to 30% of annual interest rate of the loan issued to the fast-growing tree plantations.
2002	Gaofeng wood-pulp company is established.	The corporation co-operates with foreign groups in Guangxi for a integrated pulp processing plant, and is building a production base of fast-growing plantations to become the first supplier.
2004	« Cross-sector development in Forestry Industry” is decided by the GZAR Party Committee and GZAR Government	It was pointed out that “in the eco-environmental construction, forestry will be put on the chief position; in the realization of a prosperous GZAR, it will put on a foundation position, while in economical activities, a pillar position.
2004	The “proposal concerning accelerating the development of raw material forestry bases for paper making industries” is made by GZAR Government.	It was pointed out that GZAR is one of the most predominant area for developing the paper pulp industry in China, and that the establishment of the industry which will integrate afforestation, pulp production and paper making, will be of significant importance in promoting the GZAR’s industrialization, strengthening its economical capacity and increasing the income of peasants.

Collective and joint production arrangements. Guangxi has specified ownership of forest and timber in its 1993 forest regulation. Both management by rural collective economic organizations and cooperative management are recognized. Forest and timber are owned by the collective organization in the first case, and jointly owned by members of the cooperative entity in the second case.

3.2. Ecological Forest Management Component

3.2.1. National Legal and Policy Framework

Ecological forest management. China, as a country that faces serious water management and soil erosion issues, has a long history in ecological forest management and soil conservation. The concept of integrated management dates back to 1980. Integrated ecological forest management has been including since the beginning both engineering solutions for soil and water conservancy, and hill closure for forest regeneration. Small

ecological forest management was further seen as a comprehensive scheme combining local rural development with environmental improvements.

River basin management. The national 1988 Water Law states in its Chapter 1, article 5, that the State shall protect water resources and adopt effective measures to preserve natural vegetation, to plant trees and grass, to preserve water resources, to control soil erosion and to improve the ecological environment. Chapter 2, Article 11 underlines the need for comprehensive planning at river basin or regional level. The Pear River basin plan that forms the planning framework of the GIFDC project is one in a series of around 10 river basin plans in China.

Forest regeneration. The 2004 National Conference on lessons learnt in natural forest regeneration has concluded that natural regeneration, called in Chinese “mountain closure for forest regeneration”, should be put on an equal footing with afforestation, whereas the latter has so far been the main focus of forestry development. This important change is actually a reversal to an earlier approach. In the First National Forestry Conference in 1950, the Government had selected mountain closure for natural regeneration as an important means to regreen the country as well as to expand forest resources in the whole country. Natural forest regeneration became an important policy element for the country’s forestry development. Natural regeneration was before that a widely used traditional practice. A new national technical regulation on natural forest regeneration defines targeted areas as degraded forests that still have a 20%-50% vegetation coverage rate. It advises the use of hedges and ditches to protect the closed hills.

3.2.2. Guangxi Legal and Policy Framework

Forest regeneration traditions and plans. Mountain closure for forest regeneration is a traditional approach to forest management in Guangxi. Ethnic minority communities have a tradition to close access to shrub forest and bamboo in order to regenerate forest for protection purposes. Some of the ‘holy forests’ preserved by these communities to protect water sources are naturally regenerated forests. Guangxi made the greening of karst areas a key feature of its reforestation work starting from the end 1980s. Natural regeneration is the main reforestation means in these areas in combination with additional tree planting and with the development of alternatives to reduce fuelwood consumption. Information is provided at local level, “closed hill” signs are set up and communities define village regulations for hill closure.

Hill closure regulations. Article 16 in Guangxi Forest Regulations states that hill closure shall take place on forest land appropriate for either forest regeneration or protection of new tree plantings. Hill closure shall take into account the needs of local production and lives. Half closure and rotational closure are recognized options. Areas and boundaries, duration and management of the closed hills need to receive approval from People’s government township (town) and county levels.

The Pearl River shelterbelt program. Environmental quality in the upper and middle reaches of the Pearl River, the third largest river in China, not only impacts local economic development and poverty reduction, but also affects the lower reaches, the delta and neighboring Hong Kong and Macao. In 1993, China’s State Council issued a “Notification on the Pearl River Basin Integrated Program” and launched the Pearl River valley integrated management project. The project includes a shelterbelt plantation program. Pilot operations for this shelterbelt program were launched in 1996. The Pear River shelterbelt program is one among China’s 10 ecological forest construction projects. Activities also include soil and

water and conservation, mitigation of natural risks and environment improvement. The project has been assessed as having positive impact for the whole river basin.

Integrated watershed management. Guangxi has therefore been carrying out an integrated set of watershed protection activities since the end of the 1980s. In addition to hill closure in the karst areas, the autonomous region has an active on-going development program for methane pits. Another program has built water tanks for supplementary irrigation and domestic use. And the national conversion program of sloped land into forestry land has been implemented. These, together with the Pearl River shelterbelt program, form a combined effort to halt the degradation of vegetation cover in karst areas (called “rock desertification” in Chinese). These environmental efforts take into account the development of agriculture and animal husbandry and the overall need for sustainable development.

3.3. Nature Reserve Management Component

3.3.1. Overall Legal and Policy Framework in Protected Areas

Attention to local livelihoods and to economic development. The national framework has recently evolved to incorporate increased attention to local development and local communities around nature reserves. All proposed protected areas are “forest and wildlife nature reserves” in the legal framework and are subject to the national management regulations for this category of protected area. These new regulations, in their article 7, underline that in addition to their conservation role in terms of targeted species and scope, the construction of nature reserves shall take into account the needs of local economic development and local people’s lives. The demarcated protected area should as far as possible avoid local people’s land and forest. If not, the protected areas must identify reasonable ways to permit local peoples’ production and livelihoods inside strictly defined areas. Article 5 of PRC Regulations for the Management of Nature Reserves further underlines that, in the construction and management of the nature reserve, the relationship with local economic construction and with residents’ production and livelihoods should be handled in an appropriate manner.

Co-management. Co-management in and around nature reserves has become an integral part of the national legal framework. The Masterplan for national-level nature reserves underlines the importance of community participation in nature reserve management and the need for sustainable community development. Chapter 7 of the “safeguard measures” for the implementation of this plan mentions a need for “co-ordination with technical bureaus in co-management”. The State Forestry Administration, in its 2003 Key points for the State Forestry Administration’s work, has mentioned community co-management at the same level as the need to speed up the development of areas under protection and to strengthen their management. The director of the State Forestry Administration, Mr. Zhou Xiansheng, mentioned at the National Wetland Conservation Management Work Conference that the State Forestry Administration should spare no effort to do a good job in five priority projects, among which co-management between nature reserves and local communities was one.

Local legal and policy framework. The Guangxi government has published a series of laws and regulations under the national legal and policy framework. Local governments at various levels also have issued a number of regulations and notifications for the local nature reserves. This means that individual nature reserves are governed by what can be a

complex policy framework and that this framework will need to be further investigated at individual nature reserve level.

Land tenure. The social assessment team noted that communities living nearby protected areas in Guangxi have gone through a long series of changes in land tenure among which the creation of the local protected areas has been the latest. These land tenure changes started in the 1950s with the land reform and continued with the creation of cooperatives and people's communes. It was followed in the 1980s with the allocation of agricultural and forestry land. The allocated forest land was demarcated and specific areas were allocated to households and communities under the "3 forestry specifications" policy. Therefore protected areas were created on forest land that had already been allocated, and this is a specific feature of many nature reserves in Guangxi that does not exist in many protected areas in Southwest China. In that case, land tenure in nearby communities was found to be an unresolved conflicting matter in some areas. The on-going ecological forest grant program, which further restricts local access to forest land, is an additional element in this situation.

3.3.2. Zoning

Definitions of core zone, buffer zone and experimental zone. Because of the country's large population and limited area of natural vegetation, nature reserves in China have not adopted the pure conservation approaches of some other countries. Protected areas have an integrated approach involving conservation, scientific research and education, and production. PRC Regulation for the Management of Nature Reserves has established in most protected areas a zoning system into three categories. The core zone is limited to areas inside the protected area where there has been no or limited disturbance of the natural ecosystem, or to degraded areas with potential to restore natural ecosystems. The core zone focuses on biodiversity conservation. Human interference in the core zone is prohibited both for biodiversity conservation and to allow biodiversity monitoring in an untouched environment. The buffer zone is defined as areas surrounding the core zone where scientific research trials and production-oriented research, e.g. breeding, propagation and development of local species, are allowed. The buffer zone is also the location of the main management and education facilities of the protected area. The experimental zone surrounds the buffer zone. Activities allowed include research, education, visits and tourism, and propagation of endangered species. Tourism development is allowed under the condition that it does not affect the natural environment or the conservation purpose of the protected area.

3.4. Policy Framework Shared by All Components

Sustainable forestry development is the overall policy context shared by all components. In addition to sustainable development, policies related to ethnic minority people and to women are also of interest to all project components. Village organization and community organization are other areas of interest shared by all components that are discussed in the stakeholder analysis section.

3.4.1. Ethnic Minorities

National framework for autonomous regions. Ethnic affairs are fully integrated in the legal framework both at national and at provincial level. China's policy for minority nationalities is stated in the Nationality Regional Autonomy Law of the People's Republic of China. It has also been officially published in the Nationality Regional Autonomy of China white book for the first time in 2004. The PRC Law of Nationality Regional Autonomy is fully relevant to the project. Guangxi is itself an autonomous region. The second clause of chapter one in this law states that regional autonomy shall be carried out in the regions where the ethnic minorities live in compact communities. As per the 28th clause of the same chapter, the autonomous governments in the national autonomous regions shall manage and protect the local nature resources in accordance with the law. Based on the law and the State unified planning, the autonomous governments in the national autonomous regions can give priority to properly develop and use the nature resources which can be developed by the locality. Article 65 states that, in the exploitation of resources and when undertaking construction in ethnic minority autonomous areas, the State shall give consideration to the interests of these minorities, ensure that economic development benefits the minorities, and take into account local ethnic minorities' production and lives. Should autonomous areas lose some of their natural resources, the State shall take compensation measures.

Forestry policies and poverty reduction policies in ethnic minority areas. The four key areas and the four key projects ascertained by the China government through Eco-environment Construction Plan of the State are in ethnic minority regions. The natural forest protection program and the land conversion program are mainly taking place in ethnic minority regions. Nearly half of the 226 national nature reserves in the country are in ethnic minority regions. The karst areas in the South – including in Guangxi - are an important category of environmentally sensitive areas that are now receiving high government attention and that are mostly inhabited by ethnic minority people. The State carried out the 8-7 poverty reduction plan in 1994-2000 in which 43% of nationally-designated poor counties are in national autonomous regions. Under the rural poverty reduction framework that governs poverty reduction work since 2001, the nationality regions were reconfirmed as a key target for government support. Counties in the national autonomous regions occupy 45% of the total number of key poverty reduction counties under this new framework.

3.4.2. Gender

National framework. Gender equity is a basic national policy in China. The PRC Constitution specifies that women enjoy equal rights compared to men in political, economic, cultural and social life as well as in family life. A national 1994 Law on the Protection of the Rights and Interests of Women was followed by a Law of the PRC on Maternal and Infant Health Care and an amended Marriage Law of the PRC. This favorable legal framework has been reinforced by successive action plans to address remaining problems including the 1995-2000 Program for the Development of Chinese Women and the on-going 2001-2010 Program for the Development of Chinese Women. The programs address various issues including those related to the rights of rural women.

Guangxi's framework. Guangxi has taken similar measures at provincial level with a 2001-2010 Women Development Plan of Guangxi Zhuang Autonomous Region. The plan underlines the need to increase women's participation in economic development and management, women's employment, and to reduce disparities between men and women. The Women's Federation in Guangxi is in charge of information on women's legal rights and interests and of improving women's position in employment.

3.5. World Bank Safeguard Policies

3.5.1. Ethnic Minorities

Purpose. This operational directive (OD 4.20) calls for giving a voice in project design and implementation to the ethnic minority people who are affected by the project. The purpose is to identify and address any potential risk of negative impact of the project, to ensure that project activities targeting beneficiaries from ethnic minorities are appropriate to their cultural needs, and to enhance participation. This policy was identified as applying to the project in the Project Concept Document.

Related components and compliance requirements. The policy relates to all project components and subcomponents. In order to ensure full compliance with this safeguard policy, the Guangxi PMO is preparing an Ethnic Minority Development Plan.

3.5.2. Land Acquisition and Resettlement.

Purpose. This operational policy (OP 4.12) has a misleading title for those who are not familiar with the World Bank's social safeguard policies. Its main purpose is to compensate necessary land acquisition for project works. It also examines any resettlement, including involuntary resettlement, that may result from the project. In addition, it covers impacts on livelihoods in cases where access to natural resources is restricted by the project.

Related components and compliance requirements. No road construction is included in the design of the project. However some degree of project impact related to this policy cannot be completely ruled out. Project activities related to this policy are (a) the timber plantation and the carbon fund subcomponent for land acquisition due to possible future widening of forest tracks in mature plantations, (b) the nature reserve management component and the

karst rehabilitation subcomponent for restricted access to natural resources, and (c) the nature reserve component for potential small works funded under community grants. The Guangxi forestry bureau is preparing two documents. First, the land acquisition and resettlement policy framework will cover land acquisition due to the construction of roads linked to all plantations. No land acquisition during the first year of the project is foreseen. Second, the process framework will provide guidelines to minimize negative impact on communities living inside or close to the nature reserves, or nearby closed karst hills, and to monitor any remaining impact risks. The process framework does not cover potential resettlement of residents currently living in the experimental zones of nature reserves since the nature reserves have informed the project design team that no plans for such resettlement existed.

3.5.3. Cultural Property

Purpose. This operational policy (OP 4.11) aims at avoiding any negative impact on archeological and architectural sites.

Related components. The social assessment team has screened the area and has identified no related site in the timber plantation component and the ecological forest management component (carbon fund and shelterbelt subcomponent). The social assessment confirms the presence of an undetermined number of historical remains or temples in relation to the karst rehabilitation subcomponent and the nature reserve management component but no site of value has been identified. Project activities are expected to have a positive impact through surveying, conservation and rehabilitation. It is therefore concluded that this policy does not apply to the project.

4. Assessment of the Timber Plantation Establishment Component

4.1. Project Location

4.1.1. Main Features of the Component Area

Administrative units. At the time when the social assessment was carried out, the Guangxi Project Office had selected 38 project counties (or districts within cities) among the 109 counties (districts) in Guangxi for the component. Thirteen forest farms directly under the leadership of Guangxi Autonomous Region had also been selected to participate in this component. No large corporation is participating. The July 2005 list of candidate counties is available in Annex 3.1.

Three types of areas. Upland counties account for a high proportion of project counties, but coastal counties are participating in the component too. The 38 counties are located in 9 prefectures and municipalities, among which 4 are mostly upland prefectures, and 5 are not. Three broad types of areas can be identified, and the component would take place in the first two:

- Coastal areas and areas close to major cities (including Nanning, Liuzhou and Wuzhou). These are relatively better-off areas. Land available for timber plantations is less abundant. Part of the project will take place on land under mature plantations that will become available after harvest. This category of project area has been visited by the social assessment team member analyzing forest farms and enterprises.
- Red soil hills and mountains including remote upland areas such as the Jiuwan dashan mountains in North Guangxi. These include relatively poorer and poor areas, with locally large areas of forest land available for timber plantations. Most of the social assessment field work for the component has taken place in this category of project area.
- Karst hills and mountains. These are poor to very poor areas. There are karst sections many counties, but the karst areas are concentrated in Hechi and Baise prefectures. There is generally no potential for commercial forestry. These areas will participate in the second component (karst rehabilitation subcomponent) and in the nature reserve component.

4.1.2. Land Use in Relation to the Component

Land tenure. Among the three types of land tenure on sloped land (State forest, collective land, land contracted to individuals), the component would take place (out of the State forest farms proper) on the latter two. In better-off areas, population densities are higher, more than 200 people/km² in 10 counties and up to 600 (Annex 3.2). Collective land available for afforestation has sharply declined, due among others to active plantation programs during the last years. The component plantations would mostly be established on land contracted to individual households. Forest land has been contracted to households in the early 1980s under two types of contract: (1) individual sloped land allocation and (2) sloped land

responsibility contract. In contrast, in poorer areas, population densities are low, lower than 100 people/km² in ten counties, with a minimum of 43 in the 2 NW counties. Large areas of land that has remained collective appear to be available for afforestation. In all cases, ownership of land remains under the farmer group (which is often equivalent to the natural village in Guangxi). In some ethnic minority autonomous counties, e.g. in Huanjiang, the legal framework for land tenure appears to be very loosely implemented. The government is just in the process of clarifying conflicts in boundaries between natural villages. Actual boundaries between forest land and agricultural land are equally unclear in some areas. Communities rather tend to divide their sloped land into close and remote land (section 7).

Alternative uses of sloped land. Whether contracted to individual households or not, sloped land is an important element of land use systems in upland districts. Farmers tend to mostly develop crops and livestock on sloped land. Large areas of sugarcane, mulberry for silkworm raising, and pasture have recently been developed on sloped land in response to market opportunities and local government policies. It is only in the Jiuwandashan mountains in North Guangxi that China fir, pine or bamboo production is an important farmer-based activity. It is less profitable than the other activities mentioned, but appropriate to the cold climate.

Household-based forestry. Households are entitled to make their own decisions in terms of tree species and tree planting site on their contracted land. In some villages farmers have already planted eucalyptus and therefore have experience with this tree species. However a large proportion of sloped land has not been developed so far. Still 80% of households in upland areas gain some cash income from selling forest products. Natural regeneration after timber harvest is widespread. Plantation management is extensive even for tree crops in terms of fertilizer applications, weeding or pest control.

4.1.3. Poverty in the Component Area

Poor counties. The Western part and the Northwestern part of Guangxi are areas with high rates of absolute poverty where almost all of the 28 nationally designated poor counties are located (Map 1). Among the 33 project counties there are 14 nationally designated poor counties. Guangxi also has 7 provincially-designated poor counties, all but one in the component area (Annex 3.3). Poor counties combine low household incomes with limited access to education and poor road infrastructure. Average farmer income in the autonomous region was CNY 2,095 in 2003 compared to the national average of CNY 2,622. 24 counties among the 33 component counties had net incomes per capita below CNY 2000 in 2003, and 6 counties below CNY 1500. 1.1 Million people or 2,2% the provincial population of 48.9 Million people remain below poverty line in Guangxi, and another 4.9 Million people or 10% of the population have low incomes. The proportion of households below poverty line ranges from 5 to 30% in the poorest project counties. In several counties, there are project townships with up to 100% of households either below poverty line or with low incomes. Annex 3.3 provides detailed data for a poor project township in Huanjiang County, a county where 11500 ha of plantations are planned under the component, of which close to 75% under contract with a large enterprise.

Poor villages. 4060 administrative villages are listed as key villages for poverty reduction programs in Guangxi. A fair proportion of them is located in red hills and mountains and is therefore likely to take part in the component. 30% of the villages surveyed by the social assessment team were poor villages. Income per capita is in the CNY 1000–2000 range. Major reasons for poverty in these villages are as follows: a) location in upland areas (some high-elevation areas or isolated areas with limited farmland and; b) insufficient access to

drinking water for both people and livestock; c) frequent natural disasters causing loss of crop harvest; d) limited road access that in turn limits household access to information, education and markets. Most villages have road access but these roads are often not passable during rains and in case of snow; and some villages still do not have any road access. Most of the surveyed administrative villages have access to the electricity network. However there are scattered natural villages with no electricity access, for example in Luocheng and Zhaoping counties. Lack of drinking water is a visible sign of continuing poverty despite poverty reduction programs. In most of the surveyed villages, drinking water comes from mountain springs with gravity systems with pools and water pipes. Many villages have benefited from national or international programs for their water systems. However these programs support headworks and main water pipes while households have to invest into pipes serving their houses. [Annex 3.4](#) provides basic poverty data including infrastructure access data in the villages surveyed.

Poverty reduction policies. Policies include both tax exemption and local development projects. First, the component will start shortly after all 592 nationally-designated poor counties in China become exempted of agricultural tax in 2005. In the other counties in Guangxi, the agricultural tax rate will be reduced to 2% on a unified basis starting from 2005. In 2004, the State Forest Administration also reduced by one percent the agricultural tax related to forestry, and reduced the fund for growing sapling imposed on the farmers from 20%/m³ to 5%/m³ (the State Forestry Bureau also gives a direct subsidy to the farmers who manage ecological forest in relation to the second component). Second, just as in all 22 provinces in Central and Western China, each of Guangxi's key poverty reduction villages has recently established a 2000-2010 10-year comprehensive village poverty reduction plan. The plans are gradually entering into the implementation stage. These villages are likely to attract not only domestic funds but also international support projects. For example, 4 of the 6 counties participating in the World-Bank funded Poor rural Communities Development Project, starting in 2005, are project counties for this component and some villages are planned for participation in both projects.

Box 1. Poverty and lack of access to water

Longma village in Siba Township of Luocheng County is badly in need of water. Although the government provides free cement with which most of the villagers have constructed small pools in their own yard, there are still 100 households in this village that are too poor to construct small water tanks. They still have to carry water from far away, up to 3km.

4.2. Component Stakeholders

This section identifies all categories of stakeholders involved in the component. The project will operate in an active context of development of the commercial timber plantation sector in Guangxi ([Table 1](#)). There is therefore an established stakeholder framework. Tables 2 and 3 list all categories of primary and secondary stakeholders in the component, with their expected roles in the project in the current project design proposed by the Guangxi PMO.

4.2.1. Primary Stakeholders

4.2.1.1. Households

Contrast between household types. The term ‘household’ used in China is somewhat misleading since it covers contrasted situations in the component. Poorest households in the component counties are likely to live in very poor villages with no land available for plantation or no road access. At the other extreme, a number of households, with or without village residence, are individual entrepreneurs starting forest farms in addition to their main occupation that can be in the village itself, or a small business in town, or an administrative job. In between, a large proportion of households can be termed ordinary households.

Expected contrasted participation in the project. Almost all households surveyed, i.e. 99%, indicated interest in participating in the project. However households would have very contrasted ways of participating:

- Poorest households are likely not to have contracted forest land. They would be seasonal workers. Most young farmers, and many less young farmers in upland areas, are away from their villages for seasonal or longer-term off-farm work. Both poor and less-poor households have members working outside the village. However forestry is an unskilled job that is mostly taken by the poorest.
- Ordinary households. Planting trees is a tradition for many households, especially in mountainous areas. In recent years, households have been increasingly planting tree seedlings provided for free by the forestry department, the poverty-alleviation sector or the Women's Union under various programs. Areas remain modest. The households massively expressed interest in the project. When asked if they were interested in taking directly a loan, there were contrasted answers. In upland areas, 90% of the households stated that they preferred to enter joint production arrangement contracts with a company. In the better-off counties visited in SE Guangxi, not less than 40% of the households indicated interest in taking a loan.
- Individual entrepreneurs are already developing forest farms, often with the support of local forestry bureaus. They have a certain degree of economic strength, and some of them have already contracted land to plant eucalyptus. These tree growers master some planting technology and are experienced in operation and management. Lack of credit access remains however an important limitation for them. With limited funds, their fast-growing plantations tend to receive insufficient inputs and to do poorly. These entrepreneurs typically plant large areas, often more than 100 ha and up to 2000 ha. Interestingly, these better-off households willing to plant trees by taking a loan themselves account for less than 10% of the rich households in the social assessment survey.

Various options are practiced for shared production arrangements between a household or a village on one side, and an enterprise, a forest farm or an individual entrepreneur on the other. These are discussed in detail in section 4.3.

4.2.1.2. The Village Collective

Contrast between regions. In the better-off areas, the village collective is unlikely to participate directly in the component. Most plantations will be established with individual households. In remote ethnic minority areas, village collectives will be conversely important project participants. In the past, administrative and natural villages operated collective forest farms. In the current period, these farms have often been dismantled. However many villager groups currently sign contracts with enterprises or State-owned forest farms. The same scheme is likely to occur under the project. Production arrangement options are

similar to those offered to households. Long-term land lease appears to be a widespread option. In theory, income from the contracts is used for community investments, especially in small infrastructure. In practice, part of the income is shared between individual community members, but the remaining part does go into community improvements.

Table 2. Primary stakeholders in the timber plantation establishment component

Category	Expected roles in project
Local households	In remote areas, households will mostly contribute their land use rights to join a plantation project managed by a company. They will be eligible for sharing income. Income sharing after selling timber may be a common production arrangement.
	Some local individuals may be employed as seasonal workers for tree planting and tendering. In addition to wages, they might acquire some technical skills.
	Many of the households willing/able to access project loans in remote counties might be local family businesses, or joint business created by a group of individual developing their own small forest farms. They might also enter contractual production arrangements with companies. In the better-off counties, small-scale tree growers might actively apply to participate in the project.
	Small family businesses specializing in tree seedling nurseries will sell seedlings to plantations financed under the project.
Natural Village / Farmer Group	They manage forest land that has not been contracted to individual households. They will enter contracts with forest farms. They will use part of the plantation benefits to invest into community activities.
County Forestry Bureau	County Forestry Bureaus are the main implementation taskforce of the project. They will play a coordination role with companies and with households.
Township Forestry Station	Forestry Stations, under township government and county forestry department, will contact directly with communities and households and will provide them with technical guidance and quality inspection in tree planting and tendering.
State-owned forest farm (or company based on forest farm)	These farms will be part of the major stakeholders in project operation. They would be main beneficiaries of the WB loan and would bear direct responsibility for loan repayment. Farms will set up joint production arrangements with villages or individual households to plan fast-growing trees. They will use their land while compensating them for this resource. Forest farms will be supervised directly by provincial and county PMOs I.

Administrative versus natural village. It is important to note that these two levels have contrasted roles. In the present situation, the administrative village level appears to be a weak community institution in Guangxi in ethnic minority areas where farmer groups are natural villages. When natural villages sign plantation contracts with other stakeholders, the administrative village mostly plays the role of disseminating information about plantation opportunities to the natural villages. From an administrative point of view, the village committee is at administrative village only, and only the administrative village head is officially elected. The natural village is therefore a legal entity, but it is the main one involved in current commercial forestry contracts.

4.2.1.3. Plantation Contractors

Plantations developed through contracts with local villages or households are often organized and managed by an individual called “contractor”. In contracts initiated by a forest

farm, the contractors are often staff from the forest farm. In other cases, contractors can be local villagers. Their main task is to hire and organize labor. Inputs and loans remain provided by the economic entity that invests into the plantation. Under the project, it is likely that this system will be equally widespread.

4.2.1.4. County Forestry Bureau

Diversified roles. As the main forestry agency in counties, the bureaus are often implementing a number of grant forestry projects including the ecological forest grant program or the Pearl River watershed to which the second project component is linked. County forestry bureaus are also important stakeholders in all other forestry sector matters from policy to economic activities. In commercial plantations, county forestry bureaus mostly carry out coordination work to identify villages and land available for afforestation.

Participation in World Bank projects. At least 17 out of the 38 counties have participated in one or several of the 3 previous World Bank-funded forestry projects in Guangxi. Five counties have participated in 2 projects and two counties, Zhaoping and Ziyuan, have taken part in all 3 projects (Annex 3.1). Forestry bureaus in these counties have accumulated a lot of project implementation experience.

4.2.1.5. Township Forestry Station

The township forestry stations form a “bridge” of direct contact between the township government, the forestry departments and the villages and villagers. There are generally 3-4 staff in a township forestry station, most of them graduated from vocational forestry college and quite experienced in working in villages.

4.2.1.6. State-Owned Forest Farms

There are 151 State-owned forest farms in Guangxi managing a total of 1.15 Million ha and producing 45-55% of commercial timber in Guangxi. They are key stakeholders in the Guangxi forestry sector. Each of the State-owned forest farms has its own technicians who graduated from vocational forestry college, and who master advanced technology of scientific plantation, intensive operation, and resource management. The forest farms would participate in the plantation component by means of joint operation with villages or individual farmers.

A review of ownership and management system was carried out in 15 provincial forest farms. The reform of the economic system is making rapid progress. Forest farms tend to have multiple management system options and to involve groups of individuals together with the forest farm organizations themselves. All remain State-owned forest farms, but are managed with the public sector remaining dominant while diverse economic sectors are developing side by side. Some are State-owned but managed by individuals, some are shareholding systems, yet some others are mixed modes. Annex 4 provides details on ownership and management systems of each organization.

4.2.2. Secondary Stakeholders

Table 3. Secondary stakeholders in the timber plantation establishment component

Category	Expected roles in project
Guangxi Forestry Bureau	The Bureau will be the supervisor of general policy and project management, while the PMO directly under it will be the organizer and coordinator with enterprises, forest farms and households.
County governments	As the local administrative organ between municipality and township governments, they will organize participation of companies and local households in the component in accordance with related laws and policies. They would bear responsibility for loan repayment, with county forestry bureaus under these county governments being sub-borrowers. County governments would also be responsible for project quality supervision. They will derive tax revenue from timber sales to promote local development.
County planning commissions	They prepare the general layout for the development of local society, and coordinate the forestry sector with other bureaus, including the implementation of the project with any other projects carried out in the area.
County agriculture bureaus	They provide information concerning land use conditions to the forestry bureau when selecting project villages. They may also provide technical services to plant grass and raise livestock in relation with the project.
County ethnic minority bureaus	They provide information concerning the conditions of local ethnic minorities to forestry bureau when selecting project villages and land. They may mobilize local ethnic minority villages to participate in the project, provide guidance and safeguard ethnic minority people's legal rights and interests.
County women's unions	They provide information concerning women when selecting project villages and land. They may mobilize women in villages to participate in the project.
County poverty reduction offices	They provide information concerning local poverty reduction activities to the forestry bureau when selecting project villages and land. They will combine their own projects with the project to fulfill their poverty reduction task.
Township governments	As the lowest government level, they will assist county-level offices in co-coordinating with forest farms, companies, villages and households. They provide information concerning administrative villages to forestry bureau when selecting project villages and land. They will combine their own plans with this project. They will mobilize villages to participate in the project and take part in quality supervision.
Administrative village committees	They ensure coordination between their village and the county forestry bureau, forest farms, as well as companies. They will organize village participation the plantation. Some will contribute their barren mountain land of mountain to a forest farm or company to become shareholders in a plantation.
Local and nearby households not participating in the project	These households, although not participating in the project, will still access methods, experience and technologies that will be demonstrated through the project.
Large forestry corporations	APP, Stora Enso, the Gaofeng group and other corporations will not participate in the project. They set up major raw material production bases in co-operation with villages or individual households for their wood panel and paper pulp operations. As such, they drive sector plans and markets.

4.2.2.1. Guangxi Forestry Bureau

Under the Guangxi Government and as the highest-ranking office for forestry affairs, the Bureau prepares integrated development plans, and organizes activities in the forestry sector related to timber plantations, forest farms and enterprises, ecological forest management and nature reserves. Since 1990, Guangxi has successfully implemented three large-scale World Bank funded plantation projects.

4.2.2.2. County Governments

The county government is responsible for pressing its subordinate organization, the county forestry department, to carry out related work and for supervising its implementing quality. The county government contributes to organizing contracts between “companies and households”, and it is expected to have a similar role under the project.

Box 3. Feedback from county stakeholders

When the social assessment team interviewed the county governments, all of them said that the timber plantation establishment component will bring the following benefits: 1) the project establishment capital will solve the problem of insufficient local capital for tree planting; 2) the project will establish larger-scale plantations with intensive operation, so that the quality of standing forest and the yield will be improved; 3) construction of tree seedling nurseries, development of wood processing, transportation, service and other related industries will take place; 4) during implementation of the project, labor requirements will be high for soil preparation, planting, nurturing, applying fertilizer and management; this will provide job opportunities for the village surplus labor; and 5) implementation of the project will gradually reduce farmers' negative habit of slash-and-burn cultivation in the project area; this will reduce soil erosion and efficiently protect the environment.

4.2.2.3. Township Governments

The township governments mainly participate in commercial plantations by means of helping the county government to organize contracts between a company and households. The township government is capable of undertaking propaganda and mobilization.

4.2.2.4. Nature Reserves

Nature reserves are not only responsible for construction and protection of the nature reserve itself, but also for helping communities adjacent to the nature reserve to develop production and increase farmers' income under the condition that natural environment and resources are not affected. Nature reserve staff members have technical and management skills as well as capacity for coordination among agencies. Communities adjacent to nature reserves that will participate in the component are expected to receive technical support from the nature reserve for some plantation activities.

4.2.3. Evidence of Farmer Interest in the Project

Participation in village meetings. During the social assessment survey, households in the villages surveyed expressed high interest in the component after getting to know the objective, contents and access criteria. Although nowadays farmers in China tend to avoid villagers' meetings, many people attended the villager representative meetings held by the social assessment team.

Factors of success. The social assessment was made before the Spring Festival when some villagers who worked outside came back to their villages, and with their attendance the meetings became heated and more efficient, because the new perception and information they brought back strengthened villagers' confidence in participating in the project. By using PRA methods ([Annex 1.2](#)), villagers and other related beneficiaries could fully understand the objective, content, operating procedures and all regulations of the component. Villagers in remote mountainous minority villages with sparse population showed enthusiasm for the component. Village cadres and villagers all promised to try their best to participate in plantation activities and urge for the early implementation of the component.

Box 4. Evidence about local interest in the project.

In Chuhua village of Lingzan township in Lingyun county, and in Longma village of Siba town of Luocheng county, the meeting room was crowded with villagers, so that some villagers had to stand outside the gate to attend the meeting.

The village secretary of Lalung Village in Baotan Township said: " In our village some villagers participated in the first and third phases of the plantation project under the World Bank loan, they got benefits from it; and the other villagers are waiting for this kind of opportunity. Because participating in the component is good for the country and the people, it will bring positive impacts on the local eco-environment and on improving economic income".

4.2.4. Identification of Vulnerable Groups

Poor communities and households. The social assessment concludes that vulnerable groups in the component are more or less equivalent to those living under the poverty line. Many of these communities and households will participate in the component. Their vulnerability can be defined as low capacity to establish a favorable rapport when contracts are established with large State forest farms.

Seasonal workers. Poor farmers have massively entered off-farm work opportunities after migration became allowed in the mid-1990s. In the forestry sector, the shift from other species to eucalypt increases the need for outside seasonal workers. Most seasonal forestry workers in Guangxi come from very poor areas including karst villages within the region and poor areas from neighboring provinces, especially Guizhou. Seasonal workers were interviewed on one plantation site near Nanning. According to these limited investigations, forestry provides job opportunities to farmers with limited other skills and is judged by the few seasonal workers as less dangerous than mining. However living conditions are harsh. In plantations close to the city, seasonal workers have perhaps easier access to health services than in their own village. But they typically live under tents and may not have access to clean water. However lack of access to safe water is also widespread among local residents in poor areas.

Ethnic minority people. The position of ethnic minorities among poor communities and individuals and their vulnerability in the component is a complex topic that is discussed in the related section 7.

Gender. 64% of the households surveyed said that important domestic matters are decided by the husband, and 35% of the households said by both husband and wife. Regarding the questions “Who decides forestry activities on the household hill?”, “Who owns land use rights on forest land in the family?”, “Who would take part in planting trees in the family?”, “Who would take part in technical training courses in the family?”, and “Who is responsible for harvesting forest by-products?”, only 1% of the households answered that decisions would be made by the husband, and 99% of the interviewed households answered that decisions would be shared by husband and wife. The answers show that women are enjoying a relatively high position in the family. Gender would not be a critical issue for households participating directly in the component. It should also be noted that women account for a substantial share, 30% in some cases, of seasonal forestry workers.

4.3. Production Arrangements

The phrase “production arrangements” (or “management modes”) in the forestry sector in China is used to designate the institutional nature of tree growers and/or the contractual arrangements between tree growers or between enterprises and local stakeholders. A detailed assessment of current and potential production arrangements has been undertaken upon request from the project design team.

4.3.1. Current Production Arrangements

Contractual arrangements between forest farms or enterprises on one side, and individual households or village collectives on the other, have long been a widespread pattern in Guangxi’s forestry sector. Long-term land leasing has become the most common practice in the end-1990s. Although a single phrase, “company + household”, is generally used to designate contractual arrangements, there is in fact a variety of contracts. In all the cases below, “households” means “non-enterprise or forest farm”, i.e., either individual household or village collective.

Type A. “Company + household”

- Sharing Timber in Proportion

Case 1: Canada Jiahan Company & APP (mid-1990s).

The enterprise contributes capital and management, the households contribute land. Profit sharing is 7 for the enterprise, 3 for the households. If output is 6 m³ per mu in 6 years, the households will receive 1.8 cubic meters of timber, equal to CNY 540 (CNY 90 per year). However in that case, the plantations failed and yield was only 1-2 m³. Some households decided they would prefer to lease their land. The Canadian company quit.

Case 2: Gaofeng Group (2003-2005)

In 2003, land was leased at 8-15 yuan/mu/year, about 12 yuan/mu on average. In 2005, a profit share was added. Shares vary in accordance with land quality, distance between plantation forest and processing factory, road access, and local social environment, between 7:3, 8:2, and even 9:1 when conditions are very bad. Land use rights are transferred from household to company. The company may employ openly and equally any persons, including the peasants who contributed their land use rights.

- Forest Land Leasing. This is a widespread arrangement today. Without any risk to take but with stable income, though not very much, households welcome this pattern, especially in ethnic minority areas and poor regions with large areas of wasteland.

Case 3. APP, Stora Enso

The Indonesian group APP is now cooperating with households, mainly in the form of land leasing, and partially sharing matured timber in proportion, in coastal areas only. Land rent is normally is 8-15 yuan/mu/year, in some cases over 20 yuan/mu/year. Stora Enso started leasing land near Beihai City. Since the area is dense in population, land rental is expensive: the company pays 15-60 yuan/mu/year.

Nowadays, these two cases are facing difficulties. Management is poor and land leasing prices are going up.

Case 4. Gaofeng Group (2003-2005)

Prices for land rental are:
 36-45 yuan/mu/year for first class land (close to coastal area, suitable for mechanized operations),
 26-35 yuan/mu/year for second class land (close to coastal area but not suitable for mechanized operations, or not close to coastal area but suitable for mechanized operations),
 15-25 yuan/mu/year for third class land (any land not belonging to the first or second class but suitable for fast-growing plantations).
 Most land leased is in this third category. Prices are adjusted every five years following market change.
 The advantage is a stable income for land use right owners without operation risks.
 The disadvantage is that total income is relatively low.
 Land use rights are transferred from household to company. The company may employ openly and equally any persons. Local peasants have the priority to be employed.

- Advance Payment for Living Cost Plus Sharing Timber in Proportion. This pattern is a good compromise between the former two. 10-15 yuan/mu/year are paid in advance to households, and timber is shared at harvest in accordance with the proportion agreed and stipulated on the contract after deducting the advance payment and its interest. If the income allocated is not enough for the deduction, then payment is postponed to the next rotation. Nowadays, the Gaofeng Group is applying this approach.

Type B. "Forest Farm + Contractor + Household". In this pattern, the forest farm first gets a loan from the bank, then transfers the money and debt to a contractor, normally a staff of the forest farm. This Contractor will lease forest land from households for plantation while the output products from the plantation will be sold to the fiberboard factories owned by the forest farm. All income after loan and expenditure deduction will be divided between the contractor and the forest farm in the proportion of 4:6 or 3:7. Deficits and loan risks are jointly born by the contractor and the forest farm. The contractor obtains the largest benefit, next is the forest farm, while households only get income from land lease.

Case 5. Gaofeng Forest Farm (2003)

In Rongxian County, Mr. Liu, a staff of the forest farm and a contractor, applied for a loan from the forest farm for a 1000 ha plantation of eucalypt in 2004. The farm, on behalf of the contractor, signed the land lease contract with households at 12-15 yuan/mu/year and a fixed period of 30 years. The investment and all costs are undertaken by the contractor who applied for a loan via the farm. The output products from the plantation will be sold to the fiberboard factories owned by the farm and located in the same county. Each mu of forest land should bring about income of 1805 Yuan in one cycle of 6 years; after deduction of expenses of 1010 Yuan. 795 Yuan /mu of gross profit are expected, i.e., an annual profit of 132.5 Yuan/mu. The profit will be divided between the contractor and the managing department of Rongxian Forestry Bureau and the farm in proportion of 4:6.

Type C. "Forest Farm + Forestry Bureau + Household". In this pattern used by the Huangmian forest farm, the farm gets the right to use forest land via joint operation with the county government. The county government contributes the land suitable for plantation, and the forest farm invests the capital and manages the operation. Benefits are split into 20% for the county and 80% for the forest farm with a joint operation period of 20 years. The forest farm signs an agreement with the county for obtaining land use rights. The county then signs the contract with peasants in the villages involved in the project. After getting the land, the county forestry bureau will issue the contract for planting trees and take back the land with trees planted and its quality inspected and approved. This kind of cooperation has been successful and the allocation of benefits between the enterprise and households is relatively reasonable.

Type D. "Specialized Household + Household". This is also a common pattern in Guangxi today. Specialized households normally have strong sense for their duty and will assume sole responsibility for profits or losses. But they often lack capital and technology and the benefits from the plantation might be mediocre. There are two main forms:

- Joint investment. Shareholder households contribute capital jointly and either entrust the specialized household to manage, or manage jointly. Benefits from the plantation will be allocated in proportion with the shares owned by each shareholder.

- “Specialized Household + Farmer household”. This can take the form of simple land leasing. Households lease their land and obtain the rent while specialized households invest capital and management and benefit from all the output. A “shareholding” system is also practiced. Households convert their land use rights to shares, while specialized households invest their capital and management as share, the timber output is divided in proportion with the shares owned by each party.

Other options have been discussed during the social assessment, including:

- “Satellite” plantations. In this pattern, the plantation enterprise contract would be used as a core area and nearby households would be supported to develop small plantations on their own land, with or without a loan. This is currently practiced and the households interviewed had indicated their interest in this arrangement.
- Joint households. A group of households is set up for plantation establishment, particularly for joint supervision after tree planting. This used to be a common practice in the 1990s. Current extent of the practice appears to have decreased.

4.3.2. Preferred Production Arrangements in Remote Areas

One fourth of the households surveyed indicated interest in applying for a loan for a timber plantation (Annex 3.4). This proportion reached half of the households in the more developed Southeast section of the project area. In contrast, when asked among a range of options, more than 90% of the surveyed households in remote upland counties chose joint operation with a company or forest farm. The households surveyed identified the following benefits from contractual production arrangements:

- The household “buys a share” in the plantation with land instead of capital. The company or forest farm is responsible for the plantation capital and technology. Upon harvesting of timber, the household can receive a share of the profit.
- The household does not bear any risk related to the loan, and good planting technology is ensured.
- The arrangement allows intensive operation. The plantation is of high quality and this allows high economic benefit.
- Farmers can keep working in their own fields during the peak of the farming season.
- Farmers can plant trees at the same time in their own contracted hill.
- Farmers can learn practical forestry technology through technical training courses provided by the forestry department during implementation of the project.
- The project can attract villagers who work off-farm outside the village all year round to come back home to participate in plantation activities.
- Related development promoted by this project (transportation, marketing) will create many job opportunities.
- The plantation will create good environment for the community.

Box 2. Poverty can decrease in villages with large plantations.

The village secretary of Pinglan Village in Lingyun County told the social assessment team that, due to abundant forest land and wood in the village, most of the villagers gain some income from forestry. Migration outside of the village is very low compared to other villages, with only 1.7% of total population in the village. Most of the villagers put their labor force in forestry. They can carry out their own farming operations and gain income from forestry while avoiding migrating to work hard away from home.

Chuhua Village is a remote village in the same county. In the 1970s, villagers in Chuhua established a large-scale plantation as a village collective forest farm. In the late 1990s, the village contracted a small part of this plantation, 400 mu, to a company. Income from harvest covered all expenses for the village road construction and electricity supply. The villagers did not spend even one cent on it. They have a deep positive feeling regarding benefits from the plantation.

4.4. Analysis of Risks and Opportunities

4.4.1. Risks of Negative Project Impact

Should ordinary households take loans? This is one of the issues raised by the social assessment. Consultation has shown a substantial level of concern from average and poor households regarding individual forestry loans. The timber plantation component is a component of multiple benefits (economic benefits, social benefits and environmental benefits), but it is also a component of multiple risks (risks caused by technology and management standard, market risks, natural risks caused by fire and pests). If villagers who still struggle for livelihood get a loan in their own name, they will be at risk of being unable to repay the loan, for example in case of natural disaster. These concerns should be taken seriously into account, especially in remote counties, for the following reasons:

- There is active on-going competition between commercial operators in the forestry sector in Guangxi. Market risks are not unlikely. The forest farms are currently interested in remote counties where land is available, but this context might change in the future.
- Local villagers are used to burning hills for cultivation. This can easily cause fire outbreaks that would damage nearby plantations.
- The communities and households that will take loans might not have access to sufficient technical training, timely input supply, or timely loan disbursement.
- Households might be encouraged, as it is currently often the case, to develop plantations of unreasonably large scale.

Limitation of future scope for household forestry. Conversely it should be noted that forestry agencies are currently strongly encouraging households not to take forestry loans directly, but to enter joint schemes with enterprises, even in better-off areas where many households have expressed interest in taking loans. One of the reasons for this appears to be that many households who took loans under the last World Bank-funded forestry project have not been able to reimburse their loans largely because the long-term tree growth rotation.

Box 5. Households' concerns about forestry loans.

Farmers think that if they get a loan in their own name to plant trees, they will have difficulties as follows:

- 1) Those who lack capital will have difficulties in advancing their cash contribution, since it is understood that the loan will be provided after checking and acceptance of the plantation. Before that, farmers potentially interested in a loan generally have to hire labor for soil

preparation, seedlings and other costs. Farmers assess they need to invest at least CNY 100 per mu, excluding labor cost.

2) By planting sugarcane, corn or mulberry for sericulture, farmers can get benefits in one year and some even have several harvests within one year. Planting trees will take at least 6 years. The forestry production cycle is too long, and it is not worth investing.

3) Risks are high that it is difficult for an individual to bear the risk of plantation failure, fire, windstorm, snowstorm or sudden illness in the family.

4) Farmers believe that they lack technical and management skills.

5) It will be hard for farmers to repay the loan on time; except for eucalypt that can be harvested for repaying the loan in the sixth year after planting, timber species cannot bring benefit at that time.

Contracts with enterprises. Existing contracts with enterprises show two types of issues. First, they often lack transparency. Villages and households are by definition not in a position to access accounting regarding incomes and expenditures. The contracts themselves may be unclear. As a result, benefit sharing may be uncertain or reduced. It should be noted that the Gaofeng group has computerized its contracts with households. This may reduce this issue of lack of transparency. Second, communities and households in remote locations lack access to market information, for example regarding land rental prices, and are in a weak position to negotiate contracts. In addition, the collective forest land of some villages is allocated and controlled by the village cadres. Under the present non-transparent system, it is hard to prevent the village cadres from violating the villagers' wishes and making an agreement with the company that is not beneficial to the villagers.

Land tenure. Land lease is currently widely practiced. During the social assessment, poor villagers said they were interested in land lease because this provides them with early and safe cash income. However the renting period tend to be long to very long. The companies said they would not contract for less than 18 years (1 eucalypt plantation plus 2 coppicing cycles). The assessment shows that land lease is in fact a transfer of land use rights from household to enterprise (Section and Annex 4.3). Current practice is up to 50 years of leasing term. In addition, in the current period, land use rights on forest land, in contrast with what is practiced in other countries, cannot be used as collateral to access credit from the formal banking system in China. The banks use standing timber as collateral, not the land. However this might change during the project, or after project completion but before completion of the land leasing term. Should such a reform occur, the formal land use right and collateral would de facto be in the hands of the enterprise. This is assessed to be a substantial risk.

Seasonal workers. These very poor men and women live during the tree planting season on the planting sites in simple conditions. Lack of basic facilities, especially safe water, is likely to impact their health. In addition, women might face specific risks. For example, Aids awareness billboards targeting women were noticed in a village. A UNICEF report indicates that Aids is quite widespread in Guangxi. However systematic information has not been collected by the social assessment group from the surveyed communities, and no concern from public health has been noticed.

Competition between forestry and animal husbandry. Forest cover rates in the project counties are already high (Annex 3.2). In some counties, part of the land proposed for afforestation is already used for extensive animal grazing. In the poorest upland counties, it should be noted that animal husbandry is being actively developed as an appropriate means of livelihood improvement for poor farmers. This contrasts with the recent past where these areas were primarily planned for forestry and had very limited access to other programs. If

the plantation land occupies the farmers' grazing land, the forestry will bring negative impact on the development of animal husbandry.

Social differentiation. The participating villagers will improve their living standard, and the income difference between the participating villagers and the absolute poor villagers who do not participate in the component will become higher. This might generate conflicts within and among natural villages.

Access of ethnic minority people. The Yao and Miao ethnic minority communities living at high elevations are among the most impoverished group in Guangxi. Yet they are highly interested in forestry in general, and in the project in particular. They might be "forgotten" by the component (see section 7). Conversely, with the development of the component, the ethnic minority villagers in remote areas would be directly exposed to the commercial forestry sector. Their traditional culture would face the risk of being weakened and assimilated by modern culture.

4.4.2. Opportunities for Positive Impact

Definition of positive impact. A viable project will, by definition, bring economic benefits to local stakeholders. In China, these are called "social benefits" in project feasibility studies. In addition to this expected positive impact on local economic development and poverty reduction, this section looks further into how the project might enhance opportunities for positive impact.

Participation. In the past, plantation establishment in China was carried out in a top-down manner, whether in decision-making or in planning and design. Leaders decided the plantation scale, and the design and planning institutes prepared plantation design, including tree species, site of the plantation and time for tree planting, by themselves. Without discussions with the villagers at the decision-making stage or during planning and design, without consideration of the local community's needs, the villagers could not participate actively in the project. As a result, a strange but frequent phenomenon was that there were no trees although trees were planted every year on the same site. Forestry bureaus also used to make decisions without co-ordination with the agriculture, water conservancy, or environmental protection bureaus although these are closely connected to the forestry sector. Without support and cooperation from these related departments, many plantation projects did not succeed due to coordination failure. Conversely, the project has the opportunity to continue to adopt the participatory approach that has been launched through previous projects and enhanced with this social assessment. With a participatory approach, more villages and households will be able to apply to the project. They will join contracts or take small loans on a fully voluntary basis, and the plantation design will be appropriate to local needs.

Technical skills. The project's capacity building component is an opportunity to maximize training opportunities offered to communities and households. There is an opportunity to broaden the audience targeted under training activities. Including women would provide them with skills that will be essential given their role in forestry activities. Inviting neighboring households or villages would be a way to broaden benefits and reduce conflicts between beneficiaries and non-beneficiaries. Paying attention to including the more disadvantaged ethnic minority communities would be equally needed. And broadening technical contents to topics that are not directly related to forestry but are critical for project success would be useful. An example is skills in more intensive animal raising practices in communities that are shifting away from extensive livestock ranging practices.

Economic management skills. Communities and households entering commercial forestry contracts have a need for strengthening their capacity to interact with commercial stakeholders, to increase their skills in economic management of the plantations, and to understand more about markets. The project has the opportunity to make a significant contribution in this field, also through its capacity building component.

Road development. The companies or forest farms are expected to expand forest tracks from main roads to plantations but mostly when plantations become mature. There is an opportunity in the project area to expand this practice, and to ensure that the location of the roads that will be built will maximize their positive impact on nearby communities in terms of improved access. This would however take place outside of the project design.

4.5. Recommendations for Project Design

An updated participatory process for operational design of the plantations remains to be designed. The county social assessment teams have largely relied on a simplified participatory tool designed under earlier projects and called CFA (community forestry assessment) to prepare the project. A participatory process taking into account the new context of commercial forestry contracts is needed. This process should be designed through technical assistance during the next stage of project preparation. Experience in participatory land use planning from other projects should be incorporated. Key elements in this process would be:

- To organize participation at administrative village committee level (with the involvement of natural village heads) not directly at natural village level by-passing the administrative village,
- To ask communities and households to make commitments to the project not earlier than a few months before actual plantation establishment; this means that detailed design should only be completed before project appraisal in Year 1 villages,
- To provide information and discuss in a transparent manner various options for contracts, and to leave time to the community before making a final decision,
- To fully take into account local preferences for some tree species,
- To zone grazing land before plantation design,
- To organize public display of information, particularly in relation with land contracts, and
- To help communities improve their existing village forestry regulations, for example by adding practical measures to solve conflicts if any.

2. Specific measures are required to ensure open access to information. County forestry bureaus, even if their commitment to project success and community participation is high, are not a “third party”. Instead they are primary stakeholders in the project, and local staff may not have the skills to inform or train local communities. An innovative approach is required in this project to ensure that remote and disadvantaged communities do get good access to information regarding commercial forestry. A twin program of information supply and training of trainers in economic management of plantations should be set up under the capacity building component. The social assessment team strongly suggests that an autonomous or semi-autonomous body, such as an academic institution, be contracted to undertake this activity. An information package would be designed. Information would be provided to villages and households through various trainers. In addition, communities or households could directly contact the institution to access information.

3. Several measures should be taken to reduce risks in household loans. The project should encourage households to take loans individually or as a group when they have the capacity and willingness to do so. In order to avoid the risk of they being unable to repay the loan, the loan specialists in the project design teams should take a number of specific steps. The following options should be examined:

- Setting up a loan ceiling at a reasonably low level to discourage current practice of large loans for individual entrepreneurs,
- Ensuring timely provision of technical services,
- Offering forage seed at the same time as tree seedlings. This would be in line with what was started under the land conversion program in Guangxi. This would encourage small-scale tree growers to retain diversified, therefore less risky, activities with both timber plantations and animal husbandry.

4. Diversified production arrangements are needed, but all should be short-term only, and land leasing arrangements with formal transfer of land use rights should not be allowed. The social assessment supports the project design team’s view on the need for a diversified range of production arrangements and has prepared the project information leaflet accordingly ([Annex 1.4](#)). However, it is underlined that the issue is not so much the specific type of arrangement, but rather the issues mentioned above of lack of transparency and lack of information. An additional and critical issue relates to widespread occurrence of land leasing in various contracts. The following measures should be taken:

- A maximum duration of contract should be established,
- Within this period, the land value taken into account in the contract should be reassessed at regular intervals,
- Annual payments for land should not be a formal transfer of land use rights from household or community to enterprise. When the contract ends, in due course or in case of bankruptcy, the household or community must have the option to take back the land. Conversely, particularly in poorer villages, advanced annual payments are a preferred option and should be offered in the contracts.

5. The cost of improving seasonal workers’ living conditions should be included in the plantation economic and financial models. Equipment for improved shelters should be accounted as a cost in fast-growing timber plantations. This cost should be sufficient to cover, for example, access to a clean water source and simple sanitation.

4.6. Project Monitoring

Definition of households in the monitoring system. It might be difficult to differentiate in the monitoring reports individual entrepreneurs, small-scale households that actually take a loan, those who enter benefit-sharing arrangements, and those who benefit even less. Clear definitions of household beneficiaries are needed, and ordinary households taking individual loans should be one specific category in the component monitoring system.

Potential of computerized systems. A computerized monitoring system of the villages and households under contract could be used to enhance transparency. It would also permit higher flexibility in contracts.

Monitoring of social impact risk. Since most social impact risks bear direct relationship to ethnic minority issues, related monitoring will be addressed through the ethnic minority development plan (Section 7).

5. Assessment of the Ecological Forest Management Component

The ecological forest management component comprises 3 “subcomponents”: karst rehabilitation and multipurpose ecological plantations including shelterbelt plantations and pilot carbon fund plantations. A separate assessment has been carried out separately for the carbon fund and findings are integrated in this section and in [Annex 7](#). At the time of the social assessment it was too early to carry out a detailed assessment of social impact for the design of the ecological forest subcomponent. This section therefore mostly discusses the karst rehabilitation subcomponent, the one with the largest planned area (100,000 ha, i.e., close to half of the timber plantations area). Quick comments are made on this subcomponent based on a number of visits and interviews.

5.1. Project Location

5.1.1. Main Features of Component Area

Location of the ecological forest subcomponents. The traditional division of upland areas in Guangxi into karst areas and red soil areas (“stone mountains” and “earth mountains”) is particularly relevant to the component. The karst rehabilitation subcomponent would of course take place in the karst areas. The subcomponent would take place in a mix of red soil hills and mountains areas. The carbon fund subcomponent is planned in two counties, Huanjiang and Cangwu. Plantations sites have been preselected ([Annex 7](#)).

The Guangxi karst. A substantial part of Southwest China’s karst is located in Guangxi where karst accounts for 38% of total land area and occurs in 79 counties. The karst areas in Guangxi are well-known for their combination of deep poverty and fragile, often degraded vegetation cover. The subcomponent is planned in 11 nationally-designated poor counties and 5 provincially-designated poor counties. All these poor counties would also participate in the timber plantation component in their red soil section. 10 counties, all national-designated poor, are in the prefecture of Baise and Hechi in NW Guangxi where both poverty and karst are concentrated. There is only 1 non-poor county in the subcomponent, Laibing.

5.1.2. Current Uses of Land

Carbon fund. Land use for the carbon fund is similar to land use under the first component. A number of graveyards have been observed in some of the proposed sites. The households said that they agreed to trees being planted around the graves provided the graveyards are not disturbed. Location of the plantations out of the graveyards would be preferable.

Ecological plantations. By the time the social assessment was carried out, there were two options for the location of ecological plantations in upland counties. Under the first option mentioned by some county forestry bureaus, the government grants would be used to plant

trees in upper watersheds on land that is too generally remote to attract interest from the village collective or individual households. In a second, contrasted option, the subcomponent would be a community forestry component located on land close enough to the village to be directly managed by the community.

Land use in karst areas. Farming systems in the karst have long been based on maize, and remain so to date. Farmers also grow a range of other food crops in addition to maize. As population pressure increases, maize cultivation has gradually been extended on to very marginal soil on steep karst slopes, with a typical pattern of “one maize in one soil hole for one meal”. Nowadays, while poorest households continue to grow maize on marginal rocky slopes, maize cultivation is overall markedly intensified and maize increasingly used as pig feed in complement to industrial feed. Grazing goats are another important part of land use systems. Agroforestry, i.e., trees interplanted with crops, are also a specific traditional feature of karst villages. Native species are used, including several fodder trees that are well adapted to the harsh karst conditions, and these would be the species used in the project. As soon as there are some red soil hills in karst areas, slopes are planted under perennial crops, tea and star anise being currently preferred options.

Resource degradation in karst areas. As in many other regions in China, degradation of the tree cover in the karst probably mostly occurred between the 1950s and the 1980s in close link with historical events and with uncertainty regarding land use rights. Other local contributing factors, in addition to slope encroachment for extensive grain production, include tobacco production that require large quantities of fuelwood to dry tobacco leaves, and the uncontrolled development of large numbers of goats. Today, overall pressure on resources is reducing due to a combination of agricultural intensification and off-farm migration. This makes the rehabilitation of the vegetation cover feasible. There are successful pilots in a number of locations. However, firewood remains the main fuel source in many villages, especially for cooking pig feed. The autonomous region is engaged in a wide-scale effort to extend biogas pits as well as fuel-saving stoves. This energy saving campaign has been carried out in combination with the land conversion program and with the extension of modern pig raising and maize growing technology.

5.1.3. Poverty in the Component Area

Carbon fund. The two counties selected have contrasted poverty levels ([Annex 7](#)). Huanjiang is a remote, nationally-designated poor county in N Guangxi. Proposed locations visited for the carbon fund are in ethnic minority communities close to the main road. Cangwu is a non-poor county in the more developed SE Guangxi, next to the large Wuzhou city.

Ecological plantations. A large variety of situations in terms of poverty are expected in this component, from the better-off coastal areas up to remote ethnic minority villages.

Karst rehabilitation. The karst area in Guangxi is the region where ethnic minorities live in compact communities, and also one of the key areas with concentrated and deep poverty in China. “Stone desertification” has become an outstanding environmental and poverty problem in Guangxi. This not only seriously hinders economic and social progress of the karst areas proper, but also restricts economic and social development of half of Guangxi. Poverty reduction and environmental rehabilitation are closely linked one to the other. However, starting from the mid-1990s, there was massive entry of the poor on the off-farm labor market out of the karst regions, releasing pressure on local resources. Farming in the karst areas can now be described as mostly part-time farming. A series of government

initiatives started at the same time, from scientific research to infrastructure construction, especially village roads. Water access had long been a major issue until recently when the Guangxi government launched a broad program of construction of water tanks and other water conservancy means in the karst areas. The subcomponent is directly related to one of these provincial initiatives, the rehabilitation of vegetation cover in the karst region. Despite this series of convergent poverty reduction efforts, poverty remains an important issue as evidenced by the social assessment survey ([Annex 3.4](#)).

Poverty & hill closure. In some of the surveyed villages, the social assessment team found out that some local governments have been asking for drastic change in local land use in order to speed up environmental rehabilitation. For example, in some villages where households used to raise goats, local governments have simply prohibited goat grazing on karst mountains. Conversely, in some other locations, local governments have used the opportunity of the land conversion program to develop fodder production and encourage households to raise goats and cattle in pens. A related issue is that villages in karst areas have contrasted development levels and therefore uneven capacity to adjust their farming systems to more sustainable resource use patterns. Some villages close to the road with more off-farm job opportunities have completed rehabilitation of their karst vegetation cover in the 1980s and mostly use natural gas bottles for cooking. Others have not started yet. The latter tend to be poorer, more remote villages.

Box 6. Soil erosion is still on-going in the karst.

During the field survey by the social assessment team, farmers in Tiandong County remembered that, many years ago, there were big trees all over the mountain and many wild animals wandered there, so that people did not dare enter the forest alone. But now, due to increased population and less and less land, people continuously chop wood for reclaiming wasteland for cultivation, which leads to more and more serious soil erosion. The soil has been washed out, leaving only rocks on mountain slopes.

5.2. Component Stakeholders

5.2.1. Primary Stakeholders

5.2.1.1. The Village Collective

Karst rehabilitation. The open and degraded forest in karst areas in Guangxi is a mix of land managed by the village committee on higher slopes and of lower slopes usually managed by individual households. Under the guidance of the township forestry station, the administrative village committee closes access to these forests and organizes villagers to replant some native species and economic species on lower slopes where there is more soil. A small budget is currently made available to the village committee for these tasks, and it is expected that the project would continue this practice. There is currently limited training attached to the existing program, but the project could create benefits in this field.

Ecological plantation. If this subcomponent is designed as a community forestry activity, the natural village will be a key stakeholder directly involved in management of the forest and of the community income derived from the trees.

Carbon fund. Some of the contracts are expected to be between enterprises and natural villages, especially in Huanjiang County. In Cangwu County, individual households or individual entrepreneurs are likely to be interested in applying for project loans.

5.2.1.2. Households

Karst rehabilitation. Households in the ecological forest management component area will participate in forest closure activities. They said that they expected to receive payment for this work, but current practice is for the forestry bureau to subsidize only the poorest households as well as the larger ones who need to hire labor. Some professional households managing tree seedling nurseries might gain income by selling seedlings, although forestry stations tend to remain in charge of providing seedlings, even those, e.g. Zenia seedlings, that might be easily produced by the villagers themselves. A small number of households will work as forest guards. In many locations observed the forest guard is the natural village head. However in other areas in China forest guards can be selected among the whole community. There are currently unclear management regimes and most households participating in existing programs do not seem to benefit from the standing timber. These regimes could be established or clarified under the project. A few households obtain rights to graze goats in a controlled manner under the existing programs, under contracts with either village collectives or individual households, and this could continue with benefits spread more widely. After forest closure some improvements in water access are expected, although in many locations drinking water is underground water and the water regime is not directly linked to vegetation cover on nearby slopes.

Carbon fund. A survey of 121 households in 10 villages planned for the carbon fund was made. 55% said that they would agree to join contracts with enterprises and only 4 said that they would be interested in a loan. The remaining said that they would be satisfied with land leasing and waged labor. It is however likely that these initial choices would evolve as the households receive more information. It is also likely that households in the 2 counties will have contrasted preferences. The survey also indicated farmers' preferences. In Cangwu, eucalypt ranked first just before oak. In Huanjiang, eucalypt ranked 4 out of the 6 species that were discussed.

5.2.2. Secondary Stakeholders

5.2.2.1. Forestry Departments

The forestry departments are responsible for selecting suitable areas for hill closure based on technical criteria, preparing a forest closure plan, providing technology training, helping the village committee arrange for the villagers to plant trees and helping the villages to set up village regulations. In some locations they will be the main seedling providers. In current ecological plantations undertaken in Guangxi, they may also be direct plantation managers under long-term contracts with the community.

5.2.2.2. Downstream Population

The downstream population will benefit from ecological forest management in the upstream area in several ways. First, water management will be improved in the entire Pearl River Basin. Second, with more beautiful landscapes, opportunities for tourism will increase. Third, products from areas with a quality environment will be available on markets. The latter two factors relate especially to karst rehabilitation. Karst, instead of being the symbol of poverty and environmental degradation it has long been in Guangxi, will become an asset for regional identity. This latter effect will take place not only for the downstream population but also in local counties and even in the villages (Boxes 7 to 9).

Box 7. Villagers' observations and expectations from hill closure in the karst

- Abundant forest vegetation will not only improve the overall watershed but also locally increase the quantity of water for grain production as well as for domestic uses for people and animals.
- The scenery in many places looks like pictures. Ecological forest management can be combined with the development of tourism. More people will know the area, tourism and other activities will be developed, and more jobs will be created for ethnic minority people.
- The village secretary of Longzhao Village in Lingyun County said that during the Great Leap Forward in 1958, most of the village primitive forest was logged, and since then the vegetation has not yet recovered. The previously permanent stream now stops flowing in winter. In 2001, the Water and Electricity Bureau of the county subsidized the village to implement ecological management and forest closure. Large areas of trees have been planted. Crop yields have started to increase.
- The villagers in Nashe Village of Tianlin County said that due to the wrong practice of cutting the forest for cultivation in the past, large areas of natural forest were destroyed causing severe soil erosion that changed the river bed, washed farm land and caused severe sedimentation in the nearby Gongyang reservoir. After hill closure started, the deterioration was reversed.

Box 8. Forestry department observations and expectations from hill closure in the karst

- After only one rotation of forest closure, vegetation as well as the water and soil conservation function of the forest will rapidly recover.
- Biodiversity, the self-renovating function of the forest and the structure of the stand will be improved.
- Soil erosion will be greatly reduced.
- More regular cultivation will be possible on farm land.
- Wildlife will increase.
- Forestry by-products will increase in quantity and diversity.
- Farmers will gain more income from sustainable collection of forestry by-products.
- The local government will use counterpart funds to help the local community construct bio-gas pits to replace the traditional firewood. Sanitation will be improved and less time will be spent on collecting firewood.
- The living environment will be afforested and beautified with fresh air and quality water, farmers' quality of life will be improved.

Box 9. Local governments' observations and expectations from hill closure in the karst

- The beautiful scenery will promote tourism development. The river water flow will be stabilized and this will allow the development of fisheries and hydropower.
- The transition from traditional animal grazing to intensive animal raising in sheds will be accelerated.
- Farmers' "bad habit of consuming mountain resources if living in the mountain" will decrease, farmers' environmental awareness will increase, they will accept the "civilized perception" of "human and nature living in harmony with each other".

5.2.2.3. Local Governments

The county government and the township government cooperate with the forestry departments in carrying out activities of "propaganda", "mobilization" and organization for watershed management.

5.2.3. Evidence of Local Interest in the Project

The village committees visited in the karst area have actively cooperated with the social assessment teams during the field survey. Some village cadres took part in the villager representative meeting and in individual interviews. They took the social assessment team to visit the hills where forest closure had been implemented and showed the contrast between these and hills without closure. They urged for early implementation of the watershed component under the World Bank project.

Some farmer representatives described how degraded the environment was before forest closure, and cited the many benefits of forest closure. Some villagers said they wished to work as forest guards.

The county forestry bureau and township forestry stations spent time to show existing successes and further plans for hill closure. They expressed high interest in applying for counterpart funds for karst rehabilitation and shelterbelt plantations.

5.2.4. Vulnerable groups.

Poor households and poor natural villages. Opinions collected during the social assessment were mostly positive. This is because the villages and households surveyed had a strong interest in hill closure. Conversely, more remote, poorer administrative villages, natural villages within overall less poor administrative villages, as well as some individual households in most villages may have remained dependent on slopes for extensive maize cultivation, goat grazing or fuelwood collection.

Gender. Since the program is generally linked to an energy saving program, women are mostly expected to benefit from karst rehabilitation because the time they spend on fuelwood collection would be reduced. Women in the villages surveyed have also expressed high interest in karst rehabilitation since improved water access is expected, and water collection remains predominantly a female task. Another gender-related aspect in the subcomponent

relates to off-farm migration. Although both young men and women migrate, more adult women than men tend to remain in the villages. This has two consequences. First, when designing the activity, organizers need to plan meetings in advance so that husbands who are not in the village can provide their opinion. Second, women with husbands working outside might be excluded from project activities. Conversely, in the villages surveyed, women have expressed interest in being selected as forest guards. It may also be noticed that a few forestry stations, e.g. in Pingguo County, mostly have young women staff. This may be conducive to a project taking fully women into account.

Ethnic minority people. This issue is discussed in Section 7.

5.3. Analysis of Risks and Opportunities

5.3.1. Risks of Negative Impact

Carbon fund

In addition to the various potential risks identified for the ecological plantation establishment component, the following risks have been identified:

- The forest farms might pay community or household contractors in accordance with the cash flow they receive from the carbon fund. Payments would then be delayed compared to production arrangements that allow for early payment.
- Compliance with carbon fund regulations might reduce the level of participation by communities and individuals on whose land plantations are established.

Ecological plantation

If technical models promote plantations on village land remote from houses, participation of communities and households might be very limited; plantations might be undertaken directly by the forestry administration, possibly under very long land transfer contracts.

Karst rehabilitation

Loss of access to common property resources. After implementation of forest closure, people might be prohibited from entering the closed area, and this would impact their collection of fuelwood, grass and non-timber forest products. In some places, after forest closure, there are no accompanying measures to allow some animal grazing or alternatives to fuelwood. If access was simply totally restricted after hill closure, communities would be unnecessarily affected. This would not only impact livelihoods but it might also lead to unsustainable resource management from illegal, uncontrolled activities.

Link to nature reserves. If the subcomponent was closely linked to the nature reserve management component, this might reinforce the impact of access restriction by nature reserves on neighboring communities, just as in the current ecological forest grant program.

Phasing. Very poor administrative villages and/or natural villages might not have reached the point where they can rehabilitate their vegetation cover without further degradation of livelihoods. They might need a few additional years before being in a position to do so. Within the villages, there are very poor households which are still dependent on karst hills for subsistence, especially to grow extensive maize. In both cases, rapid implementation of the component might increase the vulnerability of these groups. If implementation started in poorer villages, households who still carry out subsistence agriculture would be affected.

5.3.2. Opportunities for Positive Impact

Carbon fund

There is scope to invite enterprises to submit applications in which innovative production arrangement with the participation of communities or households would be a selection criteria, especially in Cangwu County.

Ecological plantation

This grant subcomponent could be reserved to communities to support the development of community forestry if land selected is collective land. This would contribute to build capacity at administrative village and natural village levels. A sustainable source of community income would be created and would be available in the future especially for small infrastructure works. This used to be widely practiced in collective village forests but in a more informal manner. The project could then have value by reviving the practice in a more formalized manner with transparent benefit sharing. The role of township forestry stations as service suppliers would be developed. This subcomponent could also be designed as a smallholder component with a mix of timber and economic tree species, but only if land selected is mostly individual, which is unlikely.

Karst rehabilitation

Participation. In the past, watershed management activities in China, whether at decision-making stage or technical design, were carried out in a top down fashion similar to the one described above for the timber plantations. Without discussions with the farmers during decision-making and planning, especially without consideration of the farmers' need for certain tree species in supplementary tree plantings, the farmers did not actively participate in the component. Conversely, this project has the opportunity to develop a participatory approach that will improve environmental impact, ensure that hill closure is useful in farmers' land use systems, and strengthen capacity of community organizations.

Comprehensive approach. Existing experience within and outside Guangxi regarding hill closure will be useful. The national technical specification themselves, if implemented well, actually already offer a range of options other than full hill closure. The project can also further develop an approach specifically adapted to the Guangxi karst. One key feature of this approach, in line with government thinking, would be to continue to promote comprehensive land use change. For example, developing animal raising in sheds will

reduce vegetation degradation from excessive animal grazing while preserving farmers' incomes.

Ecological forest grant program. This program is on-going in Guangxi. A forest which has been closed for 5 years can be designated as ecological functioning forest. The project will largely increase eligible area in the karst. Provided the program continues, the communities could get compensation for the area protected.

5.4. Recommendations for Project Design

Carbon fund

Transparent schemes should be established and plantation design should remain participatory. In Huanjiang County, careful negotiation with the companies involved should be organized. Payment conditions should not be made later. Sharing of income from carbon rights trading should be transparent. And the same participatory design process as in the timber plantation establishment component should be used. In Cangwu County, a higher level of household participation in the pilot should be considered..

ecological plantation

This activity should have a clearly designed management mode, and making it a pilot community forestry scheme is recommended. The social assessment leads to fully support the option that consists in reserving subcomponent access to local communities, and in designing the activity as a community forestry program, local forestry bureaus acting as service providers. This will require a balance in the location of plantations between far away sites and land close to village in order to ensure management by communities. The same information, application and participatory process as in the timber plantation establishment component should be used.

Karst rehabilitation

1. A detailed participatory process at community level deserves, and remains, to be designed. The project's process framework should cover not only the nature reserve management component but also the karst rehabilitation subcomponent. The format of this process framework should be a small set of critical steps that would allow communities to identify alternatives to avoid impact from hill closure. In addition, a full participatory process remains to be designed during project preparation. Key features in the participatory process would be as follows:

- Best practice from local and international programs would be taken into account. Specifically, cross-visits to villages with existing successful experience should be organized in this component or in the capacity building component.
- Community leaders and households should fully participate in decisions, including technical decisions such as tree species.

- Multipurpose tree species should be preferred. The preference for fodder trees in existing programs should be maintained where needed. Zenia, the fodder tree currently developed on a large scale, is appropriate, as well as bamboo, but a broader menu of tree species appears to be needed.
- In addition to planting trees, an overall plan for environmentally-friendly land use change for villages rehabilitating their karst hills should be prepared. Animal grazing should be taken into account in this plan. Villages should for example set aside a given area of land for animal grazing. This land could be managed in a sustainable manner under rotational grazing. The practice is already in place in some villages and appears to be working well. This plan should be consistent with the villages' 10-year poverty reduction plans in villages listed as poor

2. Unnecessary full hill closure should be avoided. The existing national technical specifications allowing half closure and rotational closure should be fully implemented. In addition, sustainable management regimes should be tested and established, for example after the initial closure cycle. Just like in other components, the project should make fodder seeds available at the same time as tree seedlings, consistently with the model developed through the land conversion program in Guangxi. Farmers could therefore harvest cut-and-carry fodder to maintain small scale animal raising. Sustainable grazing under trees could also be developed. The poorest households within a village, that still grow maize on slopes, should retain the option to join the program later.

3. The program should be phased and should start in less poor villages, not in poorer villages. Participation in the project activity should be fully voluntary only. Within administrative villages, poorer villages should be given more time to apply and start the activity when they are ready to adjust their land use.

4. The program could be combined with tourism development. Even with no investment in the tourism sector, planning and capacity-building activities in relation to karst rehabilitation under the project should take into account potential tourism development. Linkages with nature reserves developing environmentally-friendly tourism could be tested.

5.5. Monitoring

Monitoring of participating villages. A name list of natural villages showing name of natural village, name of administrative village, ethnic minority group and main species selected should be a key tool for the monitoring of karst rehabilitation. A similar list would allow monitoring villages that actually implement the ecological plantation program as a community forestry program. A computerized database using simple software is strongly recommended.

Monitoring of social impact risks. Monitoring arrangements will be proposed in the Ethnic Minority Development Plan.

6. Assessment of the Nature Reserve Management Component

Information assembled for individual nature reserves is summarized in nature reserve profiles in [Annex 5.3](#).

6.1. Project Location

6.1.1. Main Features of Component Area

Geographical location. At the time the social assessment was prepared, seven nature reserves, including Bapen and Banli in SW Guangxi, had been selected for this component. They extend across three ecological climate zones: North tropical, South sub-tropical, and middle sub-tropical, and are distributed over Southwest, Central, and Northern Guangxi. There are 4 national nature reserves, the other three being of provincial level. The territories of three nature reserves extend across more than one county, with up to 4 counties for Damingshan ([Annex 5.1](#)).

Karst areas in the component. The candidate nature reserves form a remarkable set of karst areas, or of non-karst areas surrounded by karst for Damingshan, Mulun and Mao'ershan. There is high coherence with the location of the second project component.

Tourism in the project area. Two nature reserves, Damingshan and Longshan, are only one to two hours away from Nanning. The Nanning municipality is just preparing a tourism development plan centered on these 2 nature reserves. One nature reserve, Mao'ershan, is on a major national and international tourism area North of Guilin. And overall the region is close to the Guangzhou-Hongkong area. It is therefore not surprising that tourism has started in several nature reserves, and that all nature reserves have further plans to develop tourism.

6.1.2. Land and Resource Uses in and around the Nature Reserves

Population densities and overall pressure on natural resources. Three types of nature reserves can be identified:

- Type A: 1 nature reserves in SW Guangxi. The nature reserves are karst outcrops in otherwise relatively densely populated areas. Resource pressure from agriculture, mainly caused directly or indirectly by sugarcane, is high.
- Type B: 2 nature reserves in central Guangxi. The 2 nature reserves form one large block. Population densities around the nature reserves are rather high, and all types of pressure are increasing and are more and more originating from stakeholders other than village communities in relation to modern economic development

- Type C: 2 nature reserves in N Guangxi. Population densities are low to very low. Elevations are high. Pressure from communities is decreasing due to off-farm migration, or remains relatively low. Tourism development may create new pressure.

Land use in the Southwestern nature reserves. In Longgang nature reserve, farmers have specialized in growing sugarcane on land adjacent to the nature reserve. They buy rice from sugarcane income instead of growing rice. They also grow small quantities of maize and cassava on slopes on the boundaries of the nature reserves, as well as tree crops. The project design team has carried out several investigations to assess resulting pressure on local resources.

Resource pressure from local communities in other nature reserves. Communities in and around other nature reserves mostly maintain small areas of paddy fields. Migration out of the village is prevalent so that population living all year round in the villages has sharply decreased. Most households raise at least one cattle, and at most two or three. Grazing remains widespread, but villages generally have grazing lands managed in rotation. Conversely fuelwood harvest remains an issue. Villagers living within and adjacent to the nature reserves mainly rely on fuelwood harvested from the forest for cooking, heating in the winter and making pig feed. Forest degradation around villages is visible, and the villagers spend a lot of time collecting firewood inside the nature reserve.

Resource pressure from other stakeholders. The nature reserve profiles in [Annex 5.3](#) list all types of impacts identified including those created by stakeholders other than local communities. The identification of trends is however tentative at this stage and these will have to be confirmed. One nature reserve at least has on-going mining inside its boundaries. In some locations, households harvest fuelwood not so much for their own consumption than for sale to the neighboring town. In sugarcane areas, increases in production, which may result in an expansion of pressure on the nature reserve, are mostly decided by the sugarmill. Road development or tourism development are other examples of impacts generated by non-rural stakeholders.

Land tenure and demarcation. Most of the selected nature reserves in the project area were established in the mid-late 1970s or in the early 1980s. There are two contrasted situations in terms of land tenure. The Damingshan, Longshan and Mao'ershan nature reserves were partly transformed from previous State-owned forest farms. Land was and has remained State-owned forest. In other nature reserves, most land used to be the collective forestland or farmland of adjacent villages. However, all nature reserves whether national or provincial, have clear boundaries. Disputes on ownership do occur but appear to be of limited scale, and some settlements in the form of land exchange have already taken place. Longgang, Damingshan, Mulun and Mao'ershan finished boundary survey by working with local related departments in 1990–1997. Longgang and Mulun are more advanced since boundary posts have also been set up.

6.1.3. Poverty in and around the Nature Reserves

Overview. The counties where the proposed nature reserves are located are a mix of nationally-designated poor counties, provincially-designated poor counties, and non-poor counties, with 4 counties in each category. 1 of the 3 counties where Mao'ershan NR is located is non-poor, as well as 2 out of the 4 where Damingshan NR is located. Villages in and around nature reserves tend, even in non-poor counties, to be more isolated, relatively poorer ethnic minority communities that have retained until now more extensive farming practices and may have less access to roads and information. Since access to part of the land resources and living resources of the local communities adjacent to the nature reserve is

restricted by the nature reserve, their income level is lower than that of other nearby communities within a township. Villages around nature reserves generally receive limited support from national programs since local governments tend to avoid investing in localities where economic development might generate negative impact on the nature reserve. In poor counties, villages listed as poor often receive limited support from poverty reduction programs. However the villages show a wide range of well-being. One village adjacent to the Longshan NR is a wealthy small valley that specializes in star anise and community-based tourism. This range of income levels remains to be fully identified. The standard of living of the Miao ethnic communities around Mao'ershan that are specializing in bamboo and tourism is for example unclear.

6.2. Component Stakeholders

Stakeholders and co-management. China has adopted a co-management approach in its national protected areas that has created a new stakeholder framework in and around the nature reserves. The analysis of the stakeholder framework was made through visits to natural villages in and around the 7 nature reserves as well as interviews with nature reserve management and with other local stakeholders. Social assessment findings are summarized in Table 4, and further comments, especially on stakeholders in the co-management process, follow. The table confirms that many categories of stakeholders are involved.

6.2.1. Primary Stakeholders

6.2.1.1. Households and Villages Inside and Adjacent to the Nature Reserve

Participation in co-management. Communities and households are recognized as stakeholders in the co-management process. They are the ones who will impact natural resources if management regimes are not designed or implemented well, and they are the ones who will benefit from improved co-management. As in the other components, natural villages tend to be stronger than elsewhere in China and administrative villages weaker. The social assessment was carried out directly with natural villages.

Access to training. Villagers in and around nature reserves currently have very limited opportunities to access technical training, except for the few individuals who are hired as forest guards in some of the nature reserves. Some nature reserves however have started to offer training courses in forestry to nearby villages. The status of environmental education programs in communities surrounding nature reserves ranges from non-existent, or limited to fire prevention in some nature reserves for example in Damingshan NR, to a more advanced set of activities for example in Mao'ershan NR.

Gender. When households still rely on fuelwood for their energy needs, fuelwood collection for subsistence is a heavy workload for women. A project activity reducing fuelwood collection would have a clear positive impact on them. A less-often analyzed question is how men differ from women in the threat that local livelihoods create on nature reserves. In one village in Damingshan, men sell fuelwood to the nearby town. The nature reserve offers employment in its star anise plantations but these jobs are mostly taken by women and villagers said that this will therefore not reduce the pressure on fuelwood. Understanding

better these roles is important to find out appropriate solutions. It may also be noted that all or most nature reserve staff members are men.

Table 4. Stakeholders in the nature reserve management component.

Relative Stakeholders		Functions played in project	Expected Project's Social Impacts	
			Positive impact	Negative impact
A. Direct beneficiaries				
C O M M U N I T Y	Village cadres	Guiding project implementation, preparing forest management regulations and supervising them.	Self-determination rights guaranteed. Households' economic conditions and livelihoods improved.	Responsibility and workload enhanced.
	Households	Project implementer and beneficiary.	Conditions of production and livelihood improved. Animal husbandry developed. Fuelwood and timber for house building available. New skills. Potential participation in tourism.	Some elements in traditional culture may be lost and traditional uses of forest may be changed. Damage by wild animals may increase.
	Village committee	Project implementer and beneficiary.	Community developed and local forests protected.	Responsibility and workload for project management and forest tending enhanced.
R E S E R V E	Forest guards	Project implementer and beneficiary.	Their capacity and skills will be raised.	Heavier workload and responsibility will be imposed.
	Protection station /points	Project implementer, supervisor and beneficiary.	Their capacity will be raised. The conflicts between nature reserve and local communities may be mitigated.	Heavier workload and liabilities for protection will be imposed. Experience for community work may be insufficient.
	Nature reserve management	Project implementer, supervisor and beneficiary.	Their capacity will be raised. The conflicts between nature reserve and local community may be mitigated, and protection tasks will be fulfilled.	Heavier workload. Will have to address issue of how to obtain staff and funds for the project, and how to set up a systematic mechanism for co-management.
B. Indirect beneficiaries				
Township Forest Station		Supporter/provider of technology for the project.	Their capacity will be raised. Their task of local forest protection will be better fulfilled.	Increased workload. Will have to address issue of how to set up a systematic mechanism for co-management.

County/township agricultural extension stations	Supporter/provider of technology for the project.	Increased practical training in crop production and disease prevention. Their task of promoting grain crops might reduce.	Heavier workload. Will have to address the issue of how households can afford service supplied, and how to increase demand for services.
County/township veterinary and livestock station	Supporter/provider of technology for the project.	Preventing and treating animal diseases, extending skills in forage development.	Heavier workload. Will have to address the issue of how households can afford service supplied, and how to increase demand for services
County/township government	Project coordination.	Speed up elimination of local poverty and fulfill local forest resource protection task.	Less opportunity for extraction of local resources, for intensive production (e.g. sugarcane in SW Guangxi), and problem of funds shortage.
County poverty reduction offices	Participation in the project.	Speed up elimination of local poverty.	Will need to overcome past approach to avoid working in nature reserve villages.
Departments for resource protection at higher levels.	Project coordination.	Fulfill task of protection forest resources and wild animals.	Heavier workload. Will have to address issue of how to obtain staff and funds for the project.
Departments of tourism management	Participation in project.	To test various development modes for tourism in nature reserves.	Will face the challenge of ensuring protection of nature reserves and avoiding negative environmental impact
Tourists and visitors	Benefit from services and landscapes	Will provide local income opportunities	Will create a challenge to spread benefits and to avoid environmental damage
External scientific research organizations	Provide technical support.	To enhance community capacity.	Will face the issue of identifying local appropriate technology and to use participatory approaches.
External technical assistance organizations	Provide funds and technical support.	GEF: to protect global biodiversity & to demonstrate innovative approaches in biodiversity conservation. Other donors & NGOs: to reduce poverty together with sustainable resource management.	Will face the issue of sustainable management of local resources after completion of the project.

6.2.1.2. Nature Reserve Management and Staff

Management. Nature reserve managers have various professional backgrounds. While many are foresters, others have expertise in legal issues for instance. The social assessment has found that managers in all nature reserves had positive to highly positive attitudes towards co-management. They have however uneven actual experience of it.

Managers in national nature reserves, unlike managers from provincial nature reserves, have frequent opportunities to take part in national meetings. Through these meetings they are exposed to up-to-date management methods. However nature reserve managers appear to have fewer opportunities to meet among themselves within Guangxi to discuss practical management matters.

Ordinary staff. Ordinary staff in nature reserves can have harsh living and working conditions inside nature reserves, for example in Damingshan. Where this is the case, nature reserve staff may have a lower education background.

6.2.1.3. County and Township Governments

Participation in co-management. In the early days of co-management in nature reserves in China, the concept was mostly understood as nature reserve staff working directly in a small number of adjacent communities to learn how to resolve conflicts on resource access rights through technical and financial support in livelihood improvements. It now appears that the concept is in the process of evolving substantially. Nature reserve managers are increasingly in contact with the local township and county governments. Stakeholder committees between local stakeholders or between counties are already in place in 2 nature reserves. County and township governments have therefore become co-management stakeholders. This is an important change compared to the recent past.

Remaining issues. Much improvement remains to be made. In some nature reserves, the agencies are already involved in co-financing schemes. In others, contacts are limited to joint planning of local development activities and joint training. In some localities, coordination at that stage appears to be limited to joint fire prevention. While in others yet, the past situation in which local governments did not plan any local development projects in villages nearby nature reserves appears to remain prevailing.

6.3. Analysis of Risks and Opportunities

6.3.1. Risks of Negative Impact

Strengthened nature reserve management. Villagers living close to the nature reserves retain strong reliance on resources within the nature reserve. This brings pressure on the protection of the nature reserve. But the establishment or improved management of the nature reserve will also bring new pressure on villager livelihoods unless sustainable management regimes and alternative income sources are developed. Stopping encroachment activities will create a range of localized impact on rural communities. These impacts are listed in the nature reserve profiles. Impact might be substantial around the 3 Southwest nature reserves depending on the conservation options that will be selected.

Wildlife damage. Wild animals living inside the nature reserves often go beyond the designated nature reserve boundaries. With improved nature reserve management, there is a risk that wildlife damage will increase. There is at present no compensation measure for damage to the crops and for people injured by wild animals. If the issue is not solved, households might turn to illegal hunting. But there might be no viable financial compensation measure to the increasing wildlife damage to farmer crops.

Tourism and other economic development. Economic benefits from the development of tourism, water conservation or electricity generation, as well as the environmental benefits from soil and water conservation are not properly allocated to the individuals or collectives that protect the above benefits or bear losses for protecting the resources. The project might fail to address this complex issue. Tourism development is a mixed picture that shows some potential for sharing benefits. In Longshan and Mao'ershan, tourism development is partly household-based, even if benefits tend to be limited within a village to a small number of households with higher capacity. In other nature reserves, tourism development, from plans to practice, is fully under the nature reserve. Should this situation continue while tourism development actually takes off, conflict between nature reserve management and adjacent communities might arise.

Lack of co-management approach. The current government program has not made specific arrangements to finance activities within communities adjacent to the nature reserve. Nature reserves, despite the progress that has been made, still have limited awareness about social and economic development needs in their adjacent areas. Local development programs might continue to avoid targeting communities within and around nature reserves. If this problem cannot be solved and if some concrete activities with the communities do not start during the initial stage of the project that is focused on capacity building of the nature reserve, the component will lose the support of adjacent communities.

Conflicts with nearby communities. Due to development of the market economy, economic activities around the nature reserves are increasing with the development of tourism, roads, hydropower or commercial plantations. Contradictory interests between the nature reserve and other stakeholders will increase. In the nature reserves with higher population densities and rapid economic development, balance between local development and nature reserve conservation will become increasingly difficult. For example, construction projects in areas close to the nature reserves including roads, irrigation or electricity power lines have to bypass the nature reserves and this generates higher costs. In the development of cash crops or animal raising, environmentally-friendly agricultural technology might not be used or might not even be locally available. The project might fail to address those complex issues.

Ethnic minority cultures. Implementation of the component will give local villagers more contacts with outsiders. Local minorities' traditional culture and customs might be affected (see [section 7](#)).

6.3.3. Opportunities for Positive Impact

Co-management in nature reserve management. Community co-management by nature reserve management and adjacent villages is an unavoidable choice for the management of nature reserves in China. By establishing co-management committees in which the community acts as an important decision-maker and through setting up effective community forest management patterns and plans, the community's rights can be ensured and guaranteed. These rights relate not only to accessing economic development opportunities, but also to various issues including ownership of resources, right of participating in the administration, right to access new knowledge and right to preserve indigenous knowledge.

New approach to co-management. Attitudes of nature reserve staff towards co-management have already improved. There is scope for developing a more participatory and problem-solving approach to co-management. This work has started during preparation: the PMO has already held a seminar about community co-management, during which each nature reserve introduced their experience in this field. The following elements should be considered in this new approach:

- Co-ordination with local governments and administrative villages should be a starting point in the co-management process. Co-ordination would not only be useful in solving specific issues, but also for joint planning and for co-financing.
- Nature reserves should not only address problems linked to local rural households but also those linked to other resource users, especially in roads, tourism and mining.
- A focus on a small number of 'demonstration' communities should be avoided. Instead, activities should be mainstreamed through local governments.
- Building a "co-management" section inside the nature reserve office may not be useful. Instead, nature reserve managers should work with stakeholders of an equal footing (county heads for national nature reserves) while technical NR staff should work with townships and villages.
- Financial support should not come as a reward after a long community planning process, but should instead be provided as early as possible as a means to solve practical problems that tend to perpetuate encroachment by communities in the nature reserve.
- Co-management schemes should also be a venue to encourage adjacent communities to try new species or activities, to provide technical training to help them use resources in a sustainable manner, and to provide environmental awareness education.
- Providing technical support to help farmers adjust their land use systems is not a simple matter. Nature reserve staff should not be asked to play the role of extension agents. Instead, they should work with local agricultural and livestock extension, as well as forestry stations, to jointly identify environmentally-friendly solutions.
- Counties around nature reserves have existing plans, and key poor villages each have prepared a 2000-2010 poverty reduction development plan. There is no need to use PRA to further identify livelihood options in these villages. Instead, there is a need to coordinate with related stakeholders to single out activities in these plans that have positive impact (e.g. energy saving, small-scale animal raising) or negative impact (e.g. potentially sugarcane, large-scale livestock farms) on the nature reserve, and consequently to support or adjust them.

Appropriate technology. Local county bureaus often do not have access to technical packages adapted to the small-scale, environmentally-friendly agriculture that is appropriate for villages nearby nature reserves. In national nature reserves, nature reserve managers might be in a better position to invite outside experts to provide technical support, or to identify sources of agricultural inputs. During the social assessment, the following opportunities for appropriate technology/practices in the project's nature reserves were discussed:

- Practical solutions to wildlife damage. Crop substitution (avoiding maize); trenches and hedges in selected locations; community-based watching.
- Alternatives to unsustainable fuelwood collection inside nature reserve. In addition to the on-going biogas pit program, solutions include (1) woodlots, (2) sustainable harvest regimes in secondary forests and (3) fuelsaving stoves. These alternative solutions are appropriate to areas with lower population densities. Attention to the preferences of ethnic groups is required. Many prefer a stove in main room that serves as family gathering place, not a stove in the kitchen. Woodlots species to be tested include *Cassia siamea* (tiedaomu, available from Xishuangbanna in Yunnan for low elevations) and other coppicing hardwoods at higher elevations.
- Reduced agrochemical use. Organic farming is an appropriate option worth considering for all perennial crops around nature reserves, e.g. tea. Organic farming is however likely to remain localized. There is a wide range of appropriate agricultural technology that also allows lower levels of chemical inputs. Examples include (1) encouraging farmers to continue to raise animals and apply animal manure on their crops; (2) avoiding burning crop residues to conserve organic matter; (3)

discouraging excessive pesticide spraying and nitrogen fertilizer use; (4) avoiding intensive maize cultivation except where essential to subsistence; (5) collecting used pesticide bottles and plastic mulch after use; and (6) encouraging continued practice of the traditional agroforestry systems of the Guangxi karst region, for example interplanting neem trees with crops.

Comprehensive management and development strategy. There is scope for a comprehensive management and development strategy in each nature reserve that would overall create a positive social and economic impact on communities inside and adjacent to nature reserves while being beneficial to the conservation of biodiversity, other natural resources and landscapes within the nature reserve. Such a strategy in the karst nature reserves in Guangxi is likely to include, to various degrees in each nature reserve:

- (a) building on the cultural values of indigenous people towards the environment,
- (b) careful tourism development based on historical heritage and cultural landscapes, and
- (c) income generation using local skills.

Ethnic minority cultures. There is scope for fully integrating ethnic minority cultures in the protection of the nature reserve resources (see section 7).

6.4. Recommendations for Project Design

A participatory process needs to be designed to embed a “co-management” approach into project implementation. Overall, as highlighted in the above section (6.3.3.), the “co-management” approach under this project means to promote participatory nature reserve management planning and practice, based on the national principle of co-management currently applying to most protected areas. It focuses on strengthening local community relationship to the nature reserve management, while mainstreaming community development through local governments. Cooperations of all the stakeholders in the participatory process are emphasized. Just as in the other components, a step-by-step participatory process has potential to ease coordination with communities and other stakeholders. This process should not be separate from the nature reserve management planning. The use of PRA in previous projects in pilot communities was a valid option at that time. It was a hands-on training tool to help NR staff change their attitudes towards communities and it helped prepare practical co-management contracts and sustainable fuelwood harvest regimes. In this project, the participatory approach should be broader and integrated into nature reserve management. It should cover all communities that are strongly linked to the nature reserve, either because they generate impact, or because they can help control impact caused by outsiders. It should work both at community and local government levels. PRA should be a tool, not an activity in itself. Its purpose should be to solve practical nature reserve management tasks, not to identify livelihood improvement options. The participatory process should start during the initial surveys, and continue implementation, including in environmental education activities. The participatory approach to wildlife monitoring proposed by the project is also an important part in the process. The participatory process should be prepared during the next stages of project preparation and be in place prior to the launch of the initial surveys.

Should any expansion of nature reserves occur, land use rights must be clarified and any transfer to the nature reserve should be fairly compensated. This issue has not identified in the immediate period to the nature reserves, but could occur in case during the life of the project. Ownership of resources such as collective land and forest should be fully respected. Acquisition should open rights to appropriate compensation. In areas where there is more collective land and more conflicts, a system of sustainable use and management of resources based on respecting the existing land tenure should be established. Should any relocation of communities living in the experimental zones be prepared, a resettlement plan will be required, and its preparation should lead to question the validity of the relocation option.

Tourism should be developed in a cautious, innovative manner. “Eco-tourism” in the nature reserves should observe related policies, laws, rules and regulations from an environmental point of view. In addition, tourism development in the nature reserve should offer more opportunities for local communities to participate and gain income. At the same time, these opportunities should fully respect local cultures. Nature reserve management should cooperate with the Nationality Bureau and the Women’s Union to help communities protect their culture when tourism is developed, as well as to identify means, should they wish to do so, to make traditional knowledge an asset for tourism development. Tourism development in ethnic minority areas is altogether a complex issue that deserves being made be a focus area for all nature reserves in the project.

Karst rehabilitation and tourism development should be coordinated between nature reserves and with the karst rehabilitation subcomponent. The nature reserves have karst topography with “mountains rising straight up like woods” inside or around their territory. Karst landscapes have potential for tourism development as well as other industries. Systematic exchanges in technical and management matters should be organized between nature reserves and the karst rehabilitation subcomponent.

6.5. Monitoring

Project implementation monitoring. In line with the other components, a simple reporting system showing administrative villages, villages and households participating in the project should be put in place. Administrative villages should be actors in this monitoring system. They should report information to the nature reserve. They should receive in turn copies of monitoring data assembled by the nature reserves, and post information regarding support received by the project and actual beneficiaries.

Social impact risk monitoring. External risk monitoring will be required. This will be detailed in the EMDP.

7. Ethnic Minorities in the Project

7.1. Ethnic Minority People in the Project Area

7.1.1. Definition of Indigenous Peoples

Nationalities in Guangxi. Guangxi is in itself an autonomous province-level region. Guangxi has ethnic minority people from 54 different ethnic group totaling 18 Million people, i.e., 38% of Guangxi's population. The Zhuang account for 86% of ethnic minority people and 33% of Guangxi's population. Guangxi is a Zhuang Autonomous Region established on March 5th, 1958. 11 groups are recognized as native nationalities: the Zhuang, Yao, Miao, Dong, Mulao, Maonan, Jing, Yi, Shui, Gelao and Hui. The other 42 are non-native minorities with a total population of less than 20,000, i.e., only 0.04% of total population in Guangxi, and less than 5% of the minority population. The native nationalities constitute the vast majority of ethnic minority people in Guangxi (see population data in [Annex 6.1](#)).

Indigenous peoples in Guangxi. The Hui are mostly distributed in urban areas. Many of the Jin (the ethnic Vietnamese) came from Vietnam during the end-1970s. Several State forest farms, for example Gaofeng, welcomed significant numbers of Jin refugees at that time, which is incidentally of interest to the project. The analysis focuses on the 9 rural ethnic groups that can be defined as indigenous peoples under the World Bank's safeguard policies. These 9 groups can be further grouped into 5 categories as follows:

- The Zhuang, who are often a local majority (including the Buyi who are a group very close to the Zhuang). They are distributed in more than 60 counties (cities).
- The Yao and the Miao are close to 2 Million people in Guangxi, many of them living in the project counties. They live both in the Zhuang and the Han areas, generally at elevations higher than 500-800 meters a.s.l..
- The Maonan, Dong and Mulao are other groups from the same linguistic group as the Zhuang. Their overall numbers are very small and they are mostly or fully distributed in North Guangxi in the project area. They tend to live in more hilly areas with less land than in the Zhuang areas.
- The Shui and Gelao are also very small groups from the same linguistic group as the Zhuang. They are present in North Guangxi but their main location is Guizhou.
- The Yi are less than 10,000 people in Guangxi. Most of them live in the project area in Longlin and Xilin counties in NW Guangxi at elevations around 1400 meters a.s.l. They are very close to the Yi of the Liangshan mountains of Sichuan.

Ethnic minority people in the project area. Population by ethnic group and by county is provided in [Annex 6.3](#). The data confirms the diversity of the project area. The percentage of ethnic minority people ranges from 0% in Cengxi County to 99% in Tiandeng in the plantation component counties, and from 4% in Xing'an (Mao'ershan) to 95% in Longzhou (Longgang) for the nature reserves component ([Map 3](#)). The percentage of Zhuang people is higher than provincial average, 33%, in only half of the plantation counties. Conversely, it is likely that, when the townships selected will be known, the participation of townships with high percentages of vulnerable groups will be confirmed. The added percentage of Miao and Yao people is more than 4% in half of the plantation counties and in 4 nature reserve counties. Altogether, the 3 vulnerable groups (Miao, Yao and Yi) account for up to 26% of county population in NW Guangxi and 21% in NE Guangxi. Percentages of ethnic minority people around nature reserves tend to be much higher, 90% in the villages visited. Among the two counties selected for the carbon fund, one, Cangwu, is fully Han, the other,

Huanjiang, is an ethnic minority autonomous county where ethnic minority people account for 92% of the population.

Autonomous administrative units in the project area. Counties with more than 1/3 of population from a given ethnic group, other than the Zhuang or Han in Guangxi, can legally be established as an autonomous county for this ethnic group. If the population of several minorities except the Zhuang is above one fourth of the population of a county, then this county can be established as an autonomous county for several minorities. There are 12 national autonomous counties in Guangxi, and an additional three counties (Ziyuan, Xilin and Lingyun County) enjoying the treatment of national autonomous counties. Six autonomous counties are Yao autonomous counties. In order to protect the rights of scattered minorities, the Chinese government also stipulates that in autonomous regions if the population of an ethnic group (except the Zhuang for Guangxi) is up to one third of the population of a township, then this township can be established as nationality township for this group. There are 63 nationality townships, among which there are 60 national autonomous townships of Yao and Miao minorities. Details are in [Annex 6.2](#) and [Map 2](#). By the time the social assessment was completed, the selection of project townships was not available but it is likely that the project will include a number of nationality townships.

7.1.2. Gap with the Mainstream Society

Overview. Ethnic minority people in Guangxi are in large numbers and the Chinese legal framework offers a comprehensive protection system that is well in place. Guangxi has 62 nationality primary schools, 47 nationality middle schools and nationality vocational schools, and 3 nationality colleges and universities. The signboards of organizations are written in both Chinese and minority languages. At county level there are civil, traditional minority medical organizations. There is one nationality medical college in Youjiang. In communities inhabited by several ethnic groups, intermarriage across groups is common, which indicates that the relationship between the local nationalities is harmonious and that living standards are relatively similar. The language gap between minority ethnic groups and the Han Chinese is present but is overall assessed as low in the project area. Most of the young minority people in Guangxi go to work outside far away from their home, which shows that minority cultures are gradually getting close to the mainstream of the society due to external development impact. However, ethnic minority groups overall remain a vulnerable group, and one half of the project area is focused on them. 50% of population in autonomous counties is ethnic minority people but poverty incidence among ethnic minority people is 80%. Average incomes in Luocheng and Lingyun Counties are only slightly above CNY 1000 per capita per year, among the lowest county average in Guangxi. The Ethnic Minority Development Plan will provide detailed information for each indigenous group.

Land use. Agricultural production patterns of all ethnic groups tend to be similar when they are in the same environments, but there are strong differences in the natural environments where the groups live. The Zhuang mostly live in karst hills with larger areas of flat land, and in lowlands and valleys suitable for paddy fields, so that they can grow rice and economic crops such as sugarcane and cassava. The Miao and Yao mostly undertake farming (and traditionally hunting) in upland areas and generally have little access to paddy fields (except in their old areas of settlement such as Rongshui and Longsheng, both in the project area, where they have maintained large paddy terrace systems). The Miao and Yao have rich traditional practices in forestry, for example in planting Chinese fir. The Yi live in the cold, high mountain; upland crops and goat grazing are important activities as in their other areas of settlement in Sichuan. The small groups ethnically close to the Zhuang generally have paddy fields. Each of these small groups is known for being “good at” growing specific crops

or raising specific animals, e.g. cattle and pigs for the Maonan in Huanjiang County.

Groups with higher vulnerability in the project area. The Miao, Yao and Yi are groups that remain today markedly more vulnerable. The Yao account for around ¾ of total population for these 3 groups in Guangxi. Communities with higher vulnerability live in karst mountains with very little soil (these are mostly Yao people) and at high elevations (these are Miao and Yao in the Jiuwandashan mountains in N Guangxi, and Yi in NW Guangxi). The Yao in the karst typically live in infertile natural villages in mixed Zhuang-Yao villages. Large numbers of Yao people have been resettled from the extremely poor Dahua and Du'an counties to other counties where they have settled in natural villages often away from the road. This is the case in several project villages in Huanjiang County. There are equally vulnerable groups among the Zhuang who live in infertile karst sections. The distribution of vulnerable ethnic minority communities in the project can be summarized as follows:

- The karst rehabilitation subcomponent will be located in an area that has many vulnerable communities, often from the Yao and Zhuang groups; these communities will take part in the project depending on the targeting choices that will be made (Map 4).
- The nature reserve management component will also include disadvantaged Zhuang, Yao and Miao communities, and 2 of the very small groups endemic to Guangxi, the Dong and the Maonan.
- The timber plantation establishment component, the ecological forest subcomponent and the carbon fund subcomponent will not be targeting vulnerable communities. However the first two are expected to include a number communities living at higher elevation, above elevations suitable for fast-growing species, often of the Miao, Yao or Yi groups. In the timber establishment subcomponent, the vast majority of seasonal workers will be from vulnerable communities from karst regions in Guangxi, but also from neighboring Guizhou, and from local poor villages. A large number of them may be Yao people.

7.1.3. Community Organizations

Natural versus administrative villages. All indigenous people communities in Guangxi have retained strong community organizations. As mentioned above natural villages often tend to be strong relative to administrative villages, although various situations have been observed. Village rules and regulations are nowadays handled by administrative village committees but natural villages have retained traditional leaders that may play an important role alongside the village head.

7.2. Outcomes of Community Consultation

Guangxi has already taken part in several World-Bank funded fast-growing forestry plantation projects. Local ethnic minority commissions are strong agencies. This provides a good foundation for the participation of ethnic minorities in the project. The social assessment has had a satisfactory focus on ethnic minority people. At least one community from each of the 9 indigenous groups identified was surveyed (except the Yi since the social assessment team did not visit NW Guangxi, but the team is very familiar with the Yi group in other provinces).

7.2.1. Plantation Establishment Component

7.2.1.1. Participation in Current Component Design

Direct participation. Equal opportunity for ethnic minorities to participate in the project has been outlined as a principle in the project's information leaflet (in continuation with the previous WB forestry project). Ethnic minority people will therefore have equal rights compared to the Han to apply to the component. However a large proportion of ethnic minority people face objective difficulties including lack of capital, lack of access to new technology and information, and they may live in areas that are too remote from the main road to establish viable plantations. Only a small number of better-off households are therefore expected to apply for individual loans to undertake a plantation themselves in ethnic minority areas, in contrast to Han areas.

Indirect participation. Most ethnic minority households are expected to participate in the component by means of bringing their individual or collective land into contracts with enterprises or forest farms, and providing seasonal unskilled labor. In fact, the plantation sites themselves are expected to be often selected from ethnic minority communities with large areas of waste hill. Huanjiang County in N Guangxi or Xilin in NW Guangxi are good examples. Contracts between natural ethnic minority village collectives, which still own and manage most of the sloped land, and companies or forest farms are expected to be an important type of production arrangement. Ethnic minority communities in the project area already have experience of such contracts, but the project is expected to speed up these contractual relationships, and to increase the participation of larger-scale enterprises in these contracts. In a sense, this increases the opportunity for the project to contribute to poverty reduction in ethnic minority areas. In another sense, this confirms the need to take into account the risks of commercial forestry for such communities.

7.2.1.2. Results of Consultation

Regional contrast. Participation is expected to differ from place to place due to contrasted economic development levels. In East Guangxi where the economy is fairly developed, farmers have diversified opportunities to gain income, and they take a wait-and-see attitude towards the component. They indicated however that they are quite concerned with the selection of species, the loan criteria, and benefit sharing in the contracts. In comparison, in the impoverished mountain areas of West Guangxi, the ethnic minority communities surveyed have shown great enthusiasm for the component and consider it a rare opportunity for development. They have the potential to actively participate in the component. These are the communities where meeting rooms during social assessment village meetings were overcrowded.

Main findings. The assessment results indicate that while ethnic minority people are welcoming the component, they are concerned about problems such as loans, repayment, benefits, risks, adaptability of the tree species, fair participation in the component, and capacity to access marketing opportunities and logging quotas. They are also concerned about the component's capacity to help improving transportation and water supply.

Production arrangements. The "company + household" production arrangements seem feasible to the communities consulted, but it is outlined that the sharing of costs and benefits is not clearly stipulated. Another issue raised is that, unless the benefit sharing system is designed properly, the plantations might intensify differentiation between the rich and the poor within the community, and poorer households will be hurt.

Waged workers. People interviewed said they were unsure about wage levels, but requested a minimum of CNY 15-20 per day. They stated that they did not mind about the job, and women indicated that they were used to hard labor. These jobs are seen as an opportunity to gain cash income with low risks. Households interviewed also said that they agreed, except for better-off households, to contribute their land to a timber plantation and then work as waged labor on this land. This is particularly true of the Yao people who have preserved their identity of tree growers.

Selection of tree species and participation of remote villages. The ethnic minority communities consulted have great enthusiasm to participate in the component and at the same time they worry that they will be kept away from the component due to their lack of capital and their location in remote areas. They have indicated preference for native species with short rotation and rapid benefit, for which they have experience. These include timber species (Liquidambar, Zenia insignis, Melia azedarach, Masson pine and Chinese fir), bamboo, and tree crops (star anise, oil tea, peach, plum, and tung). In other words, eucalypt was often not ranked as a priority species.

Loan access and repayment. Ethnic minority people expressed special concerns about the risks of a loan project, including risks of natural disaster, fire and unlawful chopping. Based on their previous experiences, they still worry that they will not be allowed to harvest after planting or that the cost for the harvest certificate will too high. The issue of “seeing only the wood, but not the benefit” may again occur. They outline that the allocation of harvesting quotas should be matched with the time when commercial timber plantations become mature. They stated that more logging quotas should be given in priority to ethnic minority regions, and that related costs should be reduced to the greatest extent.

7.2.2. Ecological Forest Management Component

7.2.2.1. Participation in Current Component Design

Karst rehabilitation design. This subcomponent is closely linked to the cultures of Guangxi's ethnic minorities. Guangxi's on-going karst rehabilitation program builds upon initiatives that were often taken by ethnic minority communities themselves, for example Zhuang villages in Tiandong or Pingguo Counties. It is the custom for most minority ethnic groups including the Zhuang in Guangxi to worship and protect the woods in front of, and behind, the village as holy wood and geomantic forest. Most of these protected forests were destroyed during the “Great Leap Forward” and “Learn from Dazhai” campaigns, so that the villagers feel an urgent need to rehabilitate and protect them. In this sense the subcomponent design incorporates the participation of ethnic minority people. Forestry is relevant not only for poverty reduction among ethnic minorities but also for the protection or recovery of traditional social organization and for the transmission and inheritance of their cultures.

Karst rehabilitation implementation. It is understood that only local residents will be eligible to this project activity. The village committee of the minority villages will organize the villagers to undertake forest closure with the technical support of the forestry department. Some individuals will work as forest guards.

Carbon fund and ecological forest subcomponents. The carbon fund is an innovative, complex activity. The shelterbelt plantation subcomponent is linked to the on-going Pearl River shelterbelt program. The social assessment was undertaken at a time when

information regarding these activities and their detailed content had not started to be disseminated. An information leaflet covering all components and subcomponents was subsequently disseminated.

Carbon fund implementation. It is understood that one option remains to be selected in project design between managing the activity as a contract between community and enterprise, or a more complex scheme with households accessing directly the loan. Ethnic minority households are unlikely to access such a scheme in Huanjiang County.

Ecological plantation implementation. It is understood that one option remains to be selected in project design between a community forestry project which would be very similar to the karst rehabilitation subcomponent in terms of participation of ethnic minority communities, and an upper watershed protection project, which is likely to be more directly managed by local forestry bureaus. In Zhuang communities, the first option would require location of the plantation in areas relatively close to houses since communities tend to manage more remote land in a very extensive manner.

7.2.2.2. Results of Consultation

Karst rehabilitation. Ethnic minority villagers said that forest closure would impact their collection of firewood and non-timber forest products and also on grazing of cattle, but without forest closure soil erosion will intensify, the environment will further deteriorate and finally affect the survival of the future generation. Protecting their own water sources is seen as an urgent problem. Aware of the urgency of improved environmental management, some villages applied to the county water and electricity department for the Pearl River basin management project as early as 2001 (and others started hill closure much before that).

Overall ecological forest management. The survey results of the social assessment indicate that ethnic minority households think they cannot gain short-term economic benefit from watershed management, but that there is long-term benefit. They also worry about the problem of future surplus labor. Some have outlined that ethnic minority people in the water and soil conservation areas should be fairly compensated by the adjacent cities for their losses due to protection of water source and the ecosystem.

Carbon fund. Interviews carried out in one Zhuang village indicate that participating communities would expect to receive timely payments, and if possible early payments before timber harvest, just as in the case of an ordinary timber plantation.

7.2.3. Nature Reserve Management Component

7.2.3.1. Participation in Current Component Design

Current status of participation. Ethnic minorities, who account for a large proportion of villagers in many of the villages that surround nature reserves, will be de facto be important participants in the component. The social assessment team visited natural villages inside and adjacent to each of the 7 nature reserves. After the social assessment survey, the information leaflet that also covers this component started to be disseminated. However, the component is designed to start the actual participatory process in nature reserves after project appraisal, during the preparation of nature reserve management plans. Villagers' land use and access to resources are strictly restricted by the nature reserves not only inside

the reserve but also in adjacent communities. Income levels are lower in these communities than those of villagers living in further away from nature reserves. These communities are therefore more likely to benefit from a positive impact of the component, or to face potential negative impact.

Current design for ethnic minority participation. At the time when the social assessment field survey was started, ethnic minority households were going to participate in community co-management activities but details were unclear. After the social assessment was completed, it was confirmed that ethnic minority households will participate, directly and through their local governments, not only in the community activities of the project but also in the whole process of surveying and monitoring wildlife, and in the preparation of the nature reserve management plan.

7.2.3.2. Results of consultation

Issues in living close to nature reserves. The ethnic minority communities adjacent to nature reserves feel that they have become victims in terms of their rights to use land resources in order to protect the ecosystem. At the time when the social assessment was carried out, the component design has no direct arrangement for the participation of these communities. People interviewed also underlined that up to now, there is no reliable and feasible compensation system for damage caused to people and property by wild animals within the nature reserve. It was felt that the nature reserves had insufficient awareness regarding how to lead social development in areas adjacent to the reserves.

Participation in tourism development. The interviews carried out indicated that there was very limited awareness of the potential related to the arrival of tourism in and around the nature reserves in localities where tourism is just starting (Damingshan and Mulun). In contrast, in other nature reserves (Longshan and Mao'ershan), ethnic minority people are either actively involved in tourism development, or said that they were eager to start.

7.3. Risks and Opportunities

7.3.1. Similarities with Overall Project Risks and Opportunities

Risks of negative impact. Since the overall project will largely take place in ethnic minority areas, risks and opportunities identified above for each component are largely similar when looking specifically at ethnic minority communities. Understandably most of the risks identified are expected to be higher for ethnic minority communities, at least for vulnerable communities among them. These higher risk factors especially relate to land tenure and contractual arrangements in the plantations, and to restrictions in resource access and tourism development in the nature reserves and hill closure.

Strengths. Ethnic minority counties also have their own strengths. For example the science and technology system of agriculture and forestry in Guangxi is functioning well. In each county of Guangxi there is a science & technology committee. In townships with a forestry technology section, there is an average 3-5 technicians for each station.

7.3.2. Differences with Overall Project Risks and Opportunities

Road access. Companies or forest farms may be major decision-makers regarding the location of commercial plantations and they may not want to invest into villages away from roads. These communities may be by-passed by the component. Conversely, if a budget is set aside for forest track construction, remote villages could greatly benefit from improved road access. Road construction through forestry companies however has a downside: companies will expect to sign long-term contracts in exchange for this investment.

Ethnic minority cultures and languages. The project creates a mix of risk factors and opportunities in relation to ethnic minority cultures. The project has the opportunity, through its karst rehabilitation and its activities in the nature reserves, to test new approaches on how to combine local knowledge and cultures with sustainable management of natural resources. It even has the opportunity to contribute to reinforcing the identity of local cultures – especially among very small groups such as the Maonan -. However this will be a difficult task. Commercial forestry will interact with ethnic minority cultures, with their traditional landscapes, and with the way they relate to the commercial sector. In terms of languages, proficiency in standard Chinese is good except among older people, but all groups including the Zhuang continue to use mainly their own language in their daily lives. The social assessment concludes that, although the language gap is limited, the project has the opportunity to choose and use local languages. This would be a positive contribution to local cultures, and would not be an issue since many local forestry technicians are speakers of local languages themselves.

Local sites of cultural value. Although no site of high cultural value has been identified, there are local temples, often of simple style, and most villages have a sacred forest. The nature reserve management component has a strong opportunity to combine such identification, for example through a systematic survey, with awareness programs for resource protection and with tourism development. In hill closure too, these areas should be identified and taken advantage of when areas to be protected are zoned.

Community organizations. In the system of “company plus household”, the project has an opportunity to help ethnic minority people make use of their local community traditional organizations, the natural villages, and at the same time to build capacity at administrative village level.

7.4. Recommendations

An Ethnic Minority Development Plan is being developed and should be reviewed by the related stakeholders. Initial contents of the EMDP are as follows:

7.4.1. Principles

- The project will guarantee the rights and benefits of vulnerable groups. This includes local households, ethnic minorities, women and poor households. At the same time, the project will also promote development of ethnic minority people. Commercial forestry development is the major content of the project. The project will avoid providing opportunities through other components and simply mitigating risks inherent to commercial forestry. Instead the project will consider opportunities for ethnic minority development in all components and subcomponents.
- Participation in plantation or ecological forest management design, information and capacity building will be all the more important in ethnic minority communities. This ranges from technical aspects such as tree species to contracting and management aspects.
- Specific mechanisms to reduce potential risks are needed in land tenure and contracts for the plantations, in restrictions to resource access and in tourism development in the nature reserves and hill closure.

7.4.2. Capacity Building and Training Activities

The Ethnic Minority Development Plan will ensure that ethnic minority people access specific capacity building and training activities in areas where they have special needs in each of the 3 components. Training methods incorporating the use of local languages and attention to ethnic minority cultures will be identified. The important role of modern media will be taken into account.

7.4.3. External Monitoring

The EMDP will include a specific monitoring plan for the above risks identified in the various project components and assessed to be higher for ethnic minority communities. External monitoring will be required. The EMDP will specify general terms of reference for the external monitoring, and a schedule for monitoring activities.

Guangxi Integrated Forestry Development and Conservation Project

Funded by the Global Environmental Facility and the World Bank

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Annex 1. Social Assessment Methodology

1.1. Social Assessment Steps

Time & Place	Contents	Purpose	Participants
8-9/01/2005 Nanning	Training course (financed by the World Bank) on Participatory Approach (lecture, theory, methodology, actual cases) and on-site study including practical operation of PRA in the suburbs of Nanning.	To provide trainees an initial understanding of participatory approaches and its use in the project; to inform them about the purpose and importance of the social assessment; to help trainees master basic PRA tools for collection of information; to make trainees able to pass their knowledge over to other persons. With a focus on ethnic minority aspects.	Lectures were given by the national SA consultants (sociologist, ethnologist & forestry expert). Trainees were staff from forestry bureaus in the 33 project counties, the 11 State forest farms, the 5 nature reserves and the Guangxi Institute of Forestry. 130 persons in total attended the training course.
12-31/01/2005 28 administrative villages in 9 counties 16 natural villages in 5 nature reserves and adjacent areas. and 2 forest farms (Gaofeng & Huangmian)	3 social assessment teams of 4 persons each visited separately (a) villages, (b) nature reserves, and (c) forest farms and companies to carry out survey and interviews	To investigate the local socio-economical conditions and the production and livelihood of local inhabitants.	National consultants and PMO
01/02/2005 Nanning	Social assessment workshop called by the social assessment team and coordinated by PMO.	To present objectives and approach of the social assessment; to present preliminary findings and recommendations; to collect feedback and suggestions regarding the social assessment from staff from various government offices.	33 participants from Guangxi Development and Reform Commission, Finance Bureau, Poverty Alleviation and Development Office, Women's Union, Ethnic Affairs Commission, Gaofeng Group, Design Institute of Forestry and Scientific Research Institute for Environmental Protection. Mr. Farzad Dadgari, EIA consultant, also took part in the workshop.
Early January of 2005, in 33	Social assessment training	To ensure that trainees to have an	County PMOs at county level, township

project counties.	was provided to county forestry bureaus staff in candidate counties	operational understanding of the social assessment.	governments and township forestry stations.
From early Jan. to end of Feb. 2005 in 33 project counties (except 4 counties directly visited by national consultants).	Information dissemination and village meetings held by county PMOs and township governments. Field visits in 4 administrative villages in each county. Questionnaire survey with village and with 10-15 households in each village.	To survey village population, labor, production and livelihood situation, infrastructures, land use and land tenure, poverty, gender, education, migration for off-farm work, and to ask about understanding and opinions concerning the project.	Members of social assessment team for community forestry appraisal at county level, who were trained in courses mentioned above.
March 2005	Draft reports		1 overall social assessment report 1 ethnic minorities report 1 enterprise report 1 nature reserves report
April 2005 2 counties, 2 nature reserves, 1 forest farm	Additional stakeholder interviews	To finalize social assessment identification of risks and opportunities To present draft recommendations for project design to World Bank team	National consultants and international consultant
May 2005	Finalization of project information leaflet and project application forms	To provide full information and to ensure broad application process	Social assessment team leader and PMO
June 2005	Final social assessment reports	To present final findings and recommendations to project design team	1 overall social assessment report 1 ethnic minorities summary report 1 enterprise ownership note 1 nature reserves report with profiles
July 2005 (planned)	Preparation of social safeguard documents	To ensure compliance with World Bank social safeguard policies	

1.2. Social Assessment Tools

1.2.1. Participatory Rural Appraisal Tools

Tool	Objective	Process
County workshop	Introduction by county government departments of local context including (a) on-going or completed related projects, (b) poverty status, (c) ethnic minority issues, (d) education and health, (e) agriculture and forestry sectors, and (f) migration. Gathering opinions and suggestion for project design.	A total of 13 county workshops were held Participants: county leaders including the deputy county head in charge of agriculture and forestry, staff forestry bureau, agriculture bureau, poverty reduction office, women's union, planning commission, education bureau, bureau for ethnic affairs. Workshops were also held in each nature reserve with nature reserve management office, and county and township forestry bureaus.
Meeting with village representatives	To provide social assessment teams with a comprehensive and realistic understanding of past and present conditions and existing problems in the community. To learn about local expectations regarding the project.	A total of 48 village meetings were held. Participants: village cadres, villager representatives, township government head in charge of agriculture and forestry, and township forestry station heads. During the meeting, participants were asked to draw resource sketch map, record of key historical events, agricultural calendar, and to rank preferred tree species
Survey questionnaire	To assemble basic data at village and household level regarding socio-economic conditions, forest land use, and preferred tree species. To learn about household expectations from the project, and to facilitate communication between PMO, local government and local communities in the discussion of project design.	"Questionnaire for Basic Condition of Administrative Village" and "Questionnaire for Basic Condition of Native Peasant household" were filled in by village cadres and by households
Resource sketch map	understand resource distribution (wasteland available for afforestation in timber plantation component), resource potential and possible issues.	Resource sketch maps were drawn separately by men and by women during village meeting.
Record of key historical events	To review the important events which significantly impacted the community's production and daily life. To learn attitudes towards those events and impacts	Elder people with good memory were asked to recall important events that happened in the village during the last 50 years.
Agricultural calendar	To understand how households use existing resources (land, labor) in their daily lives and production. To analyze labor division between men and women. To identify any conflict with the	During village meeting.

	proposed project activities.	
Ranking of tree species for plantation.	Tree species preferred by local households will be an important reference when choosing tree species for the project.	During village meeting.
Interviews with village heads	To complement information provided by questionnaire	Semi-structured interviews with village heads in each of the 48 administrative villages, together with filling village questionnaire.
Interviews with households	To complement information provided by questionnaire	Semi-structured interviews with 600 households (10-15 local households in each village selected at random in each village surveyed among including poor, medium and better-off households), together with filling household questionnaire
Direct observation and informal talks	Gain additional information about conditions of agriculture and forestry production, and daily life.	Walk through villages surveyed by walking and informal visits to some households.

1.2.2. Administrative Village Questionnaire

Permanent resident population and labor force

Total household number of the whole village (group): households	Per net income: RMB year	
Total population of the whole village (group): persons	Male: persons	Female: persons
Labor force of the whole village (group): persons	Male: persons	Female: persons
Perennial labor force in the village: persons	Male: persons	Female: persons
Household numbers totally depending on agriculture, forestry and stockbreeding: households	Number of people: persons	
Forestry households operating concurrently: households	Area: mu	Number of people: persons
Household specialized in forest production: households	Area: mu	Number of people: persons
Number of minority nationality of the village (group): households	Nationality: persons	Nationality: households
	Nationality: persons	Nationality: households
	Nationality: persons	Nationality: Households
	Nationality: persons	Nationality: households
Nationality structure of the cadres of the village (group)	Nationality: persons	Nationality: households
	Nationality: persons	Nationality: households
Number of cross-nationality marriages in local village	Nationality and nationality: persons	Nationality and nationality: households
	Nationality and nationality: persons	Nationality and nationality: households

Sideline (year

Numbers of households working outside:	households; including: minority nationality households
Numbers of people working outside:	persons; including: male persons; female persons
Outside workers mainly engaged in:	
Main areas for outside workers to work in:	
Daily wages of the outside workers: minimum	RMB; maximum RMB; average: RMB

Educational situation of the residents (people)

Level of education	Illiterate/ Semi-literate (Adults)	Primary school	Junior high school	Senior high school	Above senior high school	Dis- continue schooling
Male						
Female						
Total						
Males of minority nationality						
Females of minority nationality						
Total of minority nationality						

Land utilization and ownership type

Total land area of the whole village (group): mu				
Area of cultivated land: mu	Rice paddy: mu		Non-irrigated farmland: mu (including cultivated lands on slope: mu Winter crops: mu	
Area of forestland: mu	Collective operation: mu	Privately farmed plots: mu	Land contracted by households: mu	State-owned forest mu
Wasteland: mu	Land contracted by households: mu		Land uncontracted by households: mu	

Infrastructure

Roads	Road at village level	Local road	Roads not opened up
Electricity	Every family has electrified	Some families have electrified	Without electrifying
Clean drinking water	Tap water	Well-water/ spring-water	Unclean water

Situation of poverty

1 Impoverished households: households, accounting % of the total population of the whole village	Characteristics:
2 Medium-level households: households, accounting % of the total population of the whole village	Characteristics:
3 Rich households: households, accounting % of the total population of the whole village	Characteristics:
Minority nationality in 1:	
Minority nationality in 2:	
Minority nationality in 3:	

Gender

Right of use for forestland owned by:	Male	Female	Male and female
People who like to participate in	Male	Female	Male and female

afforesting:			
People who like to participate in technical training	Male	Female	Male and female

General introduction of the village

Is forestry development included in the overall plan of village development? Yes No
 Is livestock development included in overall plan of village development? Yes No
 Has the 10-year poverty alleviation plan of the village been completed? Yes No
 What about the management condition of collective wasteland in your village? How to manage it in the future?
 Are there any forestry enterprises/companies in the village? Yes No How many?
 How do the forestry enterprises/companies run their business?
 Is there any forestry staff still in the locality? Yes No
 Whom does the staff work for?
 How much are the wages of the forestry staff?
 Are there any cultural relic protection sites in your village? Yes No
 Which types do they belong to?
 Have they been protected? Yes No
 Are the surroundings of the Protected areas subject to plantation? Yes No
 Were there any incidents that wildlife caused destroy happened in the village?
 Destroying crops Hurting people Hurting livestock
 Who has more traditional knowledge?

Forestry situation

The present tree plantation area in the village: mu
 The operating model of the present plantation in the village:
 Are the tree seedlings free in the village? Yes No
 The seedlings are from:
 The types of tree seedlings are:
 The quality of tree seedlings is: good common bad
 Who provides the labor force for plantation and tending: Farmers employees exchanging labor
 Is cutting allowed for the forest in the village? Yes No
 Is there any cutting limit? Yes No
 Is there any road in the forest that can be used for transportation? Yes No
 Are there any regulations of forest sideline products gathering, fuel-wood cutting and pasture?
 Was there any forestry project in the village in the past? Yes No
 The past forestry project planted: Economic forest Timber forest Shelter-belt forest
 The problems existed in the past forestry project were: Ownership of land Shortage of labor forces Low income
 Was forestry technical service obtained in the past? Yes No
 If obtained, what were they: Afforestation technology Tending Grafting Disease and pest control other services
 The units supplied technical services were: Forestry division Government at township level Forest companies
 What accidents had taken place in the plantation before?

Converting land for forestry

Present area of converted land for forestry in the village: mu
 Households involved: Households
 Which types of trees are planted in the converted land? Timber forest species Economic forest species
 Is intercropping allowed in converted land? Yes No
 Are farmers allowed to gather forest sideline products after converting the land for forestry? Yes No

World Bank Loan Afforestation

Is there any land suitable for forest in the village? (referring to non-stocked land, scattered woodland, bamboo rehabilitation land and etc.)

Areas: (1) non-stocked land mu; (2) scattered woodland mu; (3) bamboo rehabilitation land mu

Is the forest suitable land liable to scale-operation? Yes No

Are there enough labor forces to participate in afforestation in the village? Yes No

Who should undertake organizing afforestation? Village Committee Farmers Forest farm/forest company

Do you think the fee of the project is reasonable? Yes No

What advantage will be obtained if participating in World Bank Loaned Afforestation Project?

Labor income Timber income other income

Can the poor and the rich or the Han nationality and the minority nationality share the same advantage?

What disadvantages may be caused by the Project? Affecting resource utilization

Influencing national culture and life style

Impact social status of the residents

Which type of households in your village will like to participate in the project?

Impoverished households Medium households Rich households

Would the most impoverished villagers (group) like to participate in the project? Yes No

Would women like to participate in afforesting activities of the project? Yes No

Would women like to participate in other activities of the project? Yes No

Would women like to loan? Yes No

Would minority nationality like to participate in the project? Yes No

How to calculate working days that the farmers think it is reasonable if project loan including investing labor force?

Ecological Forest Management

Which species of the shelter-belt forest are beneficial to increase the incomes of farmers?

As for the species of shelter-belt forest, which one do you like better, indigenous species or exotic species?

Are farmers allowed to gather forest sideline products in the mountain after mountain closure?

Nature reserve

Is there any village in the nature reserve? How many if there is?

How many villages are there surrounding the nature reserve? How far are they from the reserve?

Ownership situation and proportion of forestlands in nature reserve: State-owned forest %, collective forest %private forestland

The situation of the villages of depending on and utilizing the resources in nature serve:

Farmland collective forestland timber for house-building fuel-wood forest sideline products
pasturage water resources

What are the main contradiction and conflict between nature reserve and the surrounding community?

Has your village developed or been going to develop tourism? Yes No

Who will be in charge of the project?

What advantage and disadvantage are for households if developing tourism?

Which type of households will participate in the World Bank Loaned afforestation project?

Is the project involved in relocating migrants? Yes No

How households will move to a different address?

Where to move?

How to compensate?

Is the compensation reasonable?

If not reasonable, how to make it more reasonable?

Will contradiction appear if your village can acquire relocation compensation while others cannot?

Suggestion on improving the project operation

1.2.3. Household Questionnaire

Members of family (number of persons)

Members	Gender	Age	Nationality	Level of education	The main jobs they now engaged in: (such as joining up, village cadre, outmigration)	Who responsible for the great invent of the family
Householder						

Farmland and forestland

Total area of cultivated land: mu	Rice paddy: mu	Unirrigated land: mu (including: cultivated land on slopes: mu)
Forestland: mu	Double-harvest rice: mu	contracted wasteland: mu

Main assets (of living)

Main assets (of production)

Name	With	Without	Name	With	Without
House (area, building date)			Truck		
TV set			Tractor		
Refrigerator			Mini-truck		
Washing machine			Horse, donkey (head)		
Radio/recorder			Cattle (head)		
Telephone/mobile telephone			Motorbike		

(The investigator should fill in the blanks according real situation)

Annual average revenue of the family (2004)

Below RMB 1000	RMB 1000 to 2000	RMB 2000 to 3000
RMB 3000—4000	RMB 4000 to 5000	RMB 5000 to 6000
RMB 9000	RMB 10000	Above RMB 20000 ☐

Family living situation

Whether short of food	Not short of food	Short of foodstuff for 3 months
	Short of food for 6 months	Short of food for 9months
Whether buys chemical fertilizer every year	Whether buys improved seeds every year	
yes no	yes no	

Forestry situation of family

Land converted for forestry: mu	What has been planted on the converted land:
Land of mountain closure: mu	Is forest sideline products gathering allowed after mountain closure? yes no
Timber plantation: mu	The timber species of your family are:
What technical services would you like to obtain: afforestation technology tending grafting disease and pest control weeding	

The collection and uses of forest sideline products

Forest sideline products normally collected	Medicinal materials	Fungus	Fuel-wood	Pasturage
Where to collect the forest sideline products?	State-owned forest	Collective forest	Private forestland	Public hills
Uses of forest sideline products (to mark the choice)	Self-consumption	For sale	Processing	Presenting to family and friends

Energy sources and consumption

Labor force for fuel-wood cutting	Fuel-wood cut by men accounting %of the working days of the whole year			Fuel-wood cut by women accounting %of the working days of the whole year		
Distance of fuel-wood cutting	within 5 km		from 5 km to 10 km		more than 10 km	
Fuel-wood cutting site	Private forestland		Collective forest		State-owned forest	
Annual consumption of fuel-wood (0.5 kg)	Cooking: (0.5 kg)		Warm-making: (0.5kg)		Cooking hogwash: (0.5 kg)	
You cook with:	Triangle stove	Fuel-wood saving stove	Coal	Bio-gas	Liquid gas	Electric furnace/electric rice cooker

Understanding of the World Bank Loan Afforestation Project

Do you know the World Bank Loan Afforestation Project?	Knows nothing	Knows a little	Knows clearly
From where you know the information of the Project?	Government at township/town level	Village committee	Relative and friend
Are you satisfied with the service income from the Project?	Yes	No	
Do you know that the loan for the Project should be reimbursed?	Yes	No	
Do you think apportion of the expense reasonable?	Yes	No	
Would you like to loan directly by yourself?	Yes	No	
What advantage you can acquire after participating in the Project?	Service income	Timber income	Other income
What is your opinion on seedling provision, provided by forestry division or bought by farmers themselves?	Provided by forestry division	Bought by farmers	

Project participation awareness

Should the government solicit farmers' opinions when solving the problems appear in the Project?	Yes	No
Have you applied for the participation in the Project?	Yes	No
Would like to select species for afforestation yourself?	Yes	No
Would you like to select afforestation site yourself?	Yes	No
How many pieces of land would you like to plant on? How many mu?	piece(s)	Mu
The species you like to plant:		
Would you like to buy seedlings yourself?	Yes	No
Have you participated in the afforestation activities of forest farms/companies?	Yes	No
Do you it is a good idea that forest farms/companies contract the afforestation then employ farmers to plant trees?	Good	Bad
If forest farms/companies contract afforestation, would you like to participate in the activities arranged by them?	Yes	No

Do you think the World Bank Loaned Afforestation Project need consider the national sensitive factors?	yes	No
If you select 'yes', please write down the manifestation of national sensitive factors and the needed attention in the margin of this page.		
Do you think women should participate in various activities of the Project?	Yes	No
What technical services do you think the Project should provide?		
Is there any holy-mountain in your family?	Yes	No
Has the holy-mountain of your family been protected?	Yes	No

Which operational management model do you think is the most effective?

Self-management	Households-combined management	Contracted management	Village collective management	Management by employee
Pool capital with companies: provide labor force provide land provide fund				
The advantage and disadvantage of different operational models:				

Public environmental consciousness

The effect and function of forest:		
Would you list out the types of State-protected plants and animals known by you?	Plants:	Animals:
You know the names of the protected animals and plants from: TV family members friends and relatives newspaper local forestry staff or nature reserve staff other sources ☐		
What is your opinion on the establishment of Nature Reserve?	Good, why:	Bad, why:
Which inappropriate measures of afforestation as well as management protection will bring unfavorable effect on environment?		
Do you it is right to cut the present natural forest for planting new forest?	yes	no
Do you think it is necessary to protect wildlife?	yes	no
Would you expose behaviors of destroying environment and violating environmental protection regulations? Yes no		
Is protection of environment and wildlife up to your religious belief and nation traditional culture? yes no		
Do you environmental protection important for your nationality?	yes	no
Do you think religion is an important factor for environmental protection?	yes	no
Which method should be used for forest disease and pest control? common pesticide environment-friendly pesticide biological measure		
Which fertilizer can accelerate the growing of forest without destroying the environment? chemical fertilizer farmyard manure		

Gender

Who takes charge of the forestry activities of the private forestland	Male	Female	Both male and female
Who possesses the right of use of forestland	Male	Female	Both male and female
Who would like participate in afforestation activities	Male	Female	Both male and female
Who would like to participate in technical training	Male	Female	Both male and female
Who responsible for forest sideline products gathering	Male	Female	Both male and female

1.3. Stakeholders & Communities Consulted

1.3.1. Participants in County Stakeholder Workshops

Organization	Position
Zhaoping County (Jan. 13th a.m.)	
County Government	Vice head of the county
County Poverty Alleviation Office	Vice-chief
County Women's Federation	Chairman
County Bureau of Ethnic Affairs	Vice-director
County Bureau of Education	Vice-director
County Bureau of Forestry	Director
County Bureau of Forestry	Vice-director
Huangjiang County (Jan. 18th a.m.)	
County Party Committee	Vice-secretary
County Government	Vice head of the county
County Bureau of Forestry	Director
County Government Office	Vice-chief
County Bureau of Education	Party Secretary
County Family Planning Bureau	Vice-director
County Bureau of Ethnic Affairs	Vice-director
County Public Health Bureau	Vice-director
County Women's Federation	Chairman
County Poverty Alleviation Office	Vice-chief
Project Management Office of County Forestry Bureau	Vice-chief
County Government Office	Secretary
Luocheng County (Jan. 19th a.m.)	
County Government	Vice head of the county
County Forestry Bureau	Director
County Government Office	Vice-chief
County Bureau of Education	Director
County Bureau of Developing and Planning	Vice-director
County Bureau of Forestry	Vice-chief
County Poverty Alleviation Office	Vice-chief
County Bureau of Ethnic Affairs	Vice-director
County Family Planning Bureau	Vice-director
County Women's Federation	Vice-chairman
County Public Health Bureau	Section Chief
PMO of the County Bureau of Forestry	Vice-chief
County Bureau of Forestry	Secretary
Lingyun County (Jan. 28th a.m.)	
County Government	Vice head of the county
County Bureau of Forestry	Vice-director
County Women's Federation	Chairman

County Bureau of Ethnic Affairs	Vice-director
County Agriculture Bureau	Director
County Poverty Alleviation Office	Section Chief
County Government Office	Secretary
County Bureau of Education	Vice-director
County Bureau of Forestry	Forester
County Bureau of Forestry	Technician
Sishui River Reserve	Technician
Sishui River Reserve	Technician
Forestry Hotel of Guangxi Autonomous Region (Feb.1st a.m.)	
Women's Federation of Guangxi	Division vice chief
Development and Reform Commission of Guangxi	Senior Forester
Development and Reform Commission of Guangxi	Assistant Investigator
Finance Department of Guangxi	Division vice chief
County Poverty Alleviation Office	Division vice chief
Ethnic Affairs Committee of Guangxi	Chief
Gaofeng Group, Ltd.	Senior Forester
Environmental Protection Research Institute of Guangxi	Vice-chief
Environmental Protection Research Institute of Guangxi	Assistant Engineer
PMO of Guangxi Forestry Bureau	Chief
PMO of Guangxi Forestry Bureau	Vice-chief
PMO of Guangxi Forestry Bureau	Forester
PMO of Guangxi Forestry Bureau	Forester
PMO of Guangxi Forestry Bureau	Forester
China Forestry Academy	Research Fellow
China Nationalities University	Professor
Forestry College of Southwestern China	Professor
Social Research Institute of Guangxi	Head of the Institute
China Nationalities University	Postgraduate
Forestry Design Institute of Guangxi	Senior Forester
Forestry Design Institute of Guangxi	Senior Engineer
Environmental and Soil Service	F.D consultant
Forestry Research Institute of Guangxi	Interpreter

1.3.2. Communities Surveyed

The Social Assessment (SA) group has investigated 366 households in 26 administrative villages in 8 counties:

Investigated 75 households of 5 villages in Huanjiang County

Investigated 50 households of 4 villages in Lingyun County
 Investigated 68 households of 4 villages in Luocheng County
 Investigated 63 households of 4 villages in Zhaoping County
 Investigated 50 households of 4 villages in Sanjiang County
 Investigated 20 households of 2 villages in Rongxian County
 Investigated 20 households of 1 villages in Hengxian County
 Investigated 20 households of 2 villages in Cangwu County

The nature reserve specialist has surveyed 229 households in 16 villages in and around 5 nature reserves:

Nature reserve (NR)	Number of townships	Number of administrative villages	Number of persons interviewed
Damingshan NR	3	3	54
Longgang NR	3	3	58
Mulun NR	2	3	57
Mao'ershan NR	2	2	25
Longshan NR	3	3	35

The PMOs of 20 project counties have investigated an additional 1059 households in 80 administrative villages:

Bobai County investigated 50 households in 4 administrative villages
 Cangwu County investigated 52 households in 4 administrative villages
 Cenxi County investigated 41 households in 4 administrative villages
 Hezhou City investigated 40 households in 4 administrative villages
 Laibin County investigated 52 households in 4 administrative villages
 Longlin County investigated 62 households in 4 administrative villages
 Napo County investigated 46 households in 4 administrative villages
 Nandan County investigated 40 households in 4 administrative villages
 Nanning City investigated 40 households in 4 administrative villages
 Pingguo County investigated 60 households in 4 administrative villages
 Pubei County investigated 60 households in 4 administrative villages
 Rong'an County investigated 40 households in 4 administrative villages
 Sanjiang County investigated 56 households in 4 administrative villages
 Shanglin County investigated 41 households in 4 administrative villages
 Shangsi County investigated 40 households in 4 administrative villages
 Tianlin County investigated 87 households in 4 administrative villages
 Xilin County investigated 60 households in 4 administrative villages
 Yizhou City investigated 69 households in 4 administrative villages
 Yongfu County investigated 63 households in 4 administrative villages
 Ziyuan County investigated 60 households in 4 administrative villages

1.3.3. Stakeholder Cross-section Interviews

The following interviews were carried out in April 2005 by the social assessment team leader and the international consultant:

Organization	Number of people met	Plantation component	Karst rehabilitation subcomponent	Shelterbelt & carbon fund subcomponents	Nature reserve management component
Guangxi PMO	2	+	+		
Guangxi reform and development commission	2	+	+		
Guangxi forestry planning department	1	+	+		
Provincial forest farm managers & subcontractors	3	+			
Seasonal workers	4	+			
County forestry bureau	4	+	+		+
Nature reserve managers	3				+
Nature reserve staff	2				+
Nature reserve forest guards	1				+
Township governments	3		+		+
Township forestry stations	3	+	+	+	
Administrative and natural village heads	7	+	+	+	+
Forestry design institute	3	+		+	
County land dispute office	1	+			
County ethnic minority bureau	1				+
Total	40				

1.4. Project Information Leaflet & Application Forms

1.4.1. Project Information Leaflet

I. Project Objective

The Guangxi Integrated Forestry Development and Conservation Project aims to accelerate the development of fast-growing and high-yielding forests, to improve management, sustainable operation and environmental conditions as well as biodiversity protection in forestry resources. Meanwhile, the project will ameliorate and improve the livelihoods of the rural people in forestry areas.

II. Guiding Principle of Project Selection

- i. Project counties, nature reserves, and beneficiaries (households and forest farms/companies) all apply voluntarily for participation in the project.
- ii. In the selection of project beneficiaries, ethnic minorities share equal rights and participation opportunities; it is required to respect the custom of ethnic minority people and to protect their cultural heritage.
- iii. In the phase of project preparation and implementation, it is required to provide more participation opportunities for women and to bring their function into full play.
- iv. In the selection of project activities, tree species, plantation sites and operational models, it is required to give full consideration to opinions from the mass and respect their will.
- v. The selected project activities and measures should be beneficial to environmental protection and minimize the impact on the environment
- vi. In the project preparation and implementation, it is required to give full consideration to the interests and wills of people surrounding the project areas, attract the surrounding people to participate in the project in different ways, share the outcome of the project, and broaden the influence of the project.

III. Project Components

The project is divided into 4 components: (i) to develop commercial timber forest; (ii) to improve ecological forest management, including multi-use shelter forests and mountain closure for regeneration and the development of biocarbon pilot; (iii) to strengthen the conservation of globally significant biodiversity in nature reserves; and (iv) to improve capacity building and monitoring and evaluation of the project.

The households or groups of households, forest farms and nature reserves are qualified to participate in project activities. In the plantation of commercial timber forest and the management of watersheds, the priority order in project participation is: households, groups of households and forest farms. It is required to fully respect the preference of the farmers in project areas.

i. To develop commercial timber forest

The project will mainly support the development of timber forest plantation, in order to fill the expanding gap between timber supply and timber demand, and to increase farmers' employment opportunities and income. The project will provide technical services, including tree seedling development and nursery management, training and extension as well as monitoring and evaluation.

ii. To improve ecological forest management

Ecological forest management focuses on mountain closure for natural regeneration, in order to make use of capacity for natural recovery, to improve soil and water erosion control, to bring ecological, economic and social benefits into full play, and to promote the development of rural economy. Another component of ecological forest management is to build multi-use shelter forest plantation and improve the capacity to resist natural disasters, because it plays an important role in stable and high yielding agriculture and can increase forest coverage of the locality as well as play a vital role in conserving water and soil and promoting a good ecological cycle.

The multi-use shelter forests include the establishment of 4,000 ha of biocarbon fund trial plantations in order to address industrial air pollution.

iii. To strengthen globally significant biodiversity conservation in nature reserves

The project will support and improve the management of globally significant biodiversity conservation in nature reserves. Management will be carried out in selected nature reserves. The main activities include: improving conservation and management in nature reserves (including monitoring and evaluation); and increasing local communities participation in the management of nature reserves and the sustainable development of natural resources.

iv. To enhance capacity of project provinces and local biodiversity conservation agencies.

It is required to strengthen the capacity for sustainable operation and management at all-level of forestry and other relevant agencies through project preparation and implementation.

The project will be carried out in 2006 and completed in 2010.

IV. Project Financing

The investment levels of different components of the project are subject to: funding arrangements of the World Bank and contributing agencies, the inclination of project units, and the quality of project preparation. Tentative sources and amounts of funds are as follows:

- i. The establishment of plantation forest will mainly use loans from World Bank and counterpart funds, the primarily counted total of loan is US \$100 million.
- ii. The nature reserve management component will use US \$ 5 million from a GEF Grant.
- iii. The biocarbon trial pilot project will use Biocarbon Fund of US \$ 2 million through carbon purchase transactions.
- iv. Domestic counterpart funds from all levels are 40% of the total project cost; the investment on ecological forest management is mainly from counterpart funds.

The requirements of World Bank Loan

In total project cost, the World Bank Loan accounts for 60% of the total while domestic funding takes 40% (of which, fundraising by households and planting entities and the labor conversion (labor input) considered as a part of counterpart funds on a household voluntary basis will take not less than 30% of total project cost).

The loan maturity of the World Bank loan is 16 years, with an initial 7 years grace period. During this grace period, it is not required to reimburse the loan principal but only the

interest; while in the latter 10 years, it is required to repay both principal and interest each year.

The World Bank loan interest rate and other expenditures include as follow:

- Since the date of loan ratification by the World Bank, it is required to pay one-off overhead expenses (or start-up expenses) accounting for 0.5% of the World Bank loan amount;
- To pay overhead expenses (or promise expenses) each year in light of 0.25% of the rest (or balance) that signed agreement sum minus drawn sum.
- According to exchange rate on international finance markets, the World Bank adjusts the interest rate once every half-year. The current interest rate is 3%.

The characteristic of the World Bank loan is its reimbursement system: the borrower should use his own fund (including counterpart fund provided by government) to establish the plantation according to standard; only after being checked and accepted can he submit to the World Bank for reimbursement and drawing with effective documentation. There are two reimbursements each year, one is reimbursement for site preparation expenditure (from May to June), and the other is reimbursement for seedlings, tree establishment and tendering expenditures (from November to December).

The advantage of the reimbursement system is that it can ensure successful implementation for project.

V. Qualification and Procedure of Application for Participation in the Project

i. The requirements for participation in the project

The units (counties, towns/townships, villages, households, forest farms, or companies) participating in the project should meet the following requirements:

- To clearly express demand to participate in the project and to undertake various requests for lending;
- To possess the conditions for expanding land afforestation and forest resource;
- To possess the ability for establishing multi-use shelter forest and mountain closure for natural regeneration;
- To possess the ability for successful project implementation;
- The counterpart funds should be of reliable sources (households can convert labor input as a part of counterpart funds);
- To have good credit standing and reliable loan solvency for the new project;
- To possess practice and experience in forestry management.

ii. Application procedure for participating in the project

The households submit an application to the village for participating in the project on a voluntary basis; the village head reports to the town/township after collecting information and submits applications for participation to the town/township; and the town/township submits application for participation to the county forestry bureau. If households want to cooperate with forest farms or forest companies on plantation, households should submit application and coordinate with forest farms, then forest farms submit application to county forestry bureau.

The loan from the World Bank can be used in commercial forest plantation. The loan is open to households (individual households or groups of households). Households and administrative village can cooperate with forest farms or companies on a voluntary basis, and forest farms or companies will responsible for the World Bank loan.

VI. Rights and Responsibilities of Farmers Participated in the Plantation of the Project

Households, villages and private enterprises participate in the project voluntarily; provided they meet the precondition of stable ecology and biodiversity, they select tree species for planting and production technology in an independent manner. If an individual household borrows solely, the household should determine the lending amount itself, implement the project in light of project requirements and obtain income, undertake lending risk and repayment responsibility. If the households cooperate with forest farms on a plantation, under the precondition of fair allocation and transparent contract arrangement decided by the World Bank, the households can negotiate the contracting mode with the forest farms.

The administrative village and households can voluntarily apply for participation in small ecological forest management sub-project without using the loan but the national counterpart funds.

The villages surrounding nature reserves listed in the project will be informed with the detailed information of the project and be invited to participate in the project.

VII. Options for Joint Plantation Operation

- (i) Villagers provide labor force only;
- (ii) Farmers offer land and labor force, forest farms provide them with permanent income and labor cost; forest farms provide them with a fixed income and labor cost per mu per year;
- (iii) Farmers offer land and labor force, forest farms do not provide fixed income but labor cost, and allocate the benefits according to the proportion at the end;
- (iv) Farmers provide land and labor force, forest farms provide them with determinate income per mu per year, and allocate the benefits according to the proportion at the end;
- (v) Individual households apply for lending, planting and managing on their own;
- (vi) Households apply as a group for lending, planting and managing;
- (vii) Other ways.

VIII. Environmental Protection

The implementation of the 3 project components, on the whole, is beneficial to biodiversity conservation and improvement of the environment. However, improper construction and management of tree plantations would bring negative impact on environment. Therefore, it is required to strictly comply with the environmental protection regulations during project implementation, in order to minimize the negative impacts on environment of project activities.

In the project preparation phase, environment assessment units will strictly assess project activities in light of national environment regulation and the environmental policy of the World Bank, then stipulate environmental protection regulations for the project, in order to regulate project activities.

In the project implementation phase, it is required to severely monitor the implementing situation of project environmental protection regulation and project's impacts on environment.

So far, in project preparation, it is required to pay special attention to the following problems:

- (i) The proposed project activities and policy should bring positive impact on environmental protection, or minimize the negative impacts;

- (ii) It is prohibited to develop plantations through destroying existing natural forest in any way.
- (iii) Project activities should put biodiversity conservation in a critical position, protect existing vegetation well and select diversified tree species;
- (iv) For project activities, it is required to adopt biological measures to prevent potential occurrence of forest diseases and pests; and for possibly occurring diseases and pests, it is required to select pesticides allowed by the Government and the World Bank.
- (v) In the selection of chemical fertilizers, it is required not only to select the types which can promote plant growth in a short-term, but also to take into account consider the long-term impact on soil and environment.

IX. Persons to Contact

Project Management Office of Forestry Bureau at County Level Tel:

Project Management Office of Forestry Bureau of Guangxi Zhuang Autonomous Region
Tel:

1.4.2. Project Application Forms

Draft administrative village application table

-----County-----Township-----Village Year

Month day

Village total land area (mu)	Village forest land area (mu)	Village barren land areas (mu)	Village grazing land area (mu)
Labor all year round in village (people)	Is this village listed as poor (yes/no)?	Does this village have forestry village regulations? (yes/no)	
Which production arrangements is the village interested in? 1. Farmers only provide labor (yes/no) 2. Farmers receive annual payment for each mu of land contributed (yes/no) 3. Farmers do not receive annual payment for land, just receive labor payment, and receive a share of timber value at harvest (yes/no)			
Which tree species is the village interested in planting?			What should be the duration of the contract ?
Is this village applying to participate in the project ?	Yes No	Signature	Official stamp

Note : the final version of the application form will mention which villager groups wish to participate. Specific forms will be prepared for hill closure and for shelterbelt plantations.

Annex 2. Legal & Planning Framework

2.1. Legal Document References

2.1.1. National Forestry Policies

Title	Date Issued
Forest Law of People's Republic of China,	01/01/1985
Rules for the Management of Nature reserves of Forest and Wildlife Type	July 1985
Rules for the Management of Forestry Harvesting and Renewal	10/09/1987
PRC's Regulation for the Management of Nature Reserves	Dec. 1994
The Agenda on Chinese forestry for 21st century	1995
The Rules for Treatment of Dispute concerning the Ownership of Forest and Forest land	Dec. 1996
The Law on the Protection of Wild Animals of the PRC.	Nov. 1998
The Nation-wide Construction Scheme of Ecological Environment	Jan. 1999
The Rules for the Registration of the Ownership of Forest and Forest Land.	Nov. 2000
The Rules for the Management of Assessment and Approval of the Occupation and Requisition of Forest Land.	04/01/2001.
The Rules for the Management of Protective Construction for Natural Forest Resources.	08/05/2001
The 10th Five-Year Plan for Nation-wide Forestry Development.	24/05/2001
The Regulations for the Implementation of Restraining Farming to Forest	20/01/2003
The Notice concerning Adjustment of the Managing Policy Concerning the Harvest-Cutting of Artificial Material Forest by FB of PRC.	10/06/2003
The Decision for Accelerating the Development of Forestry by The Central Committee of the Communist Party of China and State Council.	19/09/2003
The Rule for Confining the Boundary of the Key Public-Benefited Forest by FB and Ministry of Finance, PRC.	25/05/2004
The Overall Strategic Outline for the Development of Chinese Forestry.	

2.1.2. National Policies in Related Sectors

Name	Date Issued
Rules for the Management of the Forest and Wildlife Type Nature Reserve	06/07/1985
The Land Administrative Law of PRC	25/06/1986
The Law on Environmental Protection (December 1989) of PRC	26/12/1989
Water and Soil Conservation Law of the PRC (June, 1991);	29/06/1991
The Regulations for the Implementation of Water and Soil Conservation Law of the PRC	01/08/1993
The Notice about the Issue of the "Outline of Chinese Agriculture Development in 90 decade" by State Council.	04/11/1993
Pay High Attention to Ethnic and Religious Affairs - Jiang Zemin	07/11/1993
Technical Regulation on Mountain (Desert) Closure	12/08/1994
The Law on the Organization of Village Committee of PRC.	04/11/1998
The Contract Law of PRC	15/03/1999
The Notice About for Reduction /Exemption of the Tax on Agricultural Specialty Products for the Enterprise Harvesting of Log from State-owned Forest.	14/12/2001
The Overall Outline for the West Development in the 10 th Five Year Plan	10/07/2002
The Overall Outline for the West Development in the 10 th Five Year Plan	15/07/2002
The Overall Outline for the West Development in the 10 th Five Year Plan	17/07/2002
The PRC's Law on the Contract of Land in Rural Area.	29/08/2002

2.1.3. Guangxi Policies

Name	Date Issued
Guangxi Regulations on the Management of Water resource Forest and Wild Propagation Nature Reserves	15/04/1983
Decision concerning protecting forest, developing forestry, aiming to basically make Guangxi green in 15 years	Jan.1987
Guangxi Regulations for the Implementation of The Management of Land	08/01/1988
Practicing Measures for Prevention of Forest Fire of GZAR.	29/12/1998
Guangxi Regulations on the Management of Forest and Wild Animals Nature Reserve.	Aug.1990
Guangxi Provisional Rules for Management of Forest Land.	30/08/1993
Forest Administrative Regulation of Guangxi Zhuang Autonomous Region	11/12/1993
GZAR's Rules for The Management of Shankou Mangrove Ecological Nature Reserve.	01/07/1994
GZAR's Rules for The Management of Beicanghekou Oceanic Nature Reserve.	01/07/1994
GZAR's Regulations on the Construction and Management of Energy Projects in Rural Areas	26/05/2001
The Proposal Concerning the Distribution of the Quota on the Forest Harvesting in the Period of 10 th Five- Year Plan in Guangxi.	21/10/2001
The Operational Rules in Detail for the Preparation of the Practicing Scheme for the Experimental Unit Obtaining Capital Subsidy for the Project with Forest Ecological Benefit in GZAR.	Feb. 2002
Proposals Concerning Accelerating the Development of Fast-growing and High-yield forest in Guangxi	08/04/2002
GZAR's Regulations on Treatment of Dispute Concerning the Ownership of Forest, Forest Land and Water Conservancy.	Sep. 2002
GZAR's Provisional Rules for the Management of 'Supporting the Poor Projects'	14/03/2003
GZAR's Regulations on Environmental Protection	02/04/2002
The Decision by GZAR's Committee of the Communist party of China and GZAR's Government Concerning the Realization of the great-leap-forward Development for the Forestry Industry of GZAR.	02/04/2004
GZAR' Regulations for the management of the Protection of Terrestrial Wild Animals	03/06/2004
The Layout for the Development and Supporting the Poor in Jiu-Wan Mountain Forest Area of GZAR (2002-2005).	
Several Issues concerning Accelerating the Construction of Material Forest Bases for Wood Pulp Industries in GZAR's Littoral Area.	01/12/2004

2.2. Land Classification

In accordance with the new Land Law, land has been scientifically divided into three types, i.e. farming land, construction land, and unused land (wasteland):

- Farming land includes cultivated land, forest land, grassland, land for irrigation and land for aquatic breeding.
- Land on which buildings or other facilities are constructed, including urban and rural residential areas, public establishment, factory and mine, transportation and water conservancy, facility for tourist business, establishment for military purpose, etc., belongs construction land.
- Any land not being farming land or construction land is unused land.

In accordance with the “Technical Rules for Investigation on the Existing Conditions of Land Use” land is further categorized as 8 types and 46 sub-types in next classification. The 8 grand sorts are: cultivated land, garden land, woodland, grassland, land for residence\factory and mine, traffic land, land of water area and unused land:

- Cultivated land is the land where crops being planted, including among others wasteland recently opened up, fallow land, pasture, cropped land with low tree densities. Among all kinds of these lands, five sorts of land—irrigated paddy field, paddy field without irrigation, irrigable land, dry land and vegetable land-- are classified in the secondary land-classification.
- Garden land is the land on which the perennial woody and herbaceous crops are planted for harvesting mainly their fruit, leaf and rootstalk. Orchards and tree seedling nurseries are included in Garden land.
- Forest land is the land on which timber, bamboo and shrubs are growing. Areas planted to trees around residences, railways, highways or canals are not referred to as Forest Land. Forest Land is also divided into six sorts of land in the secondary land-classification: forestland, shrub land, sparse forestland, immature afforestation land, harvested forestland and land for nursery.
- Grassland is normally for livestock industry. All land used for animal husbandry is grassland, including grassland with sparse forest (less than 10%) and grassland with shrubs, and is further divided into natural grassland, improved grassland and artificial grassland.
- Residential and industrial land includes, among others, mines, and scenic spots and historical sites.
- Unused land is now defined as land being very difficult to be used, It is also divided into 8 categories: desolate grass land, saline soils, swamps, sandy land, naked land, gravel land of naked rock, land of field ridge.

Annex 3. Project Area Basic Data

3.1. Project Counties (updated July 2005)

County (district)	Timber plantation component	Karst rehabili- tation	Other watershed manage- ment	Nature reserve component	Number of previous WB forestry projects
Babu	Yes				0
Bobai	Yes				1
Cangwu	Yes		Yes		2
Cengxi	Yes				
Chongzuo (Jiangzhou)	Yes	Yes	Yes		0
Fangcheng (Gangkou)	Yes				0
Fusui		Yes	Yes		0
Guiping	Yes		Yes		1
Hezhou	Yes				
Huanjiang	Yes	Yes	Yes	Mulun	1
Laibing (Xingbing)	Yes	Yes	Yes		1
Lingyun	Yes	Yes	Yes		0
Longlin	Yes	Yes	Yes		0
Longsheng	Yes			Mao'ershan	2
Longzhou				Nonggang	0
Luocheng	Yes	Yes	Yes		2
Nandan	Yes	Yes	Yes		0
Nanning	Yes				2
Napo	Yes	Yes	Yes		0
Pingguo	Yes	Yes	Yes		1
Pubei	Yes				1
Rong'an	Yes	Yes	Yes		2
Rongxian	Yes		Yes		
Sanjiang	Yes	Yes	Yes		2
Shanglin	Yes	Yes	Yes	Damingshan/ Longshan	0
Shangsi	Yes		Yes		0
Tiandeng	Yes	Yes	Yes		0
Tiandong	Yes	Yes	Yes		1
Tianlin	Yes	Yes	Yes		0
Xilin	Yes				0
Yizhou	Yes	Yes	Yes		0
Yongfu	Yes		Yes		1
Zhaoping	Yes		Yes		3
Ziyuan	Yes		Yes	Mao'ershan	3
Wuxuan	Yes				1
Hengxian	Yes				0
Lipu	Yes				0
Mengshan	Yes				0
Bama	Yes				0
Fangchenggang	Yes				0

Note: this table does not include the proposed location of timber plantations under direct contracts with forest farms.

3.2. Land Use, Population & Villages

County	% forest land	Forest cover rate	Population	Population density	2003 net farm income	Administrative Villages	Farmer groups
Total / average	55		26 102 200			8069	136496
Bapu	71	70.3	929 000	181	1947	281	6180
Bobai	59	53.5	1 530 000	446	1933	325	8622
Cangwu	82	76.5	550 000	158	1895	193	3605
Chongzuo	25	45.9	2 278 900	132	1927	789	10460
Fuchuan	48	48.1	886 300	571	1976	155	4254
Cengxi	74	71.5	783 500	283	2011	277	659
Gangkou	32	38.4	116 000	272	2919	23	483
Guiping	44	44.6	1 677 400	412	2153	431	7796
Huanjiang	59	52.88	367 000	80	1883	143	2621
Jiazhou	69	66.1	2 085 300	176	1793	712	14501
Lingyun	77	70.5	185 600	92	1073	105	1552
Longlin	59	53.6	357 600	101	942	179	2618
Longsheng	68	72.6	165 500	65	1824	119	1469
Luocheng	40	46.54	354 800	134	1099	125	125
Nandan	60	56.9	282 600	72	1985	138	2236
Nanning	42	39.47	6 416 700	290	2231	1424	33743
Napo	61	59.34	192 500	86	2032	129	1530
Pingguo	37	32.1	456 500	186	1386	180	2929
Pubei	61	62.3	791 900	315	2644	273	4816
Rong'an	81	78.6	321 600	111	1859	140	978
Rongxian	68	66.8	767 000	339	1895	220	5546
Sanjiang	82	77.44	342 900	139	1356	167	566
Shanglin	NA	44	452 800	NA	1888	131	898
Shangsi	63	60.5	212 100	75	1925	83	1537
Tiandeng	42	39	404 600	187	1850	124	1879
Tiandong	49	43.6	393 900	140	1628	161	1457
Tianlin	66	72.58	239 100	43	1504	165	1615
Xilin	80	71.9	131 300	43	1394	93	753
Xingbing	33	29.1	992 400	237	2128	257	1595
Yizhou	52	55.05	610 500	157	2064	204	2491
Yongfu	74	73.52	268 000	97	2373	97	1924
Zhaoping	82	80.7	391 900	121	1733	152	3499
Ziyuan	77	78.1	167 000	85	1840	74	1559
Wuxuan	38.2	45.2	415 800	239	1926	142	552
Hengxian	45.3	45.0	1 078 000	340	2041	53	1533
Lipu	66.9	66.0	369 000	210	2882	24	1108
Mengshan	75.6	75.8	196 300	153	1787	38	182
Bama	44.0	54.1	240 200	122	1328	28	150
Fangcheng gang	50.8	56.7	788 500	128	2334	19	521

3.3. Poverty

3.3.1. Designated Poor Counties in the 3 Components

Prefecture	County/District	Poor county
Baise	Lingyun	National
Baise	Longlin	National
Baise	Napo	National
Baise	Pingguo	National
Baise	Tiandong	National
Baise	Tianlin	National
Baise	Xilin	National
Chongzuo	Jiangzhou	No
Chongzuo	Fusui	Provincial
Chongzuo	Longzhou	National
Chongzuo	Ningming	Provincial
Chongzuo	Tiandeng	National
Guilin	Longsheng	National
Guilin	Xing'an	No
Guilin	Yongfu	No
Guilin	Ziyuan	Provincial
Hechi	Huanjiang	National
Hechi	Luocheng	National
Hechi	Nandan	National
Hechi	Yizhou	Provincial
Laibing	Xingbing	No
Liuzhou	Rong'an	Provincial
Liuzhou	Sanjiang	National
Nanning	Binyang	No
Nanning	Mashan	National
Nanning	Nanning	No
Nanning	Shanglin	Provincial
Nanning	Wuming	No
Fangchenggang	Gangkou	Provincial
Qinzhou	Pubei	No
Qinzhou	Shangsi	Provincial
Hezhou	Bapu	No
Wuzhou	Cangwu	No
Wuzhou	Cenxi	No
Wuzhou	Zhaoping	Provincial
Yulin	Bobai	No
Yulin	Guiping	No
Yulin	Hezhou	No
Yulin	Jiazhou	No
Yulin	Pingnan	No
Laibing	Wuxuan	Provincial
Nanning	Hengxian	No
Guilin	Lipu	No
Wuzhou	Mengshan	Provincial
Hechi	Bama	National
Fengchenggang	Fangchenggang	Provincial

3.3.2. Example of a Poor Project County: Huanjiang County

	Huanjiang County	Shanchuan Township
Population (persons)	405,868	14,454
Population below poverty line	7%	19%
Poor population above poverty line	20%	81%
Total poor	27%	100%
% ethnic minority people	92%	99.8%
Number of households		3,280
Persons out for off-farm work (people)		1,379
Person out for off-farm work / household (number)		0.42
Net income per capita (CNY)	1362	1190
Grain per capita (kg)	389	
Cash expenditure per household (CNY)		1,261
Livestock (heads per household)	2.3	4.3
% households with technical training		4%
% illiterate people	1%	6%
Of which women		62%
% of people without safe water access	37%	72%
Number of natural villages	2621	114
% of natural villages with no road access	61%	82%
% of natural villages with all-season road access		3%
% of natural villages with no electricity access	5%	5%
Phone points per natural village (number)		1.7

Source: Guangxi poverty reduction office, 2000.

3.4. Survey Findings

3.4.1. Baseline data

Electricity access	All the investigated villages have electricity access except 8 villages (103 households) of Baotan Township in Luocheng County and 36 natural villages of Zhaoping County where scattered residence makes access to electricity difficult.				
Road access	The investigated villages had made village-level roads that mostly were built by using the funds raised by the villages and the villagers organized by the village committee. The quality of some roads is poor, the vehicles can't pass when it snows or rains. There is only earth roads through Longma village and Gantang village of Siba Township in Luocheng County; 8 villages of Zhaoping have no fourth-class roads, 229 natural villages still have no village-level roads; 1 administrative village of Huanjiang County still has no roads.				
Drinking water access	70% of surveyed households drink water from well or spring, and 30% of them still have no clean drinking water. Longma village of Siba Township in Luocheng County is seriously short of water, though the village government provide cement for free, most villagers built small water tank in their own courtyard, 100 poor households still can not built small water tank and have to carry water from quite a long distance, the longest reaches to 3 km.				
Proportion of ethnic minority people	73%				
Average land area of the investigated villages.	From 0.1 ha to 2.3 ha per capita				
Average net income	RMB 629yuan~RMB 2160yuan per capita				
Range of annual incomes (2004):	Under RMB 1000: 9%; RMB 1000~2000: 17%; RMB 2000~3000: 13%; RMB 3000~4000: 12%; RMB 4000~5000: 10%; RMB 5000~6000: 18%; RMB 9000~10000: 20.7%; RMB 20000yuan: 1.3%.				
Main living and production assets:					
House	With: 100%		Truck		Without: 100%
TV set	With: 84%	Without: 16%	Tractor	With: 6%	Without: 94%
Refrigerator	With: 9%	Without: 91%	Mini- truck	With: 8%	Without: 92%
Washing machine	With: 10%	Without: 90%	Horse, mule and donkey	With: 15%	Without: 85%
Radio / tape recorder	With: 33%	Without: 67%	Cattle	With: 43%	Without: 57%
Phone / cell-phone	With: 59%	Without: 41%	Auto-bike	With: 28%	Without: 72%
Cooking fuel	Fuelwood, traditional triangle stove 8%; fuelwood, fuelsaving stove 45%; coal 2%; bio-gas 22%; natural gas 15%; electric stove /electric cooker 8%				
Distance to cut fuel-wood	Within 5 km: 82%	5~10km: 15%		Over 10 km: 3%	
Sites for fuel-wood cutting	Private plots and hills: 75%	Collective forests: 24%		State-owned forests: 1%	
Food shortage	Not in short: 76%; In short for 3months: 17%; In short for 6 months: 7%; In short for more than 9 months: 0 household				

Poverty	Poor households occupy 3%~5% of the total households in the village; annual mean income is under RMB 600 per capita, in short of labor force, their children are in school, and there is patient in their family, they have no other source of economic income; Medium-class households are main body of the village; annual mean income is about RMB 1,000 per capita; other characteristic: their technical is behindhand and economy is single. Rich households generally occupy 4% of the total in the village; annual mean income is RMB 1500~2800 per capita; other characteristic: sufficient labor force, engaging in transportation and business, they have vehicles and buildings, with higher culture level, smart brains and wide economic sources, some of them are forestry entrepreneurs.			
Off-farm migration	Proportion of households with migrating members: average 25%, minimum 5% (a few cases at 2-3% only), maximum 26%. Villages with less migration normally have more land areas, or are Yao people. Women account for 50% of the migrants. Migrants go to Guangdong, Zhejiang, Jiangsu, and within Guangxi. They mainly engage in construction, manufacturing clothes and shoes, hairdressing, electricity, service industry and agriculture Wages are RMB 30/day on average; the lowest is 13, the highest can reaches to 80 yuan/day.			
Gender: important decisions	Husband alone 64%	Wife alone 15%	Both husband and wife 35%	
Gender: decision-making in forestry	Husband alone 7%	Wife alone 0	Both husband and wife 93%	
Gender: land use rights on forest land	Husband alone 4%	Wife alone 0	Both husband and wife 96%	
Gender: participation in tree planting	Male: 1%	Female: 0	Both male and female: 99%	
Gender: participation in technical training	Male: 1%	Female: household 1	Both male and female: 99%	
Gender: collection of NTFPs	Male: 1%	Female: households 3	Both male and female: occupying 99%	
NTFPs:	Medicinal materials: 1%	Mushroom: 1%	Fuelwood: 77%	Pasture: 21%
NTFP collection sites	State-owned forests: 2%	Collective forests: 7%	Private hills: 88%	Public hills: 3%

3.4.2. Preferences regarding the project

The investigated villagers' will of participating in the project	All the investigated households including poor, medium-class and rich households are willing to participate in the project.		
Participation in project	The investigated villagers believe that ethnic minority people as well as women share the same opportunity to participating in the project.		
Labor value	One working day should be converted to RMB 20~30yuan.		
Ownership of the cultivated land and wasteland	Cultivated land has generally been contracted by the households, but wasteland is still under the control of the village collective (villagers groups)		
Opinion about benefit from plantation project	The villagers conformably believe they can get income from labor service and income from timber sales, and environmental benefits		
Do you know the World Bank loan afforestation project?	Know nothing: 10%	Know a little: 76%	Know clearly: 14%
Where can you get the information of the project?	Township/town government: 38%	Village committee: 62%	Relatives and friends 0
Are you satisfied with the labor cost offered by the project?	Yes: 85%	No: 15%	
Do you know that it is necessary to repay the loan?	Yes: 89%	No: 11%	
Do think you the apportionment of expenses reasonable?	Yes: 78%	No: 2%	Have no idea
Do you wish to apply for loan directly by yourself?	Yes: 24%	No: 75%	Have no idea: 1%
Who do you think should provide seedling, forestry sectors or households buy by themselves?	Provided by forestry sector: 97%	Households buy by themselves: 3%	
Preferred participation in forest farm contracts:	Provides labor forces (46%); offer lands (54%); invest funds (0)		
Preferred mode for protecting timber stand	By households themselves (43%); By group of households (19%); Under contract (31%); By employees (1%)		
Tree species preferred	Eucalypt, Masson pine, Chinese fir, Bamboo, birch, tung, Melia azedarach, chestnut tree, oil tea, lacquer tree, orange, and persimmon. The first 4 species are favorite, especially local varieties. Because of the market factor, species as longan, litchee, star anise and cinnamon are not preferred species.		

Annex 4. Forest Farms

4.1. Ownership

Source: social assessment interviews

Forest Farm	Category	Economic System
Gaofeng forest farm	Forest farm under the direct control of Autonomous Region	State-owned and State-operated, Staff managerial responsibility contract system
Bobai forest farm	Same	State-owned and State-operated Cooperative shares system
Dongmen forest farm	Same	State-owned and State-operated Cooperative shares system
Dagui Mountain forest farm	Same	Majority State-owned and state-operated, with individual economic undertakings side by side
Sanmen River forest farm	Same	State-owned, cooperation between State and staff
Huangmian forest farm	Same	State-owned and State – operated Managerial responsibility system of leasing
Nanning arboretum	Same	State-operated eco-forest 98% of staff takes part in self-run shareholding system
Liuwan forest farm	Same	State-owned and State-operated
Paiyang Mountain forest farm	Same	Majority State-owned and state-operated, with individual economic undertakings side by side
Qipo forest farm	Same	State-owned and State-operated
Qinlian forest farm	Same	State-owned and State-operated Mixed system with staff managerial responsibility system of contracting, shareholding system, and managerial responsibility system of leasing
Weidu forest farm	Same	State-owned and State-operated
Yachang forest farm	Same	State-owned and State-operated
Fenghuang forest farm	Forest farm under the direct control of municipality	State-owned and State-operated
Nada forest farm	Same	State-owned , cooperation between State and staff
Xichang forest farm	Same	State-owned , cooperation between State and staff

4.2. Examples

1. Example of State-owned and State-operated system: Huangmian forest farm

Under Luzhai county of Liuzhou city government, the forest farm is one of the biggest State-owned forest farm under the direct control of the Guangxi Zhuang Autonomous Region. Until 1997, workers were paid according to a quota system. After the 1998 reform of 'three-systems', workers are paid according to their amount of work. Administrative staff are paid in accordance with defined duties and tasks. The forest farm uses a 'Primary accounting, secondary management' system. The farm has 6 sub-farms, 1 central nursery garden, and 9 section offices, and it also has a school, a police station, and a workers' hospital. There are many farm-owned factories: a Tea Processing Factory, a Rosin Factory, a Timber Mill, a wood based panel mill. There is also a BaShu restaurant. All these are rented to individuals except the Tea Processing Factory. Each of the 4 factories pay an annual rent of 375,000, the BaShu restaurant pays CNY 130,000. The Tea Processing Factory has an annual gross revenue of CNY 2,000,000, the net profit is CNY 100,000. Competition has increased. There are open recruitments once a year.

2. Examples of co-existence of State-owned and State-operated and State-owned and self-operated: 3 forest farms

Gaofeng forest farm was restructured in 1999. Staff members are encouraged to run plantations by themselves and share profits with forest farm.

Dagui Mountain forest farm retains a dominant State-owned and State-operated system with individual economic undertakings side by side.

Sanmen River forest farm has 10,000 mu of fast-growing timber plantations rented to individuals, of which about 6,000 mu are rented to their staff.

3. Mixed systems

Case 1. Bobai forest farm

The farm set up a timber processing plant, a repair shop and a fungi farm in 1972, a Resin Factory in 1980, a bricks and tiles factory in 1982, a compound fertilizer factory in 1989, a second bricks and tiles factory in 1992. These corporations were first managed by the forest farm. In 1998, two operations went bankrupt. In 1999, a technical reform was initiated. The State-owned and state-operated system was transformed into a shareholding system and a managerial responsibility system of leasing.

Case 2. Qinlian forest farm

Reform started in 2003. The public sector remains dominant and diverse sectors of the economy are developing side by side. There is joint management, enterprise merger, leasing, managerial responsibility system of contracting and a cooperative shares system. Workers and staff are encouraged to take part in the shareholding system by investment of labor, funds, technology or managerial skills. Staff also lease forest land outside the forest farm (20,000 mu) in 2004. In 2005, plantations outside the forest farm will increase to 70,000-80,000 mu, the area inside the forest farm will increase to 130,000 mu.

Case 3. Nanning arboretum (Liangfengjiang River Park)

There are 3 ownership structures:

State-owned and State-operated. The plantation area is 4,780 ha, of which area Public access forest is 2,970 ha. The area of State-level Public forest is only 870 ha. Management and protection of this “Public welfare” forest is a heavy burden. Other income-generation activities are therefore needed.

State-owned and self-operated. The main system is staff-operated since 2000. More than 98% of staff and workers have a self-run.

Shareholding system. The Eucalypt plantation of Heng county, Wantailong Materials Company and Guangxi Liangfengjiang River Spotted deer industry Company, which are all secondary organ of Nanning arboretum, are shareholders in a joint structure.

A full enterprise assessment report, including an assessment of which forest farms are making profit and which ones have losses, has been made prepared (in Chinese) for the PMO and made available to the World Bank.

4.3. Current Land Transfer

Seven main processes for transfer of land use rights in rural China may be observed today:

Transfer contract. A household may transfer all or part of its contracted land to a third party. The rights and duties of the household, the original contractor, still exist while the new contractor will be responsible to this original contractor. Both the new contractor and original contractor will jointly undertake the risk. There are two approaches: (a) consignment-transfer: the household consigns the operation right of the contracted land to the economic organization of village collective thus the latter will transfer the right to any other third party, most of which free of charge; (b) direct transfer to third party, who normally are local relatives or friends. Most transferors are ordinary farming households, households that will be emigrated to other place, or households with naturally decreased family member.

“Rent-Back/Contract-Back”. Under the prerequisite of voluntary will of peasant household, and after paying to peasant household the rent, the operation right of the contracted land may be drawn back by local collective and the latter will lease the drawn back land to external companies or some large-scale households and, after capital investment, re-contract it to part of the local households. In this mode, village collective will rent back the right of land use then lease it in a way of overall consideration and layout to those peasant households or enterprises which have the will to operate it for higher efficiency and better benefits, while some of land will be operated by village collective itself in the form of employing the local peasants to take care of the crops and paying them for their labor. The economical scale for operation of the land for this mode is generally much larger, operators are more specialized, or enterprises more professional. This pattern is widely adopted in most places.

Cooperative Shares System. Households' land use rights can be quantified and converted to shares by the village collective, and the latter will operate the share-converted land or contract it to other companies for operation. Income from which will be distributed according to the shares proportion at the end of each year. This kind of land transfer mainly occurs in suburbs of city. There are two patterns at present. The first one related to non-agricultural activities. The second one relates to agriculture, for example in Zhejiang, Guangdong or Fujian in areas where most people move out for business or employment. Households can obtain profits of CNY 550 for each mu of land at the end of each year in accordance with the shares registered. In less developed areas, e.g. in Liaozhong county, Liaoning Province, this system was also arisen. Up to the end of 2000, the cooperative land-stock operation was practiced in 60% of villages of the county, with 500,000 mu of land converted into company shares. This allowed 60,000 people to move out of farming to other businesses, while more than 100 million RMB village debts were digested via issuing the contracts.

Land Lease. The owner of land use rights may lease the land to other citizens and legal entities, while the latter should pay rent to the former. The latter may be individuals, enterprises or business units, farmers, cadres or scientific and technical personnel. This pattern is one of the major forms for land circulation.

Land-Trust. A Land Trust Organization contracts land use rights for a certain time limit to any other units and individuals. This pattern started firstly in Zhejiang. At the beginning of 2000, the Office for Agriculture Affairs of the city, associated with departments of agriculture, land, forestry etc., established land trust service centers at county level, and transfer stations for land trust service at town level respectively to provide with land trust service. The purpose is to break through the limit within which the land can only circulate inside in a village and to form a larger market at county level for the circulation of land use rights. It will provide to peasants with more opportunities for changing their status and their entry into the city.

Land Replacement. Land use rights, contracted by peasant households, on the premise of the agreement by the village collective who issuing contract, may be exchanged mutually between the peasant households, or between the peasant household and the individual who specialized in farming business, on the purpose of the linkage of the plots of land for a more efficient management. This pattern was the first form of land circulation.

Auction for Land Use Rights of Four Kinds of Wasteland. The rural collective economic organization, on behalf of all the peasants in the community, might sell/lease, by means of open auction, the rights of the use of four kinds wasteland to peasants, workers, office cadres and units both internal and external to the community. This is essentially land leasing. To sell land use rights may strengthen feeling of ownership. The economical relation between village collective and peasants becomes clearer. Income from the auction normally will be spent for the public welfare of the village, thus the taxation burden of peasants will be alleviated.

Source: enterprise assessment report.

Annex 5. Nature Reserves Data

5.1. Basic Data

Name	Location	Year Established	Protection Level	Area (ha)	Organizational System
Longgang Nature Reserve	Longzhou and Ningming counties of Chongzuo Municipality, West Guangxi	1979	National	10077.5	6 protection stations
Damingshan Nature Reserve	Central Guangxi, junction between Wuming, Shanglin, Mashan and Binyang Counties.	1981	National	16994	5 protection stations
Longshan Nature Reserve	Central Guangxi, Shanlin County of Nanning City	2001	Municipality	10749	4 protection stations and 2 protection points
Mulun Nature Reserve	Huanjiang County, North Guangxi.	1991	National.	10830	2 protection stations
Mao'ershan Nature Reserve	Ziyuan County, junction between Xingan, Ziyuan and Longsheng Counties.	1976	National.	17009	7 protection stations and 2 protection points

5.2. Communities inside and nearby nature reserves

	Number of involved administrative villages (AV), natural village (NV) & population					Within nature reserve		Main nationalities
	Coun-ty	Town-ship	AV	NV	Popula-tion	NV	Popula-tion	
Longgang	2	6	29	66	15,034	0	0	Zhuang
Damingshan	4	8	54	54	310,000	0	0	Zhuang, Han
Longshan	1	6	16	117	43,233	21	3067	Zhuang, Han, Yao
Mulun	1	2	6	28	3,231	2	295	Zhuang, Maonan
Mao'ershan	3	6	16	52	6,374	0	0	Han, Zhuang, Yao, Miao, Dong

Note: population around Damingshan remains to be further defined.

5.3. Nature Reserve Profiles

Source: nature reserve social assessment report and additional interviews and visits.

Longgang NR

History of the nature reserve

Nature reserve establishment	Year	Status	Staff numbers
Prior to creation	1978-1979	Village collective forests, forest farm	
First creation	1979	Provincial nature reserve	
First upgrade	1980	National nature reserve	32
Second upgrade	1999	Participated to China's reserve network of "People and Biosphere".	
Future upgrade or expansion	1992	Longrui provincial NR(created in 1982) was combined to Longgang	

Current population in and around the nature reserve (Year 2004)

Nature reserve zone	Administrative villages	Natural villages	Natural villages by ethnic group	Population	% ethnic minority people
Core & buffer zones	0	0	0	0	0
Experimental zone	0	0	0	0	0
Neighboring areas	29	66	66	15034	90%

Co-management knowledge and activities

1. In pilot villages for ecological forests payment, one or two forest guards were appointed to protect the ecological forests. 80-110 yuan per month allowance for forest guard are paid from the ecological compensation fee from the government. Meanwhile, full and part time forest guards were appointed by nature reserve protection bureau to patrol nature reserve together with staff from nature reserve station.
2. Bio-gas tanks were built in some villages that include implementing some pilot villages of ecological forests payment.
3. In some villages, local rules or regulations for village forests particularly ecological forests were made.
4. "Propaganda and slogans" on policies, laws and regulations on protection and management of nature reserve and wildlife are provided to surrounding villages by forest guards and staff from the nature reserve station.
5. Land conversion program was implemented in some villages.

Former community assets transferred to nature reserve at creation

Collective land: majority of forest lands
 Individual land: some cropping land
 Economic tree plantations: some

Resource uses inside and outside the nature reserve

Type of resource use	Inside the nature reserve		Outside the nature reserve	
	Importance (0, +, ++)	Increasing or decreasing?	Importance (0, +, ++)	Increasing or decreasing?
Paddy fields	0	0	0	0
Other grain crops	0	0	0	0
Cash crops	+	Decreasing	++	Increasing
Economic tree plantations	0	0	++	Increasing
Timber plantations	0	0	+	Increasing
Land burning	0	0	++	Increasing
Animal grazing	+	Increasing (TBC)	+	Increasing
Fuelwood for self-consumption	+	Increasing (TBC)	+	Increasing (TBC)
Fuelwood for sale	0	0	0	0
Hunting and collection of rare plants	+	Decreasing	0	0
NTFP collection	++	Increasing (TBC)	+	Increasing
Road development	0	0	++	Increasing
Tourism development	0	0	0	0
Mines & quarries	0	0	++	Increasing
Other: collecting Bonsai	++	Increasing (TBC)	++	Increasing

TBC = to be confirmed.

Cultural resources (historical sites, temples, forests protected by communities...)

None identified

Tourism development

1. Current status: None

2. Existing plans for future development: None

Specific issues identified

1. Collection of firewood, NTFPs, medicinal herbs in nature reserve.
2. Forest resources uses and degradation in collective forests.
3. Wildlife damage on crops
4. Need for community livelihood improvement
5. How to make sure that most farmers benefit from the program of ecological forest grants.

Specific opportunities identified

1. Most farmers know the importance of nature reserve establishment.
2. Some government-supported programs such as energy saving, land conversion and ecological forest grants, were implemented in nearby villages.
3. Staff from the nature reserve have changed their attitude and have high enthusiasm for community-based forest management.

Damingshan NR

History of the nature reserve

Nature reserve establishment	Year	Status	Staff numbers
Prior to creation	1958	Forestry farm	
First creation	1981	Provincial nature reserve	180
First upgrade	2002	National nature reserve	179
Second upgrade	1999	Participated to China's reserve network of "People and Biosphere".	

Current population in and around the nature reserve (Year 2004)

Nature reserve zone	Administrative villages	Natural villages	Ethnic minority natural villages	Population	% ethnic minority people
Core & buffer zones	0	0	0	0	
Experimental zone	0	0	0	0	
Neighboring areas	54			31,000	NA

Range of population densities in adjacent townships: medium high.

Co-management knowledge and activities

There is a forest coordination committee involving the 4 counties, townships and villages, but its activities are limited to forest protection only. So is most of the interaction of nature reserve staff with communities.

Co-management knowledge and activities are less advanced than in other nature reserves. Prior to nature reserve creation, Damingshan was a State forest farm. The majority of former workers became forest guards after the reserve was established in 1981. Due to limited availability of other jobs, after old workers or forest guards retired, their children continued to work as forest guards in the reserve. Therefore, few forest guards are from nearby villages. All reserve lands belonging to the reserve so that there is limited occurrence of land use right conflicts. Top-down and unilateral working styles are more widespread in this nature reserve.

In order to reduce the firewood crisis, the nature reserve management bureau distributed some forest land to nearby villages.

In order to protect rare plants and wildlife, information dissemination activities on policies, laws and regulations on protection and management of the nature reserve and on wildlife are conducted in surrounding villages by forest guards and staff from the nature reserve station.

The nature reserve has selected star anise as a focus topic: tree seedlings have been distributed and training courses organized in several villages.

Former community assets transferred to nature reserve at creation

Collective land: 0

Individual land: 0

Economic tree plantations: 10,000 mu

Timber tree plantations: 0

Grazing land: 0

Other: 0

Resource uses inside and outside the nature reserve

Type of resource use	Inside the nature reserve		Outside the nature reserve	
	Importance (0, +, ++)	Increasing or decreasing?	Importance (0, +, ++)	Increasing or decreasing?
Paddy fields	0	0	0	0
Other grain crops	0	0	0	0
Cash crops	+	Decreasing	++ sugarcane	Increasing
Economic tree plantations	++ star anise	0	++	Increasing
Timber plantations	0	0	+	Increasing
Land burning	0	0	+ sugarcane	Increasing
Animal grazing	+	Increasing (TBC)	+	Increasing
Fuelwood for self-consumption	+	Increasing (TBC)	+	Increasing
Fuelwood for sale	++	Increasing	+	Increasing
Hunting and collection of rare plants	+	Increasing (TBC)	+	Increasing
NTFP collection	++	Increasing (TBC)	++	Increasing
Road development	0	0	++	Increasing
Tourism development	++	Increasing	+	Increasing
Mines & quarries	++		+	Increasing
Other: collecting Bonsais	++	Increasing (TBC)	++	Increasing

TBC = to be confirmed.

Cultural resources

Former temple sites on mountain ridge.

Tourism development

1. Current status: A sightseeing route, restaurants and 3 hotels at the top of the mountain have been developed in the reserve by the nature reserve management bureau. All staff and workers are from the reserve themselves. Annual tourist numbers reach 216,900, and income reaches CNY 2 million. Tourists also visit on their own villages at mountain foot.

2. Existing plans for future development: Nanning municipality is preparing a tourism development masterplan focused on Damingshan.

Specific issues identified

1. The mines are of sizeable scale: one employs up to 3000 seasonal workers. They generate, among others, risks of forest fires.
2. Around 10000 mu of star anise plantations are located inside the reserve. Star anise inside the NR is mainly grown by nature reserve staff. Local village women are hired at harvest. Management of the economic tree plantation can produce impact on the young trees and bio-diversity conservation.
3. Dependence of nearby communities on the forest and impact on nature reserve due to collective forest degradation, and development of economic tree plantations on collective forest land.
4. Collection of firewood, NTFPs and medicinal herbs in nature reserve.

Specific opportunities identified

1. Most farmers know the importance of nature reserve establishment.
2. Some government-supported programs such as energy saving, upland conservation, ecological forest grants were implemented in nearby villages.
3. Staff from nature reserve management are changing their attitudes and have high enthusiasm for community based forest management.

Longshan NR

History of the nature reserve

Nature reserve establishment	Year	Status	Staff numbers
Prior to creation	2001	State forest farm, collective forests	
First creation	2001	County nature reserve	
First upgrade	2004	Provincial nature reserve	Staff: 22 + patrol
Future upgrade	Undetermined	Hopes to become national nature reserve	

Current population in and around the nature reserve (Year 2004)

Nature reserve zone	Administrative villages	Natural villages	Ethnic minority natural villages	Population	% ethnic minority people
Core & buffer zones	0	0		0	
Experimental zone	3	21	21	3067	100 %
Neighboring areas	13	96	96	40166	87 %

Range of population density in adjacent townships: 181 people/km² - Shanglin county seat nearby.

Co-management knowledge and activities

1. In pilot villages for ecological forest grants, one or two forest guards were appointed to protect the ecological forests. 80-110 yuan per month allowance for forest guard are paid from the ecological compensation grant program since 2001.
2. Bio-gas tanks were built in some pilot villages for the ecological forest grant program.
3. Public awareness activities are being carried out in some villages by outsiders including professors and students from universities.
4. The land conversion program was implemented in some villages in or around the nature reserve.

Former community assets transferred to nature reserve at creation

Collective land: 5382 hectares
 Individual land: 3249 hectares
 Economic tree plantations: 3249 hectares
 Other: 431 hectares of agricultural land

Dongcun star anise valley. Dongcun administrative village was established around 100 years ago during the Taiping rebellion. General Wu settled in this valley having brought back star anise seed from Longshou. Star anise gradually developed and covered the whole valley. During the commune days, Dongcun was exempted from cultivating grain and received grain in exchange for star anise sold to the State. Farmers gained considerable income in the 1980s and built large houses with several storeys. In 2000, just as star anise prices dropped, the county secretary encouraged development of community-based tourism. 8 groups of 5-7 households, one in each natural village, established shareholdings and set up guesthouses. Tourists mainly come from Nanning and are transported up the valley with motorcycles on a 5-10 km cemented path. Other households mostly live today in the township and county seat since the local school has closed.

The future is uncertain. The star anise plantation requires both regeneration and perhaps diversification. In 2001 the valley was incorporated in the experimental zone of the new nature reserve. Registration of guesthouses has become difficult. The nature reserve sees its role in helping organize environmentally-friendly tourism. The county government has issued a plan to resettle the population out the valley.

Resource uses inside and outside the nature reserve

Type of resource use	Inside the nature reserve		Outside the nature reserve	
	Importance (0, +, ++)	Increasing or decreasing?	Importance (0, +, ++)	Increasing or decreasing?
Paddy fields	+		+	
Other grain crops	++	Increasing (TBC)	++	Increasing (TBC)
Cash crops	++	Increasing (TBC)	+	Increasing (TBC)
Economic tree plantations	++	Increasing (TBC)	++	Increasing (TBC)
Timber plantations	0	0	+	Increasing
Land burning	+	Increasing (TBC)	+	Decreasing
Animal grazing	+	Decreasing	+	Increasing
Fuelwood for self-consumption	+	Decreasing (TBC, use of gas bottles)	+	Increasing (TBC)
Fuelwood for sale	0	0	0	0
Hunting and collection of rare plants	+	Increasing (TBC)	+	Increasing (TBC)
NTFP collection	++	Increasing (TBC)	+	Increasing (TBC)
Road development	+	Increasing	++	Increasing
Tourism development	++	Increasing	+	Increasing
Mines & quarries	0 1/		0	0
Other: collecting Bonsai	+	Increasing (TBC)	+	Increasing

TBC = to be confirmed.

1/ Illegal gold mines prior to NR creation.

Cultural resources

1. There is one historical site nearby the nature reserve in its Donghong section.
2. Dongcun village has one temple and a sacred forest.

Tourism development

1. Current status: Farmer based tourism activities have being conducted in some villages since 2003.
2. Existing plans for future development: Nanning municipality is preparing a tourism development masterplan covering both Damingshan and Longshan. The nature reserve would develop its own activities on its own State-owned forest land, while local communities might continue to develop their activities. Wetland based eco-tourism design is planned in the Donghong section of Longshan nature reserve by Longshan provincial nature reserve management division.

Specific issues identified

1. There are many villages and a lot of productive agricultural activities, including 1400 ha of star anise plantations, inside the nature reserve. Although impact appears to be limited, location of these villages are in the experimental zone has created a problem. There appears to be existing illegal cutting of original trees for anise tree plantation.
2. There is collection of firewood, NTFPs and medicinal herbs in the nature reserve.

Specific opportunities identified

1. Local government officers and farmers understand the importance of the establishment of the nature reserve, and give increasing attention to nature reserve management and improvement of community livelihoods.

2. The ecological forest grant program has being implemented in villages inside the nature reserve. Farmers directly receive cash from the program.
3. Staff from the nature reserve management have changed their attitudes and have high enthusiasm for community based forest management.

Mulun NR

History of the nature reserve

Nature reserve establishment	Year	Status	Staff numbers
Prior to creation	1991	Village collective forests	
First creation	1991	County nature reserve	
First upgrade	1996	Provincial nature reserve	
Second upgrade	1998	National nature reserve	11

Current population in and around the nature reserve (Year 2004)

Nature reserve zone	Administrative villages	Natural villages	Ethnic minority natural villages	Population	% ethnic minority people
Core & buffer zones	0	0 1/	0	0	0
Experimental zone	2	2	2	295	100%
Neighboring areas	6	28	28	3231	100%

1/ The last village inside the core zone was relocated outside the nature reserve in Spring 2005.

Range of population density in adjacent townships: county average is 80 inhabitants/km², density around the nature reserve is even lower.

Co-management knowledge and activities

1. A total of 23 people are hired in the nearby villages by nature reserve protection bureau as full- or part-time forest guards since 2000.
2. A "livelihood zone" has been zoned in at least one village inside the experimental zone where collection activities, e.g. of fuelwood, and subsistence agriculture are allowed on a sustainable basis.
2. Various measures for energy saving including providing to households bio-gas tanks and energy-saving stoves have been taken in some villages nearby the reserve by local forestry bureau, the nature reserve protection bureau and outside NGOs.
3. In order to improve community livelihoods, poverty reduction programs have been undertaken in coordination work among county and township governments, reserve protection bureau, and different bureaus such as forestry, agricultural, livestock husbandry and poverty reduction. Several programs including pig, goat and cow raising, and fodder grass cultivation, were started in some villages and training courses were organized. Economic trees have been planted in farmers' sloped farmland in combination with the land conversion program.
4. Propaganda, posters and slogans on policies, laws and regulations on protection and management of nature reserve and wildlife are supplied to surrounding villages by forest guards and staff from the nature reserve station.

Former community assets transferred to nature reserve at creation

Collective land: all reserve area (10830 hectares)
 Individual land: 143.6 hectares (agricultural land)
 Economic tree plantations: some
 Timber tree plantations: none

Cultural resources

1. A long distance of old path for men and horses from Guangxi to Guizhou has been preserved.
2. Several sections of ancient walls are visible.
3. Some rare plants outside the reserve are protected by local communities.

Resource uses inside and outside the nature reserve

Type of resource use	Inside the nature reserve		Outside the nature reserve	
	Importance (0, +, ++)	Increasing or decreasing?	Importance (0, +, ++)	Increasing or decreasing?
Paddy fields	+	Stable (TBC)	+	
Other grain crops	+	Decreasing	++	Increasing
Cash crops	+	Decreasing	++	Increasing
Economic tree plantations	0	0	++	Increasing
Timber plantations	0	0	+	Increasing
Land burning	0	0	++	Increasing
Animal grazing	+	Increasing (TBC)	+	Increasing
Fuelwood for self-consumption	+	Decreasing (TBC)	+	Increasing
Fuelwood for sale	0	0	0	0
Hunting and collection of rare plants	+	Decreasing	0	0
NTFP collection	++	Increasing (TBC)	+	Increasing
Road development	+	Just built	+	Increasing
Tourism development	0	0	0	0
Mines & quarries	0	0	0	0
Other:				

Note: TBC = to be confirmed

Tourism development

1. Current status: None

2. Existing plans for future development: the nature reserve protection bureau and the local government are planning to develop community-based “eco-tourism” using natural landscape, the ancient path and water rafting in Xiazhai village in the experimental zone of the reserve.

Specific issues identified

1. Collection of firewood, NTFPs and medicine herbs in nature reserve.
2. Burning secondary forests for fast-growing timber or cassava in collective or individual forestland.
3. Wild animal damage to crops located in nature reserve.
4. Community's high dependence on natural resources in the nature reserve.

Specific opportunities identified

1. Staff from the nature reserve management have changed their attitude and have high enthusiasm for community-based forest management.
2. Local government gives high priority to community livelihood improvement. Some programs are supported by the government such as energy saving, land conversion and poverty reduction in nearby villages.
3. Mulun Township is participating in the World Bank-funded Poor Rural Community Development Project starting in 2005.
4. Proposed activities include agriculture (fodder development and cow raising, pig raising and meat processing, silkworm raising), community-based tourism development, collective and individual forestland planning and management including establishment of organization and rules in village level.
5. There are on-going training courses for the revival of Maonan handicraft skills (hats) in Mulun township. The county ethnic minority commission has indicated interest to develop handicrafts in relation with tourism development.

Mao'ershan NR

History of the nature reserve

Nature reserve establishment	Year	Status	Staff number
Prior to creation	1976	State forest farm	
First creation	1976	Prefecture nature reserve	15
First upgrade	1982	Provincial nature reserve	25
Expansion	1980	Some collective forests were included in NR	
Second upgrade	2003	National nature reserve	27
Second upgrade	1999	Participated to China's reserve network of "People and Biosphere".	

Current population in and around the nature reserve (Year 2004)

Nature reserve zone	Administrative villages	Natural villages	Natural villages by ethnic group	Population	% ethnic minority people
Core & buffer zones	0	0	0	0	
Experimental zone	0	0	0	0	
Neighboring areas	16	52	NA		20%

Range of population densities in adjacent townships: low: county average is 65-85 inhabitants/km², population density around nature reserve is probably even lower.

Co-management knowledge and activities

1. Co-ordination leadership among nature reserve protection bureau and nearby 6 township governments is in place since 2003. All local leaders are members of a co-ordination committee. An annual co-ordination meeting is held.
2. A co-management system composed of 6 representatives has been established for the management of Mao'ershan nature reserve. These 6 representatives include managers from the reserve protection bureau and protection station, staff from the reserve station for periodical patrol, village forest guards for daily patrol, and leaders or staff from township government and administrative village hired for coordination or for assisting with management. Various rules and regulations including examination, supervision, rewards and punishment have been developed for patrolling. In order to improve forest patrols' capacity, a series of training courses or lectures have been held, and various information materials were provided by the reserve bureau.
3. A number of activities in environmental protection awareness have been conducted in nearby villages by the nature reserve protection bureau. These activities include "essay", "shan-ge opera", "rhythmic story-telling", local culture and custom performance, or gift of scrolls for Happy New Year. All of these are done by farmers.
4. Since 2001, the ecological forest compensation grant program is implemented in some villages nearby the nature reserve. Households receive payment from the government based on the forest area that they manage.

Community assets transferred to nature reserve at creation

Economic tree plantations: 300 hectares of bamboo forests

Resource uses inside and outside the nature reserve

Type of resource use	Inside the nature reserve		Outside the nature reserve	
	Importance (0, +, ++)	Increasing or decreasing?	Importance (0, +, ++)	Increasing or decreasing?
Paddy fields	0	0	++	Increasing
Other grain crops	0	0	++	Increasing
Cash crops	0	0	++	Increasing
Economic tree plantations	+	Decreasing	++	Increasing
Timber plantations	0	0	+	Increasing
Land burning	0	0	0	0
Animal grazing	++	Increasing	+	Increasing
Fuelwood for self-consumption	+	Decreasing	+	Increasing
Fuelwood for sale	0	0	0	0
Hunting and collection of rare plants	+	Increasing	0	0
NTFP collection	+	Increasing	+	Increasing
Road development	0	0	+	Increasing
Tourism development	++	Increasing	++	Increasing
Mines & quarries	0	0	0	0
Other: Timber bamboo cutting	+	Increasing		

Cultural resources

1. Two historical paths built in Ming and Qing Dynasties.
2. Various temple relics built in the 1920-30s.
3. Old stone stele on forbidding cutting trees and collecting firewood built in 1821.
4. Long March road and Red army pavilion.
5. Memory stele for American fighter wrecked in World War II.

Tourism development

1. Current status: The reserve bureau has developed “eco-tourism” under its control. In addition, two household-based “eco-tourism” activities were started in 2003 nearby the reserve. Longsheng counties has many farmer guesthouses, several of them actually with outside investors, e.g. from Taiwan (source: PRCDP preparation work).
2. Existing plans for future development: More and more farmers want to develop household-based eco-tourism nearby the reserve.

Specific issues identified

1. Collective bamboo forest management and bio-diversity conservation in the nature reserve.
2. Goat pasture and illegal cutting wild bamboo timber
3. Collecting of firewood, Herb medicine in nature reserve.

Specific opportunities identified

1. Staff from the nature reserve management have changed their attitudes and have high enthusiasm for community-based forest management.
2. Local government gives high priority to community livelihood improvement.
3. Proposed activities include: community based eco-tourism development, energy saving, bamboo industry development, establishment and improvement on management and rules on ecological forests.

Annex 6. Ethnic Minority Data

6.1. Nationalities in Guangxi

Name :	Population people	Percentage			Geographical location in Guangxi
		% of total population in Guangxi	% of total ethnic minority population in Guangxi	% of ethnic group in China	
Zhuang	15,532,000	33%	86%	87%	Lowlands
Yao	1,460,000	3.1%	8.6%		Red soil hills & karst
Miao	460,000	1.0%	1.4%		Rongshui County & karst
Dong	318,000	0.67%			Sanjiang, Rongshui, hills
Mulao	165,000	0.35%			Luocheng, karst, hills
Maonan	73,000	0.15%			Huanjiang, karst, hills
Hui	30,400	0.06%			Guilin, Nanning suburbs
Jing	18,200	0.04%			Jiangping and Sandao in Dongxing County
Shui	13,500	0.03%			Miaoshan valley
Yi	7,100	0.015%			Longlin, Napo, Xilin, Tianlin high mountains
Gelao	2,800	0.006%			Longlin, Low Yi Mountain
Other	19,300	0.04%			Scattered

6.2. Autonomous Areas in Guangxi

	Zhuang	Yao	Miao	Dong	Mulao	Maonan	Several nationalities	Special
Autonomous region	1							
Autonomous county	0	6 Jinxu, Du'an, Bama, Dahua, Fuchuan, Gongcheng	1 Rong-shui	1 San-jiang	1 Luo-cheng	1 Huan-jiang	2 Sanjiang (Dong, Miao, Yao) Longlin (Miao, Yi, Gelao)	3 Ziyuan, Xilin, Lingyun
Nationality townships	0	51	8	1	1	0	1 Miao-Yao	1 Hui

6.3. Ethnic Minority Population in Project Counties

6.3.1. Timber plantation establishment & ecological forest management components

County	Han	Zhuang	Yao	Miao	Dong	Shui	Mao-nan	Buyi	Mulao	Gelao	Yi
Tiandeng	1.1%	98.6%	0.3%	0.01%							
Napo	5.4%	90.1%	2.8%	0.9%		0.7%			0.02%		
Pingguo	5.5%	90.2%	4.1%								
Shangsi	6.9%	86.6%	6.2%								
Huanjiang	7.9%	71%	3.1%	1.1%		0.3%	16%			0.5%	
Xilin	9.7%	66.7%	19.1%	3.7%							
Shanglin	14.6%	79.5%	5.8%	0.01%					0.1%		
Sanjiang	16.7%	6.3%	3.4%	16.2%	56.9%						
Yizhou	17.2%	7.4%	5.7%	0.1%		0.4%	0.2%		2.7%		
Longlin	20.6%	52.9%		24.8%					0.7%		1%
Luocheng	26%	40%	1%	0.5%	0.5%						
Tianlin	26.2%	61.4%	11.8%	0.6%							
Nandan	28.4%	56%	9.9%	3.9%		0.7%	0.7%		0.2%		
Xingbing	30.1%	68.5%	1%	0.2%	0.05%	0.04%	0.01%		0.04%		
Nanning	32%	63%									
Chongzuo	33.3%	65.1%	1.4%	0.03%	0.02%	0.01%		0.02%			
Lingyun	46%	33%	21%								
Rong'an	58%	35.2%	1.8%	2.6%	2%				0.2%		
Ziyuan	78.9%	0.2%	3.3%	17.5%							
Gangkou	81%	17.8%	0.3%	0.2%							
Babu	84.5%	4.1%	11.3%	0.02%							
Tiandong	85%	10.8%	4%								
Yongfu	87.2%	9.1%	3%	0.05%	0.07%						
Bapu	90.8%	4.5%	4.6%	0.03%							
Zhaoping	91.1%	4.8%	4%	0.02%							
Rongxian	93%	6%	0.2%								
Guiping	93.2%	6.5%	0.2%								
Bobai	98%	1.4%	0.2%	0.2%	0.2%						
Pubei	99.6%	0.3%									
Cangwu	99.9%	0.1%									
Cenxi	100%										
Wuxuan											
Hengxian	62.6%	37.4%									
Lipu											
Mengshan	80%	7%	4%	6%	3%						

Bama			28.8%								
Fangchenggang											

Source: Guangxi PMO

6.3.2. Nature reserve management component

Nature reserve	County	Han	Zhuang	Yao	Miao	Dong	Shui	Maonan	Buyi	Mulao	Gelao	Yi
Longgang	Longzhou	4.9%	95%	0.9%								
	Ningming	21.9%	77.3%	0.3%								
Damingshan	Wuming	13.3%	86.5%	0.2%								
Longshan	Shanglin	14.6%	79.6%	5.8%								
	Mashan	37%	61.7%	1.2%								
	Bingyang	80%	19.5%	0.5%								
Mulun	Huanjiang	7.9%	71%	3.1%	1.1%		0.3%	16%			0.5%	
	Xing'an	95.7%	0.7%	0.2%	1.8%	2%						
Mao'ershan	Ziyuan	78.9%	0.2%	3.3%	17.5%							
	Longsheng	27.2%	24.4%		17.3%	31%						

Source: Guangxi PMO

6.4. Ethnic Group Profiles

Profiles are being prepared for the Ethnic Minority Development Plan for the following ethnic groups:

Linguistic group	Ethnic groups in the project area
Zhuang-Dong	Zhuang (Buyi), Maonan, Dong, Shui, Gelao, Mulao
Miao-Yao	Miao, Yao
Tibeto-Burman	Yi

Information regarding the ethnic groups relates to:

Type of information	Contents
Names	Official name, other names
Location and total population	Main location in China, in Guangxi, in project area Total population in China, in Guangxi
Level of integration into mainstream society	Overall level Specific features in project counties
Housing	Traditional housing style Current housing style
Mixed settlements and families	Administrative village level Natural village level Household level
Languages	Subgroups and languages Speakers of traditional languages Literacy in Chinese Formal education levels Capacity to understand media
Gender	Traditional culture Participation of women in meetings and training Participation of women in loans Participation of women in forestry
Cultural values of forest	Religion Forests of cultural value Temples and other sites of cultural value in or close to forest Mention of forest in traditional culture
Social institutions	Participation in administrative positions & village cadre positions Current role of traditional leaders or institutions
Land use systems	Degree of intensification in agriculture Use of remote sloped land: Role of forest plantations in traditional and modern land use
Other	Other forest uses Other sources of livelihood

Annex 7. Carbon Fund

7.1. Proposed Project Area

	Township	Number of planned administrative villages	Population
Cangwu	Dapo	3	3,600
	Xindi	5	8,563
	Longxu	2	1,530
	Shatou	3	4,520
	Sub-total	13	18,213
Huanjiang	Mulun	1	102
	Chuanshan	1	296
	Longyan	6	760
	Xunle	2	156
	Minglun	2	283
	Shangchao	1	196
	Sub-total	13	1,793
Total		26	20,006

7.2. Ethnic Minority People in the Project Area

Town/ township	Number of ethnic minority villages	Number of proposed beneficiaries from each ethnic group				
		Zhuang	Maonan	Yao	Miao	Total
Mulun	1	76	26			102
Chuanshan	1	232	8			240
Longyan	6	620	15	7		642
Xunle	2	86			70	156
Minglun	2	270	6	7		283
Shangchao	1	196				196
Total	13	1,480	55	14	70	1,619

7.3. Preferred Tree Species

PRA scores of tree species are as follows (the higher the score, the more the farmers like the species):

- **Cangwu County:** *Eucalyptus* sp (30), Oak (26), *Pinus massoniana* (25), bamboo (24), *Schima superba* (23), *Cunninghamia lanceolata* (22)
- **Huanjiang County:** *C. lanceolata* (90), *P. massoniana* (88), *Liquidambar formosana* (84), *Eucalyptus* sp. (81), *S. superba* (34), bamboo (32).

7.4. Preferred Production Arrangements

- 116 out of the 121 farmer households surveyed said they preferred to cooperate with forest farms (shareholding arrangement)
- 4 households prefer to organize themselves, finance the establishment and management activities and obtain the full profits,
- 1 household prefers to participate in the way of labor.

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Purpose

The Guangxi Integrated Forestry Development and Conservation project plans to (a) establish 200,000 hectares of commercial plantations and 20,000 hectares of multipurpose ecological plantations, (b) close access for rehabilitation of vegetation cover on 100,000 hectares and (c) strengthen management in 5 nature reserves. A sizeable proportion of the project will place in counties, townships and villages where all or most of the population is made of ethnic minority people.

Ethnic minority people form social groups with a social and cultural identity distinct from the dominant society. This makes them vulnerable to being disadvantaged in the development process. In accordance with the World Bank's social safeguard policy on ethnic minority people (OD 4.20, September 1991, entitled "indigenous peoples"), this Ethnic Minority Development Plan describes the practical steps that will be taken to ensure that ethnic minority people fully benefit from the project, and that the risks of potential negative impact identified are avoided or minimized.

The Ethnic Minority Development Plan is an annex to the social assessment that provides additional information on indigenous people and describes practical steps to be taken during implementation. More detailed analysis of project risks and opportunities for ethnic minority people is provided in the social assessment report.

The EMDP covers all project components. The EMDP measures apply to the whole project area except three counties that have no ethnic minority community. The autonomous counties and nationality townships within Guangxi Zhuang autonomous region offer a legal basis that will facilitate the implementation of the EMDP measures in these counties and townships.

The EMDP has been prepared and will be implemented under the responsibility of the Guangxi Project Management Office. The PMO will inform each project county of the measures taken under this plan. Each county will receive the plan (in Chinese) in 3 copies: 1 for the county Project Management Office, 1 for the county government, and 1 for the ethnic minority commission where applicable.

1. Ethnic Minority People in the Project Area

1.1. Definition & Distribution of Indigenous Groups

1.1.1. Definition of Indigenous Groups

Guangxi is in itself a regional autonomous province-level region. Guangxi has ethnic minority people from 54 different ethnic groups totaling 18 Million people, i.e., 38% of Guangxi's population. The Zhuang account for 86% of ethnic minority people and 33% of Guangxi's population. Guangxi is a Zhuang Autonomous Region established on March 5th, 1958. 11 groups are recognized as native nationalities: the Zhuang, Yao, Miao, Dong, Mulao, Maonan, Jing, Yi, Shui, Gelao and Hui. The other 42 are non-native minorities with a total population of less than 20,000, i.e., only 0.04% of total population in Guangxi, and less than 5% of the minority population. The native nationalities therefore constitute the vast majority of ethnic minority people in Guangxi.

Ethnic minorities can be identified in any country by the presence of varying degrees of (i) close attachment to ancestral territories and to natural resources, (ii) self-identification and identification by others as members of a distinct cultural group, (iii) an indigenous language, often different from the national language, (iv) presence of customary institutions, and (v) primarily subsistence-oriented production. The Hui in Guangxi are mostly distributed in urban areas. Many of the Jin (the ethnic Vietnamese) came from Vietnam during the end-1970s. Some of them were integrated into State forest farms. Nine ethnic groups can therefore defined as indigenous peoples under the World Bank's safeguard policies:

- The Zhuang
- The Yao
- The Miao
- The Maonan
- The Dong
- The Shui
- The Mulao
- The Gelao
- The Yi.

1.1.2. Distribution of Indigenous People

The proportion of ethnic minority people in the whole project area differs a lot between counties. The

percentage of ethnic minority people ranges from 0% in Cengxi County to 99% in Tiandeng in the timber plantation component counties, and from 4% in Xing'an (Mao'ershan) to 95% in Longzhou (Longgang) for the nature reserves component. The percentage of Zhuang people is higher than provincial average, 33%, in only half of the timber plantation component counties. The added percentage of Miao and Yao people is more than 4% in half of the plantation counties and in 4 nature reserve counties. Altogether, the 3 groups that can be defined as economically more vulnerable, the Miao, the Yao and the Yi (see below), account for up to 26% of county population among the NW Guangxi project counties and 21% among the NE Guangxi project counties. Percentages of the population by ethnic group and by project county are provided in Annex 1.

Among the two counties selected for the carbon fund, one, Cangwu, is fully Han. In the other, Huanjiang, ethnic minority people account for 92% of the population. The proportion of ethnic minority people around nature reserves tends to be high. Project township selection is under way for the timber plantations, the shelterbelt plantations or the karst rehabilitation. It is however likely that project townships would include some townships with high percentages of ethnic minority people.

1.2. Vulnerability

1.2.1. Gap with Mainstream Society and Poverty in Guangxi

Ethnic minority people in Guangxi are in large numbers and the Chinese legal framework (see below) offers a comprehensive protection system that is well in place. Guangxi has 62 nationality primary schools, 47 nationality middle schools and nationality vocational schools, and 3 nationality colleges and universities. The signboards of organizations are written in both Chinese and minority languages. At county level there are civil, traditional minority medical organizations. There is one nationality medical college in Youjiang.

The language gap between minority ethnic groups and the Han Chinese is present but is overall assessed as low in the project area. Ethnic minority people can speak several languages in their daily lives, including Chinese and other minority languages. Chinese is the main tool of communication. Most of the young ethnic minority people in Guangxi go to work outside far away from their home, which shows that minority cultures are gradually getting close to the mainstream of the society due to external development impact.

Ethnic minority groups however remain an overall vulnerable group. While ethnic minority people account for 50% of population in autonomous counties, poverty incidence among ethnic minority people is 80%. Average incomes in Luocheng and Lingyun Counties are only slightly above CNY 1000 per capita per year, among the lowest county average in Guangxi.

Agricultural production patterns of all ethnic groups tend to be similar when they are in the same environments, but there are strong differences between the natural environments where the various groups live.

The Zhuang are often a local majority. They include the Buyi who are a very close group. They are distributed in more than 60 counties (cities) in Guangxi. In the project area, they mostly live in karst hills with larger areas of flat land, and in lowlands and valleys suitable for paddy fields, so that they can grow rice and economic crops such as sugarcane and cassava.

The Yao and the Miao are close to 2 Million people in Guangxi and partly live in the project counties. They live both in the Zhuang and the Han areas, generally at elevations higher than 500-800 meters above sea level. In the project area, the Miao and Yao mostly undertake farming (and traditionally hunting) in upland areas and generally have little access to paddy fields. The project counties include however 1 old area of Miao settlement, Longsheng, where large paddy terrace systems have been built and are maintained. The Miao and Yao have rich traditional practices in forestry, for example in planting Chinese fir.

The Yi are less than 10,000 people in Guangxi. They are very close to the Yi of the Liangshan mountains of Sichuan. They live in the cold, high mountains. Upland crops and goat grazing are important activities as in their other areas of settlement in Sichuan. Most of them live in the project area in Longlin and Xilin counties in NW Guangxi at elevations around 1400 meters of elevation.

The Miao, Yao and Yi are groups that remain today markedly vulnerable. The Yao account for around ¾ of the population of these 3 groups in Guangxi. Communities with higher vulnerability live in karst mountains with very little soil (these are mostly Yao people) and at high elevations (these are Miao and Yao in the Jiuwandashan mountains in N Guangxi, and Yi in NW Guangxi). The Yao in the karst typically live in infertile natural villages in mixed Zhuang-Yao villages. Large numbers of Yao people have been resettled from the extremely poor Dahua and Du'an counties to other counties where they have settled in natural villages often away from the road. This is the case in several project villages in Huanjiang County.

In all ethnic groups, remote communities in upland areas tend to live in traditional housing structures, while communities from the same group in lowland areas live in brick and stone or brick and wood modern houses. Better-off families generally prefer two-story concrete buildings. Traditional clothes are nowadays worn by women and mainly on public occasions.

There are therefore remote communities with high vulnerability among all ethnic groups. Zhuang communities who live in infertile karst sections, for example, are markedly vulnerable.

1.2.2. Small Groups with Vulnerable Cultures in Guangxi

While the above groups are especially vulnerable from an economic point of view, others are vulnerable from a cultural point of view.

The Maonan, Dong and Mulao are from the same linguistic group as the Zhuang. The Shui and Gelao are also very small groups from the same linguistic group as the Zhuang. They are present in the project area in North Guangxi but their main location is Guizhou. All these small groups are ethnically close to the Zhuang and generally have access to paddy fields. Each of these small groups is known for being “good at” growing specific crops or raising specific animals, e.g. cattle and pigs for the Maonan in Huanjiang County.

These groups tend to live in more hilly areas with less land than in the Zhuang areas but they are not as vulnerable as the Miao, Yao and Yi from a poverty point of view. However their overall numbers are very small and they are mostly or fully distributed in North Guangxi. These small groups consider that their own cultures are vulnerable, and that development projects can be opportunities to reinforce these cultures.

1.2.3. Situation in the Project Area

The distribution of vulnerable ethnic minority communities in the project can be summarized as follows:

- Hill closure will take place in an area that has many economically vulnerable communities, often from the Yao and Zhuang groups; these communities will take part in the project to a degree that depends on the targeting choices that will be made in the project.
- The nature reserve management component will also include disadvantaged Zhuang, Yao and Miao communities, and 2 of the very small groups endemic to Guangxi, the Dong and the Maonan.
- The timber plantation establishment component, the ecological forest subcomponent and the carbon sequestration and trade pilot subcomponent will not be targeting vulnerable communities. However the first two are expected to include a number of communities living at higher elevation, above elevations suitable for fast-growing species, often of the Miao, Yao or Yi groups. In the timber establishment subcomponent, the vast majority of seasonal workers will be very poor people from

karst regions in Guangxi, but also from neighboring Guizhou, and from local poor villages. A large number of them may be Yao people.

1.2.3. Local Institutions

Ethnic minority counties also have their own strengths. For example the science and technology system of agriculture and forestry in Guangxi is functioning well. There is a science & technology committee in each county. There are on average 3-5 technicians for each station in townships with a forestry station.

All indigenous people communities in Guangxi have retained strong community organizations. Many natural villages tend to be inhabited by a single ethnic group in which case there are few instances of intermarriage among different ethnic groups. A frequent situation in the project area is an administrative village with a number of Han or Zhuang natural villages, and a number of Yao or Miao natural villages. The latter are often distinctly more disadvantaged. Ethnic minorities in most areas inhabited by several ethnic groups have frequent economic and cultural interaction. Yao people reportedly like to have their children acknowledge Miao or Dong people as adopted father or mother to enhance mutual attachments. Some areas have mixed villages and there is reportedly more intermarriage in this case.

Natural villages often tend to be strong relative to administrative villages, although various situations have been observed. However the social assessment found out that administrative village committees fully have the capacity to manage administrative matters. For example, village rules and regulations are nowadays handled by administrative village committees. Natural villages may have more capacity for technical matters. They have retained traditional leaders that may play an important role alongside the village head.

All ethnic groups have traditional villager agreements governing forest management including fire prevention and hill closure for forest protection.

1.3. Indigenous Group Profiles

This section summarizes information about each minority ethnic group that is of importance in the context of the project. Most information in this section was provided by the Guangxi Integrated Forestry Development and Conservation Project social assessment report. In addition, the following sources have been used:

- China Poor Rural Communities Development Project, funded by the World Bank and DFID, Rong'an County ethnic minority development plan (prepared by Zhongshan university, Guangzhou)
- China Sustainable Forestry Development project, funded by the World Bank, Social Assessment Report
- China's Minorities by Colin Mackerras, Oxford University Press, 1994.
- The Ethnologue Encyclopedia, International Linguistics Center, USA (www.ethnologue.com)

The indigenous groups in the project area belong to three linguistic groups:

Linguistic group	Ethnic groups in the project area
Zhuang-Dong 1/	Zhuang (Buyi), Maonan, Dong, Shui, Gelao, Mulao
Miao-Yao	Miao, Yao
Tibeto-Burman	Yi

1/ This linguistic group is called Thai-Kadai out of China.

1.3.1. Zhuang

Definition of ethnic group. The Zhuang belong to the Zhuang-Dong group of the Sino-Tibetan family. The Buyi, a distinct nationality in China with an ethnic population of 2.5 Million people in the 1990 census, are considered as belonging to the same group as the Zhuang in this document so that no specific profile is provided.

Population and distribution. 86% of the Zhuang in China live in Guangxi province where they total more than 15 Million people and live in 60 counties. There are also Zhuang people in counties neighboring Guangxi in Yunnan, Guizhou, Henan and Guangdong provinces.

Social institutions & settlements. Zhuang people tend to live in natural villages with a single family name or clan. They pay attention to kinship. People of a same clan help each other and sacrifice to ancestors together. The traditional village leader called Dulao had authority to maintain order, manage public facilities, and deal with external affairs on behalf of the

Languages. There are 2 languages, Northern Zhuang and Southern Zhuang, with 65% lexical similarity. There were 10 Million speakers of the first language in 1990 and 4 Million of the second one. 50% of speakers of each language were considered monolingual (i.e., they mainly mastered their local language) at that time. 8 dialects are listed for Northern Zhuang and 5 for Southern Zhuang with 75-85% lexical similarity between dialects. Northern Zhuang is Guangxi's official regional language. The government created a transcription into latin alphabet of the Zhuang language based on one Northern Zhuang dialect in 1955, and this transcription was revised in 1982. Southern Zhuang starts from Napo and Tiandeng counties towards the South. Some speakers of other minority languages also speak Zhuang. Literacy in the second language (standard Chinese or Cantonese) was low in the countryside in the early 1990s.

Gender. A Zhuang family is typically monogamous and patriarchal but the young husband often settles with his wife's family (the same custom is practiced among the Yao and Miao).

Cultural values of forest. The Zhuang believe in a number of gods and worship ancestors. After the Song dynasty, Buddhism and Taoism were introduced and temples built. Southern Zhuang are traditionally Taoists, while Northern Zhuang are polytheists, Buddhists and Taoists. Temples have a shrine for ancestral worship. Inhumation is practiced in wooden coffins. There are many taboos concerning the environment. The Zhuang in the project area maintain a strong tradition of cultural landscapes with sacred forests, especially on karst hills, and tree groves, often bamboo groves, around houses, paddy fields and riverbanks. Village names are related to local topography or landscape. In the karst area, the Zhuang have been reportedly reluctant to develop forest exploitation since vegetation on karst hills was fragile.

1.3.2. Yao

Population and distribution. There were 2.1 million people of the Yao nationality in China in 1990 according to the population census. The Yao people are widely spread from Yunnan province to Hunan province. There are 4 subgroups speaking different dialects. The Yao speaking the Bunu dialect close to the Miao language are mostly located in the karst mountains of NW Guangxi. They have preserved more traditional cultures and live in difficult environments. In the project area, this subgroup is found in Yizhou, Tiandong and Shanglin Counties for example. The 3 other subgroups, the Mian Yao speaking the Mian dialect, the Pingdi Yao speaking Chinese dialects and the Chashan Yao speaking a dialect close to the Dong-Shui languages, have cultures and living standards closer to the Zhuang people.

Social institutions. In the 1910s, the Yao people had set up a local rural administration at least in some parts of the project area as Rong'an County. After the foundation of the PRC, the commune system replaced it. Village communities remain rather strong. The traditional Yao village leader called Shipai had the power to maintain order in the communities in many fields including economic activities, public property and environmental conservation.

Languages. Yao people living in compact communities speak Yao, while scattered Yao people speak Chinese.

Cultural values of forest. The Yao traditionally practice Taoism or Buddhism. The Yao are mostly Taoists with some polytheist elements of worshipping of the sun, moon, wind, rain and thunder. The Yao also worship their ancestors by setting up a shrine in the main hall of the house. Burial in coffins is practiced. Christianity has been spreading in recent decades.

Land use systems. "Each mountain is inhabited by Yao people" is a traditional saying in Guangxi. The Yao people have a rich indigenous knowledge of forest management and agroforestry. They generally master techniques of tree planting and management. Native proverbs shared with the Miao, Shui and Dong say "Plant tung and fir, never will poverty occur" and "Planting thousands of bamboos, back and belly will be full".

1.3.3. Miao

Population and Distribution. The 7.4 Million Miao people in China (1990 census) spread over a large area from southern Yunnan province up to Hubei province in the North. The Miao in Guangxi mostly reside in North and NE Guangxi. Rongshui County is the central part of their area of distribution and a very old settlement area.

Settlements. Traditional houses are suspended foot houses in stockade mountain villages in several project counties including Rong'an. The Miao people living together maintain the traditional Miao clothes, those living scattered have the same clothes as the Han nationality.

Social institutions. Before liberation, the Miao people kept a "bundling" organization in stockade villages. There is no special social organization left today but communities remain rather strong. The Miao people live together in natural villages that tend to have a single surname. The traditional Miao village leader called Zhailao had the power to maintain order in the communities in many fields including economic activities, public property and environmental conservation.

Languages. The Miao language is spoken within communities in the project area. There are 3 dialects that are not mutually understandable: the Guizhou-Yunnan dialect in NW Guangxi, the West-Hunan dialect in North Guangxi, and the East-Guizhou dialect in Northeast Guangxi. A roman script has been developed but is not widely used. A few Miao people speak a Dong dialect. Scattered Miao people mostly speak Chinese. Chinese is the communication language including among Miao subgroups.

Gender. Monogamous small families are today dominant in the Miao nationality. Extended families, with 3, 4 or 5 generations living in the same house, have become rare.

Cultural values of forest. The Miao have rich indigenous knowledge in agroforestry, e.g., with Chinese fir. They often preserve or plant tree belts around their villages. Religious belief is similar to the Yao with primitive Taoism and worship to nature. There are Christians among the Miao. There is a church along the Rongshui-Liuzhou highway.

Land use systems. There are large traditional paddy terrace systems in Guangxi in Rongshui and Longsheng counties. Forestry is an important part of the land use systems similarly to those of the Yao people. Many Miao people are skilled in tree planting and management.

1.3.4. Yi

Definition of ethnic group. The Yi belong to the Tibeto-Burman linguistic group. The Yi people in NW Guangxi moved from the Yunnan-Guizhou plateau into Guangxi during the Ming and Qing dynasties. The group includes Black Yi, White Yi and Red Yi. Unlike the Liangshan Yi in Sichuan, no caste gap is visible between these subgroups.

Total and local population. There are 6.6 Million people in the Yi nationality in China according to the 1990 census, located throughout Yunnan province, where they are the most populous ethnic group with 4 Million people, in the Liangshan mountains in SW Sichuan and in NW Guizhou. Within the project area, there is a small Yi group of 7,100 people in 4 counties in NW Guangxi.

Languages. There were 1,6 Million speakers of the Northern Yi language in the 1990s. The Yi ideograms have been lost. An official phonetic written transcription is used and a dictionary has been developed.

Cultural values of forest. The Yi are polytheists, with a mix with Taoism and Buddhism from other ethnic groups. March 3 and 4 of the Lunar calendar each year is the Mountain Protection Day of the Yi people, when cutting trees is taboo.

Land use systems. The Yi people in the project area live at around 1400 meters of elevation and engage in agriculture, with buckwheat, potatoes, corn and turnip, diversified livestock, and forestry. Shifting cultivation was prevalent in upland areas until recently. Community meetings discuss unwritten law including protection of mountain forests.

1.3.5. Maonan

Population and distribution. The Maonan only live in Guangxi. Population was close to 72,000 in the 1990 census. Most Maonan people live in the Xianan section of Huanjiang autonomous Maonan County. A few live in nearby counties.

Languages. There were around 20,000 language speakers in the 1990s. Language use is vigorous. Local speakers of other languages can speak Maonan. The language is used for all domains by all ages but less by the young.

Social institutions and gender. Families and clans are strongly patrilineal. The village organization functions to maintain social order in the community and to protect water resources and mountain forests.

Cultural values of forest. The Maonan practice polytheism mixed with Taoism and Buddhism. Some are Christian. They are known to cherish natural resources including land and water.

Land use systems. The Maonan grow paddy in terraced fields. They have diversified livestock.

1.3.6. Dong

Population and Distribution. There are 2.5 Million people in the Dong nationality in China according to the 1990 census. They are located at the meeting point between Northern Guangxi, SE Guizhou and SW Hunan in 20 contiguous counties including several project counties in NE Guangxi. In Guangxi, the Dong live in North Guangxi in Sanjiang, Rongshui and Longsheng Counties.

Social institutions & settlements. The Dong had historically a specific organization. Several neighboring stockade villages formed a small “Kuan”, several small Kuans formed a medium Kuan and several medium Kuans formed a large Kuan. These were alliances of villages of the same ethnic group within a region. The Dong still live in villages where all households belong to the same clan and share the same family name. The traditional way of life and well-known Dong architecture are relatively undisturbed, particularly for the Southern Dong in the project area. Their houses are mostly Chinese suspended foot storied buildings with fir timber structure, most with 2-3 floors. Drum towers announcing public meetings and covered bridges have remained typical elements of village architecture. The southern Dong areas are receiving increasing numbers of tourists.

Languages. All members of the Dong nationality are speakers of the Dong language, with 62% speaking Southern Dong and 38% Northern Dong. These languages have reportedly 49% lexical similarity with the Northern Zhuang language. The Dong language has an official script. Most Dong people can speak Chinese.

Gender. Dong families are monogamous and strongly patrilineal. Husbands live in their wife’s family. Extended families with 3 generations living together remain frequent. The parents will live together with the youngest son. Family affairs are presided by the father, or if the father has died, by the mother.

Cultural values of forest. The Dong believe in primitive Taoism. Cutting old trees in front and behind houses is strictly forbidden.

Land use systems. “Dong” means “plain area among mountains”. Most of Dong villages are built in paddy basins along streams surrounded by mountains. Forestry is also an important livelihood activity. The Dong plant Tung, tea, Chinese fir, pine and bamboo.

1.3.7. Mulao

Population and distribution. Ethnic population was 159,000 in the 1990 census. The population is concentrated in karst hills in and around one autonomous county in North Guangxi, Luocheng, a project county. The Mulao are also distributed in nearby counties in Guizhou.

Languages. There were around 50,000 speakers of the language in the 1990s of which only 20% were monolingual. Language use is highest in two townships in Luocheng County, Dongmen and Siba. Language use is vigorous for all domains but mainly among older people. Lexical similarity is 65% with Dong and more than 50% with Zhuang.

Social institutions and gender. Families are strongly patrilineal and husbands do not settle in their wife’s families. The community organization, called Dong, is based on kinship and settlement. The organization has its own memorial temple and unwritten law.

Cultural values of forest. The Mulao practice polytheism, with ancestor worship, mixed with Taoism and Buddhism.

1.3.8. Shui

Population and distribution. The Shui had an ethnic population of 346,000 in the 1990 census. Most of them are located in 2 districts in Guizhou (Sandu and Libo) and one county in Guangxi (Nandan) which is a project county. Others are dispersed in Guangxi and NE Yunnan.

Languages. 50% are monolingual. Language use remains vigorous for all ages and all domains. Chinese is the second language but bilingualism is low in the main settlement areas.

Social institutions and gender. Clans are strongly patrilineal. Most households in a village share a single surname.

Cultural values of forest. The Shui are polytheists worshipping the Goddess ancestor, the Stone ancestor, the Mountain god, the Earth god and the Tree god. A few Shui people are Catholics.

Land use systems. The Shui grow paddy in terraced fields. Tree planting is an important activity.

1.3.9. Gelao

Population and distribution. The Gelao had an ethnic population of 438,000 in the early 1990s distributed in Yunnan, Guizhou, Guangxi and Hunan. The ethnic population was multiplied by more than 7 between 1982 and 1990. The group is located in one county in Guangxi, Longlin, which is a project county.

Languages. There were only 3000 speakers of the language in 1999 of which 500 were monolingual. There are 4 dialects or distinct languages. Most speakers are older adults and the language is used in traditional religion. Most Gelao people speak Chinese.

Social institutions and gender. Marital conventions are similar to those of the Yao people. The eldest son is the heir.

Cultural values of forest. The Gelao are polytheists and they worship ancestors similarly to the Yi people.

2. Legal Framework

2.1. Overall Framework

The legal framework governing matters relating to ethnic minority people has the PRC Constitution at its core, the Law of Regional National Autonomy of the PRC as its backbone, and the specific regulations for autonomous areas as specific contents. This fully applies to Guangxi that is an autonomous region.

The Constitution of China stipulates that all the nationalities of China enjoy rights for their social, economic and cultural development, and that the system of the minority nationality autonomous system should be practiced in regions where a major nationality inhabits. China's policy for minority nationalities is stated in the Nationality Regional Autonomy Law of the People's Republic of China. The second clause of chapter one in this law states that regional autonomy shall be carried out in the regions where the ethnic minorities live in compact communities. Within the legal framework of the Law of Minority Nationality Autonomy, ethnic minority people enjoy the following rights:

- Right to equity among nationalities,
- Right to make autonomous regulations and specific regulations for managing local finance, economic development, training and employing minority officials, education, science and technology and culture,
- Right to use and develop the languages and writing systems of the nationalities,
- Rights of freedom of religious beliefs,
- Right to maintain ethnic culture and traditions, and guarantee of respect of these customs by other nationalities,
- Right to maintain a high proportion of non-Han officials in autonomous institutions,
- Right to develop local economy and enjoy national and regional preferential policies,
- Right for the development of culture, education and science and technology,
- Right to enjoy a preferential family planning policy.

The national legal framework stipulates that the nationalities have rights on the land and forests on which they have been living for generations. The autonomous government in a national autonomous region as Guangxi manages and protects the local nature resources in accordance with the law. Based on the law and the State unified planning, the autonomous government in the national autonomous regions can put priority on properly developing and using the nature resources that have potential for development in the locality. In the exploitation of resources and when undertaking construction in ethnic minority autonomous areas, the State gives consideration to the interests of the minorities, ensures that economic development benefits the minorities, and takes into account local ethnic minorities' production and lives. Should autonomous areas lose some of their natural resources, the State shall take compensation measures.

The karst areas in the South – including in Guangxi - are an important category in the environmentally sensitive areas that are now receiving high government attention and that are mostly inhabited by ethnic minority people. Under the rural poverty reduction framework that governs poverty reduction work since 2001, the nationality regions were reconfirmed as a key target for government support.

2.2. Autonomous Areas in the Project Area

2.2.1. Guangxi Autonomous Region

The People's Congress of Guangxi Zhuang Autonomous Region (GZAR), its standing committee and the People's Government of GZAR are the provincial autonomous organs that exercise autonomy in politics, economics, finance, culture and education.

The autonomy of the autonomous region is embodied in the local legislation. Laws and regulations related to the project include:

- Implementation Procedures for Land Management of GZAR,
- Management Regulations for Natural Reserves of Forests and Wild Animals of GZAR,
- Interim Regulations on Environmental Protection of GZAR,
- Regulations on Labor Protection of GZAR,
- Management Regulations for the Protection of Cultural Relics of GZAR,
- Management Regulations for Cultural Markets of GZAR,
- Procedures of GZAR for the Implementation of the Assurance Law of Women's Rights and Interests of the PRC.

2.2.2. Autonomous Counties in the Project Area

Counties with more than 1/3 of population from a given nationality, other than the Zhuang or Han for Guangxi, can legally be established as an autonomous county for this nationality. If the population of several minorities except the Zhuang is above one fourth of the population of a county, then this county can be established as an autonomous county for several minorities. There are 12 national autonomous counties in Guangxi. In addition, three counties, Ziyuan, Xilin and Lingyun County, benefit from the status of autonomous counties without having officially been recognized as such.

Table 1. Autonomous counties and number of nationality townships in Guangxi.

In bold: project counties.

	Zhuang	Yao	Miao	Dong	Mulao	Maonan	All nationalities	Special status
Autonomous region	1							
Autonomous county	0	6 Jinxu Du'an Bama Dahua Fuchuan Gongcheng	1 Rong-shui	1 San-jiang	1 Luo-cheng	1 Huan-jiang	2 Longsheng Longlin	3 Ziyuan Xilin Lingyun
Nationality townships	0	51	8	1	1	0	1 Miao-Yao	1 Hui

The project area includes 8 autonomous counties. These are the 3 counties with special status, two all-nationality autonomous counties, and 3 autonomous counties, each for a different nationality (Dong, Mulao and Maonan) except for the Miao and Yao. All 8 autonomous project counties are taking part in the timber plantation component. Only 3 are taking part in the nature reserves component. Eight are taking part in the shelterbelt plantation subcomponent, five are taking part in the hill closure component, and 1 in the carbon fund plantation. This compares with the 33 counties in the timber plantation component, 12 in the nature reserves component, 26 for shelterbelt plantations, 19 for hill closure and 2 for the carbon fund.

2.2.3. Nationality Townships in the Project Area

In order to protect the rights of scattered minorities, the Chinese government also stipulates that, in autonomous regions, if the population of an ethnic group (except the Zhuang for Guangxi) is higher than one third of the population of a township, then this township can be established as a nationality township for this group.

There are 63 nationality townships in Guangxi, among which 60 are nationality townships of Yao or Miao minorities.

There are 34 nationality townships in the project area located in 20 project counties, of which 15 are not autonomous counties, 2 (Huanjiang and Sanjiang) are autonomous counties, and 3 are special status counties (non-autonomous counties having the special rights of autonomous counties). Among these 34 nationality townships, 8 are for the Miao nationality, the remaining 26 townships being for the Yao nationality.

The selection of project townships is not available yet except for the nature reserves component and the carbon fund. It is unsure how many nationality townships the project area for the other components will include. Most of the Yao nationality townships are expected to have harsh environments not appropriate for fast-growing timber plantations. Many of them are karst townships appropriate for hill closure.

Two nature reserves in the project have nationality townships surrounding them: there are 3 nationality townships around Mao'ershan nature reserve and 2 around Damingshan / Longshan nature reserves.

The nationality township in Huanjiang County is not included in the proposed area for the carbon fund subcomponent.

Table 2. Nationality townships in autonomous and non-autonomous project counties

<u>County</u>	Autonomous county (yes/no, related nationality)	Names of nationality townships	Nationality in nationality township	Township nearby nature reserve
1. Huanjiang	Yes, Maonan	1. Chuanle	Miao	
2. Jiazhou/Bapu	No	2. Daping	Yao	
3. Lingyun	No but special status	3. Yuhong 4. Lihong 5. Zhuoli 6. Lingzhan 7. Shali	Yao Yao Yao Yao Yao	
4. Longlin	Yes, all nationalities	-		
5. Longsheng	Yes, all nationalities	-		
6. Luocheng	Yes, Mulao	-		
7. Mashan	No	8. Guzhai 9. Lidang	Yao Yao	Yes
8. Nandan	No	10. Bayu 11. Zhongbao	Yao Miao	
9. Napo	No	-		
10. Pingguo	No	-		
11. Sanjiang	Yes, Dong	12. Gaoji 13. Tongle 14. Fulu	Yao Miao Miao	
12. Shanglin	No	15. Zhengyu	Yao	Yes
13. Shangsi	No	16. Nanping	Yao	
14. Tiandong	No	17. Zuoceng	Yao	
15. Tianlin	No	18. Bagui 19. Gongwa 20. Lizhou 21. Lucheng 22. Badu	Yao Yao Yao Yao Yao	
16. Xilin	No but special status	23. Nazuo 24. Zubie 25. Puhe	Miao Yao Miao	
17. Xing'an	No	26. Huajiang 27. Lantian 28. Dajing	Yao Yao Yao	Yes
18. Yizhou	No	29. Beiya 30. Fulong	Yao Yao	
19. Zhaoping	No	31. Shenhui	Yao	
20. Ziyuan	No but special status	32. Liangshui 33. Hekou 34. Chetian	Miao Yao Miao	Yes Yes

3. Ethnic Minorities & the Project

3.1. Current Project Design

3.1.1. Overall Participation of Ethnic Minority People in the Project

All autonomous counties are planned as project counties except for the Miao and Yao nationalities: none of the 6 Yao autonomous counties and the one Miao autonomous county is included in the project area. The karst environment in most of these counties is an important factor in their non-participation. The project's karst rehabilitation activity is located in counties that already provide counterpart funds to participate in another project activity. It is therefore assessed that there is no issue of non-participation of one ethnic group in the project at this stage of project area selection.

3.1.2. Timber Plantation Establishment Component

Equal opportunity for ethnic minorities to participate in the project has been outlined as a principle in the project's information leaflet (in continuation with the previous WB forestry project). Ethnic minority people in the project counties will therefore have equal rights compared to the Han to apply to the component. However a large proportion of ethnic minority people face objective difficulties including lack of capital, lack of access to new technology and information, and they may live in areas that are too remote from the main road to establish viable plantations. Only a small number of better-off households are therefore expected to apply for individual loans to undertake a plantation themselves in ethnic minority areas, in contrast to Han areas.

Most ethnic minority households are expected to participate in the component by means of bringing their individual or collective land into contracts with enterprises or forest farms, and providing seasonal unskilled labor. The plantation sites are expected to be often selected from ethnic minority communities with large areas of waste hill. Huanjiang County in North Guangxi or Xilin in Northwest Guangxi are good examples. Contracts between natural village collectives, which still own and manage most of the sloped land, and companies or forest farms are expected to be an important type of production arrangement. Ethnic minority communities in the project area already have experience of such contracts, but the project is expected to improve these contractual relationships. In a sense, this increases the opportunity for the project to contribute to poverty reduction in ethnic minority areas. In another sense, this confirms the need to take into account the risks of commercial forestry for such communities.

3.1.3. Watershed Management Component

The component includes 3 subcomponents: hill closure mostly for the purpose of rehabilitating vegetation cover on karst terrain, ecological plantations, and carbon sequestration and trade plantations.

Karst rehabilitation is closely linked to the cultures of Guangxi's ethnic minorities. Guangxi's on-going karst rehabilitation program builds upon initiatives that were often taken by ethnic minority communities themselves, for example Zhuang villages in Tiandong or Pingguo Counties. It is the custom for most minority ethnic groups including the Zhuang in Guangxi to worship and protect the woods in front of, and behind, the village as holy wood and geomantic forest. However most of these protected forests were destroyed during the "Great Leap Forward" and "Learn from Dazhai" campaigns, so that the villagers feel an urgent need to rehabilitate and protect them. In this sense the project design incorporates the participation of ethnic minority people. Forestry is relevant not only for poverty reduction among ethnic minorities but also for the protection or recovery of traditional social organization and for the transmission and inheritance of their cultures. It is understood that only local residents will be eligible to the karst rehabilitation activity. The village committee of the minority villages will organize the villagers to

undertake forest closure with the technical support of the forestry department. Some individuals will work as forest guards.

The carbon fund is an innovative, complex activity. It is understood that one option remains to be selected in project design between managing the carbon fund activity as a contract between community and forest farm, or a more complex scheme with households accessing directly the loan. The majority of ethnic minority households are unlikely to access such a scheme in Huanjiang County.

The shelterbelt plantation subcomponent is linked to the on-going Pearl River shelterbelt program. It is understood that one option remains to be selected in project design between a community forestry project activity which would be very similar to the karst rehabilitation subcomponent in terms of participation of ethnic minority communities, and an upper watershed protection project, which is likely to be more directly managed by local forestry bureaus. In Zhuang communities, the first option would require location of the plantation in areas relatively close to houses since communities tend to manage more remote land in a very extensive manner.

3.1.4. Nature Reserve Management Component

Ethnic minority people, who account for the vast majority of villagers in many of the villages that surround nature reserves, will de facto be important participants in the component. Land use and access to resources are restricted by the nature reserves not only inside the reserve but also to some degree in adjacent communities. Income levels are generally lower in these communities than those of villagers living in further away from nature reserves (although not always when there are opportunities to develop tourism). These communities are therefore more likely to benefit from a positive impact of the component, or to face potential negative impact.

Ethnic minority households will participate, directly and through their local governments, not only in the community activities of the project but also in the whole process of surveying and monitoring wildlife, and in improving the nature reserve management plan.

3.2. Consultation Process and Outcomes

Guangxi has already taken part in several World Bank funded fast-growing forestry plantation projects. Local ethnic minority commissions are strong agencies. This provides a good foundation for the participation of ethnic minorities in the project. The social assessment has had a satisfactory focus on ethnic minority people. At least one community from each of the 9 indigenous groups identified was surveyed (except the Yi since the social assessment team did not visit NW Guangxi, but the team was very familiar with the Yi group in other provinces).

3.2.1. Timber Plantation Establishment Component

Participation is expected to differ from place to place due to contrasted economic development levels. In East Guangxi where the economy is fairly developed, farmers have diversified opportunities to gain income, and they take a wait-and-see attitude towards the component. They have indicated however that they were quite concerned with the selection of species, the loan criteria, and benefit sharing in the contracts. In comparison, in the impoverished mountain areas of West Guangxi, the ethnic minority communities surveyed have shown great enthusiasm for the component and consider it a rare opportunity for development. They have the potential to actively participate in the component. These are the communities where meeting rooms during social assessment village meetings were overcrowded.

The assessment results indicate that while ethnic minority people are welcoming the component, they are very concerned about problems such as loans, repayment, benefits, risks, adaptability of the tree species, fair participation in the component, and capacity to access marketing opportunities and logging quotas. They are also concerned about the component's capacity to help improving transportation and water supply.

The "company + household" production arrangements seem feasible to the communities consulted, but it is outlined that the sharing of costs and benefits is not clearly stipulated. Another issue raised is that, unless the benefit sharing system is designed properly, the plantations might intensify differentiation between the rich and the poor within the community, and poorer households would be hurt.

People interviewed said they were unsure about wage levels, but requested a minimum of CNY 15-20 per day. They stated that they did not mind about the job, and women indicated that they were used to hard labor. These jobs are seen as an opportunity to gain cash income with low risks. Households interviewed also said that they agreed, except for better-off households, to contribute their land to a timber plantation and then work as waged labor on this land. This is particularly true of the Yao people who have preserved their identity of tree growers.

The ethnic minority communities consulted have great enthusiasm to participate in the component and at the same time they worry that they will be kept away from the component due to their lack of capital and their location in remote areas. They have indicated preference for native species with short rotation and rapid benefit, for which they have experience. These include timber species (*Liquidambar*, *Zinia insignis*, *Melia azedarach*, *Masson pine* and *Chinese fir*), bamboo, and tree crops (star anise, oil tea, peach, plum, and tung). In other words, eucalypt was often not ranked as a priority species in remote areas.

Ethnic minority people express special concerns about the risks of a loan project, including risks of natural disaster, fire and unlawful chopping. Based on their previous experience, they worry that they will not be allowed to harvest after planting or that the cost for harvest certificates will be too high. The issue of "seeing only the wood, but not the benefit" may again occur. They outline that the allocation of harvesting quotas should be matched with the time when commercial timber plantations become mature. They state that more logging quotas should be given in priority to ethnic minority regions, and that related costs should be reduced to the greatest extent.

3.2.2. Watershed Management Component

Ethnic minority villagers said that forest closure would bring impact on their collection of firewood and non-timber forest products and also on grazing of cattle. However they also recognize that, without forest closure, soil erosion will intensify and the environment will further deteriorate and finally affect the survival of the future generations. They see the protection of their own water sources as an urgent problem. Some villages, aware of the urgency of improved environmental management, applied to the county water and electricity department for the Pearl River basin management project as early as 2001 (and others started hill closure much before that).

The survey results of the social assessment indicate that ethnic minority households think they cannot gain short-term economic benefit from watershed management, but that there is a long-term benefit. They also

worry about the problem of future surplus labor. Some have outlined that ethnic minority people in the water and soil conservation areas should be fairly compensated by the adjacent cities for their losses due to protection of water source and the ecosystem.

The limited interviews carried out in one Zhuang village for the carbon fund indicate that participating communities would expect to receive timely payments, and if possible early payments before timber harvest, just as in the case of an ordinary timber plantation.

3.2.3. Nature Reserve Management Component

The social assessment team visited natural villages inside and adjacent to each of the 7 nature reserves. After the social assessment survey, the information leaflet that also covers this component started to be disseminated. However, the component is designed to start the actual participatory process in nature reserves after project appraisal, during the design of nature reserve management plans.

The ethnic minority communities adjacent to nature reserves feel that they have become victims in terms of their rights to use land resources in order to protect the ecosystem. At the time when the social assessment was carried out, the component design had no direct arrangement for the participation of these communities. People interviewed also underlined that up to now, there has been no reliable and feasible compensation system for damage caused to people and property by wild animals. It was felt that the nature reserves had insufficient awareness regarding how to lead social development in areas adjacent to the reserves.

The interviews carried out indicated that local people had very limited awareness of the potential related to the arrival of tourism around nature reserves where tourism is just starting (Damingshan and Mulun). In contrast, in other nature reserves (Longshan and Mao'ershan), ethnic minority people are either actively involved in tourism development, or said that they were eager to become involved.

3.3. Potential Project Risks & Opportunities for Ethnic Minority People

Since the overall project will partly take place in ethnic minority areas, risks and opportunities identified for each component are largely similar when looking specifically at ethnic minority communities. Understandably most of the risks identified are expected to be higher for ethnic minority people, at least for vulnerable communities among them.

The tables below list all potential risks of negative social impact, and opportunities to reinforce positive impact, that have been identified in each component or subcomponent. Risks and opportunities that specifically refer to ethnic minority people are in bold italics. Ten risk factors specific to ethnic minority people have been identified among which 5 relate to the fast-growing timber establishment component. However not less than 5 opportunity factors also specific to ethnic minority people have also been identified among which 2 relate to this component.

3.3.1. Risks of Negative Impact

Timber plantation establishment component.

Risks of negative social impact	Opportunities
<i>1. Limited access to information among communities and</i>	<i>1. Through the</i>

<i>households and their low capacity for negotiation with enterprises might lead to production arrangements with these enterprises that may not be fully appropriate or fair.</i> <i>2. Lack of transparency in contracts with enterprises and in plantation accounting might lead to unclear or unfair benefit sharing for communities or households.</i> <i>3. There is an on-going large-scale expansion of land leasing. This land tenure arrangement might be inappropriate to local ethnic minority cultures. Those engaged in long-term land leasing might also lose the opportunity to use their sloped land assets to access the banking system, should a future reform allow this. Such a reform might occur in the short or mid-term.</i> <i>4. Seasonal workers, who are very poor men and women, live during the tree planting season on the planting sites in very basic conditions. They are exposed to health risks, e.g. due to lack of safe water.</i> 5. Very few households might take loans themselves. Household participation might be limited under this project, and this might further reduce scope for smallholder forestry development in the future. 6. The communities and households that will take loans might face substantial risks. They might also not receive sufficient technical support to successfully manage the plantation. Individual entrepreneurs might be encouraged to take excessively large loans. <i>7. There might be competition between forestry and animal husbandry in land use, and the project might reduce opportunities for poor communities to participate in the on-going development of animal husbandry</i>	<i>capacity building component, community capacity for negotiation and management could be improved.</i> <i>2. Road development in these areas would improve remote communities' access to the road network.</i> 3. Through the capacity building component, a broad number of households might acquire technical skills.
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Watershed management component: karst rehabilitation.

Risks of negative social impact	Opportunities
<i>1. If implementation started in poorer villages, households who still carry out subsistence agriculture would be affected.</i> <i>2. If access was simply totally restricted after hill closure, communities would be unnecessarily affected.</i> 3. If the subcomponent was closely linked to the nature reserve management component, this would reinforce the impact of restricted access by nature reserves on neighboring communities.	1. There is scope for disseminating best practice from local and international programs regarding sustainable and participatory management of community karst forests.

Watershed management component: shelterbelt plantations.

Risks of negative social impact	Opportunities
<i>1. If plantations are promoted on village land remote from houses, participation of communities and households might be very limited; plantations might be undertaken directly by the forestry administration.</i> 2. If plantations are located on land close to villagers, risks similar to the first component might be observed.	<i>1. There is scope for reserving access of this grant component to communities to support the development of forestry generating income to poor communities.</i>

Watershed management component: carbon fund. The carbon fund plantation is part of the ecological forest subcomponent. However opportunities and risks are largely similar to those

identified for the timber plantation establishment component, with the following additional factors:

Risks of negative social impact	Opportunities
1. Enterprises might pay communities or households in accordance with the cash flow they receive from the carbon fund. Payments would then be delayed compared to production arrangements that allow for early payment. 2. Compliance with carbon fund regulations might reduce the level of participation by communities and individuals on whose land plantations are established.	1. There is scope for invite enterprises to submit applications in which innovative production arrangement with increased participation of communities or households would be a selection criterion.

Nature reserve management component.

Risks of negative social impact	Opportunities
1. Stopping encroachment activities will create a range of localized impact on rural communities. These have been listed. It might create substantial impact around the 3 Southwest nature reserves depending on the conservation options that will be selected. 2. Tourism development might not benefit local communities. It might also impact local cultures and be unsustainable. 3. There might be no viable mitigation measure to the increasing wildlife damage to farmer crops. 4. Appropriate technology for household-based and environmentally-friendly income generation activities might not be locally available. 5. Local development programs might continue to avoid targeting communities within and around nature reserves.	1. The improved attitudes of nature reserve staff towards the strengthening of local community relationship to nature reserve management are an important opportunity. There is scope for developing a more participatory and problem-solving approach to cooperation among relevant parties and co-management of nature reserve. 2. There is scope for fully integrating ethnic minority cultures in the protection of the nature reserve resources. 3. There is scope to incorporate a comprehensive management and development strategy in the nature reserve management plans. This would facilitate the creation of an overall positive social and economic impact on communities inside and adjacent to nature reserves. Such a strategy in the Guangxi karst nature reserves is likely to include, to various degrees in each nature reserve: (a) building on the cultural values of indigenous people towards the environment, (b) tourism development based on historical heritage and cultural landscapes, and (c) income generation using local skills.

3.3.2. Opportunities for Positive Impact

Companies or forest farms are expected to be major decision-makers regarding the location of commercial plantations and they may not want to invest into villages away from roads. These communities may be bypassed by the component. Conversely remote villages could greatly benefit from improved road access. Road construction through forestry companies however has a downside: companies will expect to sign long-term contracts in exchange for this investment.

The project has the opportunity, through its karst rehabilitation and its activities in nature reserves, to test new approaches on how to combine local knowledge and cultures with sustainable management of natural resources. It even has the opportunity to contribute to reinforcing the identity of local cultures – especially among very small groups such as the Maonan. However this will be a difficult task. Commercial forestry will interact with ethnic minority cultures, with their traditional landscapes, and with the way they relate to the commercial sector.

In terms of languages, proficiency in standard Chinese is good except among older people, but all groups including the Zhuang continue to use mainly their own language in their daily lives. The social assessment concludes that, although the language gap is limited, the project has the opportunity to choose and use local languages. This would be a positive contribution to local cultures, and would not be an issue since many local forestry technicians are speakers of local languages themselves.

Although no site of high cultural value has been identified, there are local temples, often of simple style, and most villages have a sacred forest. The nature reserve management component has a strong opportunity to combine the identification of these sites with awareness programs for resource protection and with tourism development. These areas could also be identified and taken advantage of in karst areas.

In the “company plus household” system, the project has an opportunity to help ethnic minority people make use of their local community traditional organizations, the natural villages. However these organizations are not legal entities. The social assessment concludes that the involvement of the natural village community, in contracts or in shelterbelt forests, should be paid special attention too, but that the administrative village that is the legal entity should formally take part.

3.3.3. Summary of Risks and Opportunities

In summary, although ethnic minority communities in the project area have clearly stated that they welcome the project and see it as a development opportunity for themselves, the project should avoid risks of negative impact in the following fields:

Summary: risks of negative project impact

Land tenure for timber plantations and shelterbelt plantation

Contractual arrangements for timber plantations

Unnecessary **restriction of access to natural resources** in hill closure and in the nature reserves

Impact on local cultures from **tourism development** and lack of community participation.

At the same time, the project should take full advantage of the following opportunities for positive impact among ethnic minority communities that go beyond immediate opportunities for income increases:

Summary: opportunities to maximize positive project impact

Higher **participation** in detailed project design in all components

Capacity building for higher involvement of natural and administrative village communities in the establishment of timber plantation contracts, in community forestry for watershed management, and in the nature reserves component

Enhancement of **local cultures** and their roles in the protection of natural resources

These risks and opportunities exist throughout the project area:

Summary: location of risks and opportunities

Autonomous ethnic minority counties may be more exposed to land tenure and contractual arrangement risks due to project scope and lower local capacity; opportunities to gain from capacity building and participation are conversely high.

Nationality townships inside and outside autonomous counties are Yao and Miao townships that might be forgotten during selection of the project area; their special cultural needs might not be fully taken into account.

Other project areas have remote ethnic minority communities from all groups that might be forgotten during selection of the project area; their special cultural needs might not be fully taken into account.

4. Development & Risk Mitigation Measures

4.1. Main Features of the Ethnic Minority Development Plan

4.1.1. Principles

All project activities offer development opportunities to ethnic minority people in the project area. Commercial forestry development is the major content of the project. The project will avoid providing opportunities through other components and simply mitigating risks inherent to commercial forestry. Instead the project will implement the timber plantation component in a way that is conducive to sustainable development among local communities.

All communities and households take part in the project on a fully voluntary basis. This is done through a formal project application process. Ethnic minority communities and households fully take part in this application process.

Individual households apply for individual World Bank loans if they wish to do so, and their capacity is reviewed by the PMO on a single set of criteria used throughout the project area. Ethnic minority communities and households have fair access to the loans.

Participation in the detailed design of plantations and watershed management, as well as in nature reserves management plans, is critical to the successful inclusion of ethnic minorities in the project. Project staff therefore pays special attention to participatory processes in ethnic minority villages.

Hill closure and improved nature reserve management can be achieved while avoiding unnecessary restriction of access to natural resources for local communities. Participatory design and implementation is the basis to achieve this, and the process framework is the reference document.

Local cultures of ethnic minority groups are paid attention to. The project helps preserve them and avoids any negative impact on them.

4.1.2. EMDP Measures

The EMDP includes three types of measures. First, one inclusion measure applies to all counties to ensure that isolated ethnic minority communities are given equal access to apply to the project. Second, general measures apply to all project villages whether they include ethnic minority people or not; their purpose is to ensure that opportunities for positive impact for all, including, ethnic minority people, are taken advantage of. Third, a number of specific measures are needed to ensure attention to and monitoring of ethnic minority issues.

The main general measures relate to:

- Participatory detailed design,
- Capacity building,
- The first two risks of negative project impact assessed to be highest for ethnic minority communities: land tenure and contractual arrangements in the timber plantation component, and
- Seasonal workers.

The specific measures relate to:

- Awareness of project risks at all levels,
- Capacity building and local languages,
- Tourism development.

It should be noted that the last main risk of negative impact from the project on ethnic minority people, restriction of natural resource access in hill closure and in and around the nature reserves, is addressed separately through the project's process framework.

4.1.3. Location of the EMDP Measures

The inclusion measure is implemented in all counties with at least one ethnic minority village community. In practice this includes all project counties except Cenxi, Cangwu and Pubei Counties where ethnic minority people account for less than 1% of county population.

The general measures are implemented throughout the project area, but require special attention from the Guangxi and county PMOs in ethnic minority areas.

The specific measures listed below are implemented in three types of project areas:

- Autonomous counties, where ethnic minority people live in large numbers,
- Nationality townships within and outside autonomous counties, where one ethnic group other than the main group(s) in the counties live in large numbers, as well as
- Other townships with at least one ethnic minority project village.

Areas in the first two categories are listed in section 2.2 above.

4.2. Inclusion Measure

Each project county or nature reserve with at least one nationality township or with at least one ethnic minority village will pay special attention to the inclusion of these townships or villages in the project application process:

- The county PMO (nature reserve) will ensure that each township government receives project information and that each township forestry station (nature reserve) organizes an information meeting with administrative village heads;
- Village applications will be carefully reviewed. Villages with no appropriate land available will probably not have the capacity to participate in the timber plantation component, but all ethnic minority villages will have equal opportunity to participate in other components.
- The county PMOs will keep in the project file all documentation relating to applications.

4.3. General Measures

General measure 1. Using participatory processes in detailed project preparation

All agencies involved in detailed design for timber establishment and for hill closure as well as community activities in and around nature reserves will use a step-by-step participatory process. The guidelines specifically prepared for this project will be used and local staff will be trained in their use.

In ethnic minority areas, participatory design will be undertaken in local languages wherever needed. This will require language skills among township forestry station staff (see specific measures 5 & 7).

The participatory process allows households to make informed choices, especially in relation to contractual arrangements for tree plantations. Ethnic minority households will therefore be able to apply for the World Bank loan if they wish to do so.

General measure 2. Working with administrative village committees

All agencies under the project will not work directly with the natural villages but work with the village committee at administrative village level with the participation of natural village heads.

In ethnic minority communities, this will avoid by-passing the administrative village and contracting directly for timber plantations or other project activities with the natural village. It will also provide an opportunity for capacity building among village cadres.

The county PMOs will formally inform the village heads about this project procedure.

General measure 3. Capacity-building for contractual arrangements in plantations

The project will contract an agency other than the provincial forestry administration to supply information to the project area. This information relates to matters other than technical matters in timber establishment. It includes, among others, options in contractual arrangements with enterprises and forest farms, market prices for land transactions and forest products, and general management of forestry plantations.

This agency will create an information package and sets up information supply services. The package will then be used for a non-technical training program targeted at village cadres and individual households.

In ethnic minority areas, the information and training program will start no later than in the rest of the project area.

The TORs provided to the contractor would specify requirements for ethnic minority areas and communities. These TORs would be sent for review to the World Bank.

General measure 4. Alternative to current practice of land lease

Current practice of forestry land lease between villages or individuals and forest farms, enterprises or private entrepreneurs in Guangxi is long-term, and land use rights are generally transferred to the entity undertaking the tree plantation.

The Guangxi PMO will inform all agencies involved in contractual plantation arrangements that arrangements with land transactions will only be eligible to project support if the land transaction is of shorter duration and if land use rights are not transferred to the entity undertaking the tree plantation, and therefore remain with the original village or household after the plantation is harvested or in case of bankruptcy of the tree grower.

The World Bank's project appraisal document details the practical agreement made to allow implementation of this measure. It is expected that the Guangxi PMO will report implementation of this measure in accordance with the PAD.

General measure 5. Basic living conditions for seasonal workers

The economic and financial plantation models include a budget line for costs related to ensuring basic living conditions for seasonal workers who are mostly ethnic minority people from vulnerable groups. The budget is equivalent to the investment into temporary facilities for safe water supply and sanitation for seasonal workers living under tents.

All agencies involved in fast-growing plantations will be invited to use this part of their loan for the intended purpose, the improvement of workers' living conditions.

General measure 6. Promoting community forestry in shelterbelt plantations

The Guangxi PMO will inform all levels that the shelterbelt plantations may be implemented as community forestry schemes wherever land has remained collective land under natural villages and the community is interested in such schemes.

Should a substantial number of communities be interested in the community forestry scheme, the project would then become an important means to revive community forestry.

The development of community forestry in ethnic minority communities will be based as far as possible on local tradition and know how in forest management. This will require close work between the township forestry station technicians and the communities. This work will start during participatory design and extend throughout project implementation. Setting up rules for future allocation of plantation income will be one important aspect in the community forestry management schemes.

General measure 7. Survey and conservation of local cultural sites in nature reserves

During the project preparation, no cultural site of value has been identified within the project areas. The project nature reserves will undertake a comprehensive survey of local cultural sites as part of their management plans. These sites may or may not be listed by the local cultural affairs bureau. Some sites have historical buildings or temples, others have ruins of former buildings that deserve rehabilitation, others have no historical buildings but have forests or landscapes of cultural value to local communities.

In ethnic minority areas, special attention will be paid to include in the survey and management plan the cultural sites of local ethnic groups such as sacred forests, other sacred landscape elements, graveyards and ancestor shrines, or Taoist temples.

The sites would be mapped. The management regime of the sites would ensure their conservation of the sites as well as continued use by the local community in accordance to its own traditions. Should any of these traditions conflict with biodiversity conservation in and around the nature reserve, an appropriate solution would be identified through consultation with the local community.

4.4. Specific Measures in Ethnic Minority Areas

Specific measure 1. Consultation with local government

In autonomous counties and in other counties that have nationality townships or isolated ethnic minority villages, the Guangxi PMO will consult at project start with the county government, the county ethnic minority commission and the nationality township governments about the Ethnic Minority Development Plan. For this purpose the county PMO would formally send information about the EMDP and its specific measures, invite comments from the local governments, and address any comment made.

The forest farms and enterprises have generally already made afforestation plans at masterplan level. The Guangxi PMO would also formally inform the county and township government about these plans. Should any problem of consistency with other local development plans occur, the masterplan would have to be adjusted.

Specific measure 2. Informing forest farms / enterprises

The Guangxi PMO will fully inform forest farms and enterprises of the following requirements of the ethnic minority development plan for timber plantations funded under the project:

- Identification of activities taking place in areas with ethnic minority communities (townships and villages),
- Use of alternatives to long-term land lease,
- Use of the project's budget to ensure decent living conditions to seasonal workers.

Specific measure 3. Informing nature reserves

The Guangxi PMO will inform the managers in all nature reserves participating in the project of the overall ethnic minority development plan and of the requirement to undertake the following EMDP measures in and around nature reserves:

- Identification of activities taking place in ethnic minority areas and communities,
- Cultural site survey,
- Careful tourism development.

Specific measure 4. Identifying ethnic minority areas in planning and monitoring

The county PMOs will identify in project plans and implementation reports which project activities are taking place in nationality townships and in ethnic minority communities. This also applies to afforestation undertaken directly by forest farms and enterprises.

The nature reserves will report ethnic groups in each village where community activities are carried out under the project.

The purpose of this measure is to identify all project activities taking place in ethnic minority areas, and to raise attention at all levels to these areas.

Specific measure 5. Checking capacity of township forestry stations

The county forestry bureaus will report to the PMOs the number of staff in all township forestry stations in autonomous counties and nationality townships within and outside these counties, and in other townships with ethnic minority project villages. Consistency with the planned number of villages will be checked. The number of technicians should be sufficient to (a) carry out the participatory design of plantations and hill closure activities, (b) carry out technical training courses and (c) pay regular technical visits to the villages.

The capacity of forestry technicians in local languages in these ethnic minority areas would also be checked. Some of the technicians would be able to communicate in both the main

local language(s) and standard Chinese. In nationality townships, the local language is the language of the ethnic group for which the nationality township has been set up.

Should some township forestry stations have insufficient staff numbers, additional staff will be hired. Relocating staff from non-project ethnic minority areas will be avoided. Hiring young graduate would be an appropriate option.

Specific measure 6. Coordinating with road development programs

The county PMOs will facilitate communication between the forest farms and the county road bureaus, in case they want to build tracks/roads to serve the project's timber plantations. The purpose of this measure is to reinforce the understanding of and compliance with the project's Policy Framework for Resettlement and Land Acquisition during project implementation on the one hand, and identify possible synergy between forest roads and local road development plans on the other. This will generally require coordination and technical meetings between the agencies.

Specific measure 7. Adapting the training / information supply activities to local needs

The agency contracted to provide information and training materials to communities and households will pay special attention to the needs of ethnic minority areas and communities.

There is no need to translate the materials into local languages. However materials with simple standard Chinese, using simple characters only, will be needed. The contractor will select one out of two options, (1) preparing two versions, one with simplified language, and (2) preparing a single version with sections in simplified language.

The information package will be tested before use. The tests will take place in at least 3 communities: one Zhuang, one Yao and one Han. The Zhuang and Yao communities will be selected in locations where fluency in standard Chinese is lower.

Since fluency in Chinese is expected to be an issue in isolated project locations, a VCD version of the information package would be prepared with a version in the various local languages.

Specific measure 8. Testing the careful development of tourism in ethnic minority areas

The Guangxi PMO and the nature reserve managers will consult autonomous

counties and nationality townships around the project nature reserves with regard to

tourism development plans. The nature reserves and local governments are

encouraged to test innovative development projects. Two types of innovation are

encouraged:

- Benefit sharing of tourism development. Two options of benefit sharing are worth testing, for example at village level: (a) sharing benefits with local government (for example township government) and with village committee, and (b) direct management of tourism activities by households in the village, especially guesthouses.

- Tourism based on local ethnic cultures developed by the communities themselves. The communities would select themselves those aspects in their culture that they wish to share with visitors, and those that they do not.

The Guangxi PMO would help nature reserves exchange information and lessons learnt from these innovative activities.

Specific measure 9. Specific analysis of ethnic minority areas in sector work

The Guangxi PMO would invite participating researchers to select some sector work that specifically looks at ethnic minority areas and communities, especially the autonomous counties. This sector work would examine the potential and constraints of these areas and recommend actions to help build a viable forestry sector in the long term in these areas.

This sector work specific to ethnic minorities may deserve wide dissemination after completion.

5. Implementation Arrangements

5.1. Responsibilities

The Guangxi Forestry Bureau, as the sponsor agency of the entire project, is responsible for the implementation of the ethnic minority development plan. The Guangxi PMO is in practice responsible for oversight of local county PMOs and nature reserve management bureaus to carry out the tasks described for each measure of the EMDP.

5.2. Funding Arrangements

The Guangxi Forestry Bureau, as the sponsor agency of the entire project, is responsible for any additional cost to be met for implementation of the EMDP. The estimated budget including the regular budget and one external evaluation budget have been incorporated into project design.

5.3. Implementation Schedule

The Ethnic Minority Development Plan is implemented during the whole duration of the Guangxi Forestry Development and Conservation Integrated Project since the plan is drawn on the basis of the project context. As stated in the principles of the plan, participation of local communities and households in the detailed design of plantations and watershed management, as well as in nature reserves management plans, is at the core of this plan. Therefore, implementation of the plan will start with consultation of ethnic minority communities and households. The completion of this plan will follow the timeframe of project components, for example the detailed design of plantation activities in a given minority township or a village, and the implementation of these activities. The measures described in the preceding chapter will be reflected and implemented in each project activity. In the nature reserve management component, the plan will be fulfilled through detailed preparation process of strengthening local communities' relationship with nature reserves and will result in the participatory preparation and implementation of a management plan of each nature reserve.

Annual progress reports will include a section on implementation of the EMDP. The external evaluation is expected to take place on year 2 of the project. The mid-term review would assess the need for any improvements or changes in the EMDP. The project implementation completion report would assess the effectiveness and usefulness of the EMDP.

5.4. Complaint Mechanism

The legal framework in place in autonomous counties and nationality townships is sufficient to deal with potential complaints and grievances by ethnic minorities about the project activities. Should any complaint occur, the project management will play a facilitation role through its county PMO to help the individuals or communities involved gain access to the County ethnic minority commission and, if necessary, to the court, for resolution.

6. Monitoring & Evaluation

6.1. Integration of Ethnic Minority Issues in Project Monitoring & Supervision

6.1.1. Progress Reports

The Guangxi and county PMOs will integrate monitoring of the participation of project areas under the EMDP into their routine monitoring work and into supervision missions.

In relation to specific measure 4 of the EMDP, the Guangxi progress reports will show scale of activities taking place in autonomous counties. Similarly at county level, progress reports will show scale of activities taking place in nationality townships. Activities that will require specific reporting include afforestation, hill closure and activities in nature reserves, as well as information supply, training, extension or applied research.

The Guangxi PMO will invite the forest farms and enterprises to carefully report their afforestation areas by county in order to allow monitoring of total areas in autonomous counties.

6.1.2. Monitoring of General EMDP Measures

Routine supervision work will incorporate aspects related to each general measure. The PMOs will therefore supervise the following:

- Actual afforestation contracts signed with villages and with households. Any occurrence of long-term land leasing, or of land leasing with transfer of land use rights, should be reported to the Guangxi PMO;
- Living conditions of seasonal workers, and whether the budget for living conditions in the plantation models has been actually used;
- Whether the cultural site survey in the project nature reserves has been undertaken or completed.

6.1.3. Monitoring of Specific EMDP Measures

The Guangxi PMO, in relation to specific measures 1, 2, 3, 5 and 6 of the EMDP, will describe in its first annual progress report how local governments, forest farms and enterprises, nature reserves, township forestry stations and road departments have been informed about the EMDP. The description would include the names and position of the persons informed, date and means of information.

The county PMOs, in relation to specific measure 4, will collect at project start data about staff in township each forestry station. Should any lack of staff be identified in a township, the Guangxi PMO will take action to resolve the issue and report on this in the first progress report.

The Guangxi PMO, in relation to specific measure 7, will describe in each progress report how information and training have been made appropriate to ethnic minority people. The contractor in charge of the information supply and training package will report on Year 2 on potential difficulties encountered in autonomous counties and other ethnic minority areas and on actions taken to solve these problems.

The Guangxi and county PMOs, in relation to specific measure 8, will identify during supervision any new tourism development project taking place in project nature reserves or other project areas, especially in autonomous counties or nationality townships. The Guangxi PMO will report findings in the progress reports. The reports will provide a description of the actual participation of ethnic minority communities in tourism development.

The Guangxi PMO, in relation to specific measure 9, will indicate in its progress report which sector work projects relate to ethnic minority people and report on the location of field activities.

6.2. Independent Evaluation

An independent evaluation is needed in addition to routine supervision and monitoring. This evaluation will be carried out by a national consultant specialized in anthropology with support from an international consultant specialized in social sciences and natural resource management. The consultants will be selected jointly by the Guangxi PMO and the World Bank.

The independent evaluation will be carried out early during project implementation, possibly during Year 2, in order to identify any issue and to recommend related remedial actions.

The independent evaluators will carry out a comprehensive qualitative assessment of all project risks related to ethnic minority people. This is likely to include:

- Effectiveness of the information supply and training package in raising capacity,
- Actual presence of alternatives to long-term land leasing arrangements,
- Living conditions of seasonal workers in fast-growing timber plantations,
- Participation of ethnic minorities in tourism development benefits, and cultural appropriateness of tourism development,
- Implementation of shelterbelt plantations as village-based community forestry,
- Hill closure implementation in poorer villages and among poorer households, and
- Actual production arrangements for the carbon fund in Huanjiang County.

The evaluators will also review implementation of the process framework. They will assess awareness about the process framework among nature reserve managers and county forestry bureaus. They will examine how each measure in this process framework is being implemented. They will confirm that no resettlement is being planned or undertaken in or around the project nature reserves in relation to improved nature reserve management.

The results of the evaluation will be provided to the provincial and county PMOs, the forest farms and enterprises, the nature reserves, and the information and training contractor.

Annex: Population Data

1. Ethnic Minority Population in Guangxi

Name	Population (people)	Percentage			Geographical location in Guangxi
		% of total population in Guangxi	% of total ethnic minority population in Guangxi	% of ethnic group in China	
Zhuang	15,532,000	33%	86%	87%	Lowlands
Yao	1,460,000	3.1%	8.6%		Red soil hills & karst
Miao	460,000	1.0%	1.4%		Rongshui County & karst
Dong	318,000	0.67%			Sanjiang, Rongshui, hills
Mulao	165,000	0.35%			Luocheng, karst, hills
Maonan	73,000	0.15%			Huanjiang, karst, hills
Hui	30,400	0.06%			Guilin, Nanning suburbs
Jing	18,200	0.04%			Jiangping and Sandao in Dongxing County
Shui	13,500	0.03%			Miaoshan valley
Yi	7,100	0.015%			Longlin, Napo, Xilin, Tianlin high mountains
Gelao	2,800	0.006%			Longlin, Low Yi Mountain
Other	19,300	0.04%			Scattered

[illegible]

3. Ethnic Minority Population in Nature Reserve Management Component

Nature reserve	County	Han	Zhuang	Yao	Miao	Dong	Shui	Mao-nan	Buyi	Mulao	Gelao	Yi
Longgang	Longzhou	4.9%	95%	0.9%								
Mulun	Huanjiang	7.9%	71%	3.1%	1.1%		0.3%	16%			0.5%	
Damingshan	Wuming	13.3%	86.5%	0.2%								
Longshan & Damingshan	Shanglin	14.6%	79.6%	5.8%								
Bapen	Fusui	16.5%	80.6%	1.9%								
Banli	Jiangzhou	19.2%	80.4%	0.4%								
Longgang	Ningming	21.9%	77.3%	0.3%								
Mao'ershan	Longsheng	27.2%	24.4%		17.3%	31%						
Damingshan	Mashan	37%	61.7%	1.2%								
Mao'ershan	Ziyuan	78.9%	0.2%	3.3%	17.5%							
Damingshan	Bingyang	80%	19.5%	0.5%								
Mao'ershan	Xing'an	95.7%	0.7%	0.2%	1.8%	2%						

