World Bank Loan

Hunan Forest Restoration and Development Project (HFRDP)

Social Assessment Report

Hunan Provincial Forest Foreign Fund Project Management Office
Social Assessment Team of HFRDP

March, 2012
Abbreviations

CFB: County Forestry Bureau
FC: Forest Cooperative
HFRDP: Hunan Forest Restoration and Development Project
HH: household
HN: Hunan Province
PCP: Participatory consultation and planning
PFD: Provincial Forestry Department
PPMO: Provincial Project Management Office
PRA: Participatory Rural Appraisal
SA: Social Assessment
TFS: Township Forestry Station
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ABSTRACT

Entrusted by the PPMO of World Bank Hunan Forest Restoration and Development Project, technical experts from Hunan Forestry Investigation and Planning Institute, together with social assessment experts from Hunan Academy of Social Sciences and Central South University, went to 10 project counties including Changsha, Huaihua, Xiangxi autonomous prefecture, Yongzhou, Chenzhou, Yueyang to do the field survey for social assessment on "World Bank Loan Hunan Forest Restoration and Development Project" from July 25 to August 30, 2011. Meanwhile, the SA team also collected the second-hand baseline data from 22 project counties (city, district). Data processing was done in 5 days since September 1, 2011. The draft reports on SA and Ethnic Minorities Development Plan of HFRDP were ready on September 16, 2011. After several discussions with World Bank mission and some supplementary data collection work, hereby the final report is developed.

HFRDP covers 22 project counties which are mainly located in the basins of Xiang River, Zi-Jiang and Yuan River. Project components includes the restoration and reconstruction of forest areas seriously damaged by the ice storm, technical supports, extension, training and forest monitoring, institutional capacity building and project management. The objective of the project is to improve the structure and function of forest stand, mitigate and adapt to the climate change, through restoring vegetation and rebuilding forest ecosystems in ice storm damaged areas.

In order to ensure that different interest groups and different types of farmers could actively participate in project consultations on tasks and impacts, the SA team adopted a participatory impact assessment methodology and tools including village meeting, semi-structured interviews, stakeholders’ interviews, village resources research, resource mapping, participatory scoring and ranking, matrix analysis of project’s impact, etc. In the preparation stage, the SA team identified the main social influential factors on the project: 1) The main social influential factors include people’s ways of behavior, community participation, institutional arrangements, poverty, protection of farmers participants’ interests. 2) The social factors affecting
ethnic minorities include relative policies for ethnic minorities, population, social and cultural characteristics. Therefore, consultation could be a good way to understand the specific requirements of ethnic minorities, to gain supports from them to the project, and put forward some measures so that the negative impact on minority communities from the project could be avoided or reduced.

Considering the social factors discussed above, the SA team analysed the second-hand data from the 22 project counties and the survey results in Yuanling, Luxi, Mayang, Rucheng, Changning, Shuangpai, Ningxiang, Pingjiang, Guiyang, Jintong and other counties (cities, districts), and got the following conclusions on project impacts.

1) **Project impact on farmers**: Farmers are the major participants and stakeholder in the project. It is found by the SA team that individual farmers’ household has a relatively small area of forest land, and the area of ecological forest land is even much smaller. According to project requirements, this project should negotiate with all the farmers’ HHs, which is time-consuming. What’s more, most of farmers live in dispersed houses. Therefore, it is difficult to protect their interests in a reasonable extent. According to project design and SA survey, only when farmers involved in the project could receive technical trainings, appropriate financial supports and corresponding benefit returns, they would participate in and support the project and receive the expected benefits. Therefore, the SA team recommended that HFRDP to help farmers to establish forest cooperatives (FC) or other organizations to promote small-scale farmers’ participation in the project and safeguard the interests of individual farmers’ HH. The project has various impacts upon the participants, especially on the income of farmers’ households. However, the income generation for farmers by public-benefit forests is very limited which is much less than timber forests. Although the project focus on ecological forest management, the interest requests from farmers shall receive more attention.

2) **Project impact on the minorities**: The project area lives many nationalities of Han, Miao, Yao, Tujia, Dong, Hui, Bai, Uygur and other ethnic groups.
Compared with the mainstream society, most ethnic minorities in HN are still a relatively vulnerable group as they live mostly in undeveloped, remote mountainous areas. The SA team found that the majorities of the project area do not have their own unique ethnic culture and customs any more. According to the OP4.10 policy of World Bank, only Miao and Yao minority fit the particular working conditions in the project area. Therefore, the SA team paid special attention to the survey and consultation on Miao and Yao minority concentrated area. It was found that they are very interested in the activities of HFRDP and there are a few factors that may affect their participations in the project. For example, there are some common risks for the economic benefits for all participants, but there are also some risks relative with the social and economic disadvantages for the minorities. The SA report analysed the cultural characteristics of and the project impact on the Miao and Yao Minorities, and how to ensure their benefits from the project. (Details could be read from in *the Ethnic Minority Development Plan of HFRDP*).

3) **Project impact on women and the poor populations:** The project is designed to cover women and the poor population. The SA team found that far more women labor force than men stay in the villages, while most of the poor population also stay in the villages due to lack of skills. Therefore, the project will have greater impact on women and the poor population as they are provided with more opportunities for development, thus there will not be the marginalization on them or new poverty problems. On the one hand, the project can improve the living environment and income of women and the poor; On the other hand, the project can also provide them with employment opportunities and increase their labor income. In addition, the special terms of the project will help the poor to restore their livelihood and provide opportunities for development.

4) **Project impact on labor supply and labor capability:** In the project area, most young men and women migrated out for work in Guangdong, Zhejiang, Jiangsu, Fujian Provinces and Shanghai City, and a considerable number of people work in their county towns. The labor force in the village is constituted mainly by
women and the elderly who generally lack skills and strong working capability. Therefore, the quality and capability of labor might be a problem and bring slight risks to project implementation. However, it is also found that the labor force outside the project area may be attracted in if the project could provide appropriate labor payments. For example, in Shuangpai County where the forestry industry develops well, there are about two to three thousand of labor from Guangxi Zhuang Autonomous Region working in its forestry industry every year. This could be a good way to control or avoid the the labor risk of project implementation.

5) **Project impact on the ways of behavior and awareness of ecological protection:** In recent years, the awareness of ecological and environmental protection of the local governments and people in project area has been improved considerably. Many counties and cities, such as Pingjiang County, Zixing City and Luxi County, have come up with the their own ecological strategies. The SA report is particularly concerned about the relevance between project objectives and the awareness of ecology and lifestyles of affected groups. It argued that the emergence of ecological problems in certain project area are relative with their lifestyles, and are also closely related with geological disasters, climate and ecological disasters damages.

6) **Project impact on key stakeholders:** In order to identify the impact of project on different stakeholders, the SA team carried out a variety of surveys and consultations. They analysed the development problems, project requirements, project impacts and proposals with main stakeholders through key informants forum, village meetings, semi-structure interviews, mapping, ranking and other means. They have also made outlines for the participation of main stakeholders.

SA team believes that the social effects of the HFRDP are mainly reflected in:

1) The project will have a great impact on improvements of regional ecological conditions in the drainage areas of Xiangjiang River and Yuanshui River. It will also play a positive role to improve the structures of forest types, reduce soil
erosion, protect ecological environment, improve farmers’ awareness of environment, optimize the local investment environment, improve the social image of the regions and promote new rural development.

2) The project will drive regional economic development. Firstly, it can disseminate and promote concept of green economy, enhance regional awareness of green development and facilitate the sustainability of economic development. Secondly, the project will help to develop local seedling nurseries, increase regional forest stock volume and reinforce the foundation of forestry development with sufficient funds. Thirdly, it can drive the development of tourism, agriculture, service industry and other related industries. Fourthly, more employments for rural surplus labor will be provided by the project implementation and post-project management, which will help increase farmers’ income.

3) The project will also promote institutional capacity building of forestry management institutes through advanced project management methods and office management system, which is helpful to train a group of forestry project managers and enhance management capacity and service levels of forestry and forestry-related organizations.

4) Minorities are the main beneficiaries of the project. The implementation of the project can promote their communication and exchanges with the outside world and thus obtain more development opportunities. It will also improve the ecological environment of ethnic minorities and help them to increase income from forests.

5) The project also covers the rural poor population who will get their living environment and quality improved from the project. They will also be provided with employment opportunities and income increase.

By means of field survey and second-hand data, the SA Team considered the following potential social risks for the project.
1) **Discrepancy between the ecological target of the project and the economic pursuits of farmers.** Even though the economy in most project counties depends little on forestry, the contribution of forestry industry to local economy is still high in Jindong Management District and Shuangpai County where the forest income also contributes more than 70% in farmers’ income. In this condition, farmers must consider the profit as important reason for participating in this project. However, although economic benefit is also one of the targets of HFRDP, its primary objective is the the ecological benefit. Therefore, the pursuit of some farmers for economic benefit will be risks to bring about the ecologic value of afforestation.

2) **Discrepancy between project objectives and the lifestyle of local residents.** In some part of the project area, especially less developed region, there is a high demand of wood for firewood and house construction, which might threaten the achievement of project objective to some extent. The more serious is that some of them are not aware that their life is threatening the nature and do not realize that something in their life has to be changed to improve the nature. This will go against the project achievements, even though not a big threat.

3) **The social disadvantaged groups might be marginalized.** Due to limitation of knowledge and capacity, it’s difficult for such social advantaged groups as women, poor people and minorities to have equal opportunities to participate in the project. Thus, they might be marginalized in the project.

4) **Unsuitable tree species might be selected.** Officials from agriculture management agencies suggested that some tree species would be harmful to local commercial forestry and crops, and forest pest and diseases would also effect the crops harvest. As a potential risk, it could be managed by optimizing the technical design of the project.
5) The post-project management. The post-project management is crucial to guarantee the impacts and sustainabilities of the project when its investments ceases.

Regarding the social risks discussed above, SA team proposed some recommendations as below:

1) To enhance trainings relative to project implementation. The dissemination shall be enhanced on knowledges of project including forest restoration and rehabilitation models, monitoring of forest carbon sequestration. Forest management technology training shall be conducted to achieve the targeted resilience of forest stand. Government agencies are suggested to conduct trainings on national and local ecological protection laws and knowledges for everyone, with the coordination from Bureau of Education, women’s organization, Bureau of Broadcast and Television, news agencies, township governments and village committees, so that people in the project area are aware of the impact of forest rehabilitation.

2) To strengthen the cooperation among different line agencies. HFRDP is an enormous ecological system project which could not succeed only by forestry agencies. Therefore, it is recommended that HFRDP shall be co-managed by agencies of land and water resources, agriculture and environmental protection, and coordinated by forest agencies, thus the various risks or negative factors could be exterminated for the project.

3) To increase the project investment. The rural economy in project area is less developed and depend strongly on forest resources, so the low level of project investment might influence negatively on farmers’ interests in it. Therefore, it is suggested that government agencies at all levels shall increase their counterpart fund in order to guarantee the sustainability of HFRDP.

4) To allow under-forest cultivation and livestock breeding activities. Most project areas are impoverished area, fore example, Pingjiang County, Rucheng
Social Assessment Report for Hunan Forest Restoration and Development Project

County, Yuanling County, Guidong County and Luxi County are poor counties at national level. Since there is high pressure of poverty alleviation, proper development of under-forest cultivation and livestock breeding could be encouraged to develop forest - poultry, forest - grass - livestock, forest – mushroom economic chains, and to make rational use of the under-forest land. This could be a win-win solution to improve both the forest ecology and farmers’ income.

5) **To plant some trees with both economic values.** In the project technical model design, some tree species that are adaptable to local climate and have ecological function as well as strong and sustainable economic benefits, such as bayberry, chestnut, tung tree, lacquer and so on shall be selected, so as to have better income increase for farmers.

6) **To formulate and implement preferential policies for vulnerable groups.** The participation of women, poor people, minority groups should be ensured in open and transparent ways. Selection of tree species and modes of forest management shall respect the wishes of local residents. The residents themselves or their trusted representatives could participate in the project implementation. The collective forest land in the project shall be agreed and monitored by local civil juristic person. Training to the vulnerable groups should be designed to improve their capacity in participating in the project.

7) **To fully consider the development of poor ethnic minorities.** Measures shall be adopted by local government and forestry agencies to make participation convenient for minorities so that they could share project benefits, and to protect their traditional culture. To facilitate the poor minorities get out of the institutional advantaged situation and ensure sustainable development of the project, the SA team recommended that the project should encourage the organization of FCs in minority ethnic communities in accordance with the principles of village autonomy.

8) **To construct post-project management system.** Local residents in project area
shall be included to participate in the post-project management. Post-project management teams could be organized on the basis of community management team during project implementation. Members of the team could be elected by the villagers, while women and minority representatives must be present in the team.
1. PROJECT BACKGROUND

1.1 Project Background

Eco-environment is the fundamental conditions for human life and development, as well as the foundation of social economic development. Ecological and environmental protection and development has always been the basic principles for China’s modern development. The ice storm disaster in 2008 brought serious damages on the forest resources in HN province, which is also a severe ecological disaster. From Jan.13th to Feb. 5th in 2008, HN has suffered unprecedented rain and freezing snow weather in recent 50 years, which has caused damages on large area of forest resources. Afterwards, ecological environment has a trend of further deterioration including abnormal climate changes, landslide, debris flow, frequent geological disasters, as well as aggravating forest diseases and forest fires.

1.2 Project Objectives

To reduce the long-term environmental impacts by ice storm in early 2008 and rehabilitate it, HN Province has put forward the “Hunan Forestry Restoration and Development Project” as the major content of post-disaster reconstruction. The project will reconstruct the forest ecological system and to improving the structure and functions of forest stand, together with relieving and adapting to the climate changes through restoring vegetation in those affected areas. The project will also create mixed conifer and broadleaved forests with various indigenous tree species, and enhance the diversity and stability of stand structure by various silvicultural methods, thus improve the resilience forest plantations to natural disasters and climate changes in the future.

1.3 Project Components

The project components include: 1) Reforestation and rehabilitation of damaged forest plantations in the ice storm; 2) Technology support, extension, training and forest monitoring: forest technology extension and service system in the project area
will be improved at county, township and village level, facilities and trainings will be provided for project planning, implementation and forest resource monitoring; 3) Institutional capacity building and project management: capacity project implementation institutes will be enhanced, facilities and equipments for project implementation and management will be equipped, trainings and tour visits will be provided for project management personnel on professional skills of project implementation, financial management and installments.

2. PROCESS AND METHODS OF SA

2.1 Process

2.1.1 Team Organization

1) Provincial team. Hunan Provincial Project Management Office organized the social assessment team (provincial supporting team). It consists of 8 members including technicians and experts from Hunan Provincial Forestry Exploration Institute, as well as experts for social economy and minority issues from Hunan Academy of Social Sciences and Central South University of Technology. Their major tasks are:

i. To organize and coordinate the project counties to conduct social assessment;

ii. To compile guidelines of social assessment (textbook for training) and conduct trainings for the county SA working groups;

iii. To compile interview outlines, questionnaires, outlines of social assessment report and minority development report, manual for consultation;

iv. To conduct on site guidance and supervision in all project counties.

v. To collect data and documents on forestry development at national level and provincial level;

vi. To analyze and write report on the data collected by county SA working groups.

Hereby is the introduction of the SA team members:
Xu Yongheng, team leader, professor and senior engineer of Hunan Forestry Exploration Institute, takes charge of comprehensive coordination of SA team and take part in the whole process of social assessment.

Yang Shenghai, social economic expert from Hunan Academy of Social Sciences, takes charge of compiling sociological investigation schemes, data collection lists and requirements, field survey and writing the “Social Assessment Report of HFRDP”.

Yang Chengsheng, expert of minority issues in Central South University, takes charge of compiling investigation programs for minority issues, data collection lists and requirements, field survey and writing the “Minority Development Plan of HFRDP”.

Other members facilitate and cooperate with the 3 experts stated above in the SA process.

2) County working groups

In each project county, SA working group is established with personnel from County Bureau of Forestry and township Forestry Station. Each working group consists of three to five members among whom one member should have received training from the provincial SA team. In every group, there is a team leader and also a female member. Their responsibilities include information dissemination, documents and regulations collection; organization and implementation of consultations (PRA) in counties, towns, villages and among farmers’ households; recording, analyzing and collection of consultation results; contact with provincial team; accept the guidance from the provincial team; provision of documents required by the provincial team.

2.1.2 Assessment Training

Training courses are conducted separately for provincial team and county working groups. The provincial team received training in Changsha from July 5 to July 8, 2011, while the county working groups received training from July 21 to July 23, 2011 in Changsha. The training contents consist of purposes, process and main tools of PRA; semi-structure interview, questionnaire and filed survey; contents and methods of social assessment of the project; collection and analysis of social as-
2.1.3 Field Survey

Provincial team conducted field survey based on the requirements of PRA. Considering limited time and human resources of the Provincial team, typical sampling methods is adopted with the criteria of area of damage, project area, ecological forest area, interests of farmers in project participation. Twenty-four villages in 16 project townships in 10 sampled project counties are selected to conduct field survey. In total, 375 questionnaires for farmers are collected, 40 interviews are conducted on village carders; 24 village meetings are organized with 558 villagers participants; 10 workshops for officials in project area with 170 participants; as well as 137 questionnaires for officials (See Table 2-1).

County SA team is established with county SA working group and other county level forestry agencies. It is responsible for first-hand data collection at county, township and village levels. The survey and consultation include: 1) to conduct survey at county level: project information dissemination, consultation with concerned stakeholders at county level and learning about their attitude to the project and collect recommendations for project management and implementation; 2) to do primary project assessment through interviews and forestry policies and documents; 3) to collect data of population and resources; (4) to interview officials and collect social economic data in sampled townships; 5) to organize village meeting and interview with village cadres, conduct survey on farmers and village resources reconnaissance.

2.1.4 Data Sources

The data sources of the assessment include: 1) first-hand field survey such as questionnaire, interviews, symposium, community resource map and various video information; 2) background information and reports such as proposal and feasible research report of the project, etc. 3) official statistical data, such as statistical almanacs of government at all levels, statistical bulletin, outline of the “twelfth five-year plan”, relative policy documents of government at all levels; 4) local historical documents, such as “Yuanling County Annals” and “Luxi County Annals".
### Table 2-1 Samples of Social Assessment in Project Counties

<table>
<thead>
<tr>
<th>Project county (city, district)</th>
<th>Names of townships and villages</th>
<th>Names of the villages</th>
<th>No. of farmers Questionnaires</th>
<th>No. of Questionnaires on officials</th>
<th>N. of participants in workshops</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yuanling</td>
<td>Er’you Miao Township</td>
<td>Yangjia Village, Liangchaxi Village</td>
<td>20</td>
<td>15</td>
<td>18</td>
</tr>
<tr>
<td>Mayang</td>
<td>Yaoshi Township, Wenchang’ge Township</td>
<td>Mashantan Village, Luojiachong Village</td>
<td>50</td>
<td>11</td>
<td>17</td>
</tr>
<tr>
<td>Luxi</td>
<td>Liangjiatan Township, Pushi Town</td>
<td>Yantoushan Village, Bajiaoping Village</td>
<td>28</td>
<td>11</td>
<td>17</td>
</tr>
<tr>
<td>Pingjiang</td>
<td>Xiangjia Town, Wukou Town</td>
<td>Huangjin Village, Xinshi Village, Yingjiang Village</td>
<td>46</td>
<td>16</td>
<td>18</td>
</tr>
<tr>
<td>Shuangpai</td>
<td>Yongjiang Township</td>
<td>Baishajiang Village, Kuilei Village</td>
<td>36</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td>Jindong</td>
<td>Jindong Township</td>
<td>Nanmu’ao Village, Zaoshuping Village</td>
<td>30</td>
<td>14</td>
<td>16</td>
</tr>
<tr>
<td>Ningxiang</td>
<td>Zifu Township, Hengshi Township</td>
<td>Jiangquan Village, Jinqi Village, Quanliu Village</td>
<td>53</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Changning</td>
<td>Tashan Yao Township, Miquan Township</td>
<td>Songta Village, Puzhu Village, Shuang’he Village</td>
<td>40</td>
<td>16</td>
<td>17</td>
</tr>
<tr>
<td>Rucheng</td>
<td>Lingxiu Yao Township, Yongfeng Township</td>
<td>Dongshan Village, Xiangli Village, Xianfeng Village</td>
<td>40</td>
<td>12</td>
<td>18</td>
</tr>
<tr>
<td>Guiyang</td>
<td>Zhenghe Township</td>
<td>Huangshi Village, Zhenghe Village</td>
<td>32</td>
<td>11</td>
<td>16</td>
</tr>
</tbody>
</table>
Generally, the latest official statistical data is selected. In terms of population, economic and social development, the data in 2010 selected. Data at village level are collected form field survey as much as possible to ensure the objectivity and accuracy. Analysis and discussion on relative issues have taken into account the views of major stakeholders, management institutions and project owners to make it more comprehensive and objective.

2.2 Methods

Participatory appraisal method is applied in the whole social assessment process. Data are collected through information disclosure and consultations. In the 22 project counties, tools of participatory appraisal are applied to conduct social assessment, including semi-structural interview, workshops, scoring and sorting, matrix analysis of the project impacts, community resources mapping, to ensure that different stakeholders and various types of farmers’ households can take part in the project voluntarily, enthusiastically and equally. Flyers, announcements and meetings are adopted to disseminate project information to concerned government departments and villages so that they could learn more about the objectives, components, principles and procedures of the project.

2.2.1 Cadres’ Workshop

The county SA team organized workshops for officials at county level. The provincial SA team organized workshops with local officials in Yuanling, Luxi, Mayang, Pingjiang, Rucheng, Guiyang, Changning, Shuangpai and Jindong counties. The participants include officials from the Bureau of Forestry, Bureau of Financial Management, Bureau of Development and Reform, Bureau of Agriculture, Bureau of Water Resource Management, Environmental Protection Bureau, Women’s Federation, Bureau of Minority Religious Affairs and Bureau of Culture. The contents of the workshop include: 1) introduction of the basic information of HFRDP and the purposes of the workshop; 2) Collection their understanding, extent of support and recommendations about HFRDP; 3) Interviews and questionnaire survey. In-depth consultation was conducted by SA team with concerned officials ethnic and religious
affairs in Yuanling County, Luxi County, Rucheng County, Shuangpai County and Mayang County.

2.2.2 Village Meeting

Village meetings have been organized with main stakeholders in each sample village. Special attention has been paid to the interests of poor farmers, ethnic minorities and women, as well as the voice from disadvantaged groups in village meetings and consultations. The provincial SA team conducted 24 workshops with main stakeholders, including 4 in Huaihua City, 5 in Chenzhou City, 4 in Yongzhou City, 3 in Changsha City, 3 in Hengyang City, 3 in Yueyang City and Xiangxi Autonomous Prefecture. The decision of time and location or venue of village meetings has fully taken into account farmers’ convenience so that to ensure their full participation. In the meetings which are moderated by cadres, the SA team introduced the requirements, attitude, expectations and suggestions of the project.

2.2.3 Questionnaire Survey

Questionnaire survey have been conducted on different types of stakeholders, including women, ethnic minorities and the poor. In total, 522 questionnaires (including 137 on officials) have been collected, including 96 in Huaihua City, 95 in Chenzhou City, 69 in Changsha city, 95 in Yongzhou City, 62 in Yueyang City, 66 in Hengyang City and 39 in Xiangxi Autonomous Prefecture respectively. With regard to the age of the informants, the majority is in the age group of 36 to 65 years, covering 83.1% of the total, and among which 56.8% are in the group of 46 to 65 years. In terms of the nationality, the informants of Han nationality accounts for the majority of 67.2%, while Miao, Tujia, Yao and Dong minority informants account for respectively 15.5%, 4.2% and 8.4% in the total.

2.2.4 In-depth Interviews

In-depth interviewees include certain percentage of women, minorities and the poor farmers, and certain percentages of low income, medium income and high income farmers. Interview were conducted in farmers’ houses, field or other appropriate
places at appropriate time after the village meetings.

Interviews on farmers are key for SA. Interviews on village cadres helped to identify the stakeholders, impact of HFRDP and forestry tenure innovation, to collect social economic data of the village. Wealth ranking was applied to identify participants for group interviews. Interviews with farmers were conducted to learn about their behavior in forest production, resource management and livelihood characteristics. Land resource reconnaissance was applied to collect information about vegetation and forest land use, forest tending and modes of land use in the villages. Women and poor farmers received special attention during the interviews.

2.2.5 Mapping

The SA team has drawn village map and resource map in all the sample villages. Everyday life chart and seasonal calendar were also developed by interviews with farmers.
3. OVERVIEW OF SOCIAL ECONOMY IN PROJECT AREA

3.1 Natural Condition

3.1.1 Natural Condition of Hunan Province (HN)

Hunan Province is located at the middle branch of the Yangtze River. Most part of it is in the south of Dongting Lake, which is also how the province was named (means “the south of the lake”). Xiang River runs through the province from the south to the north, so HN is also shorted as Xiang. It locates at east longitude of 108°47′-114°15′, north latitude of 24°38′-30°08′. The width from east to west is 667 km, and the length from south to north is 774 km. Its total area is 211,829 km². The topography in HN is varied, including mountains, uplands, hills, mounds, basins and plains, among which uplands and hills are dominant and account for 51.22% of the total area. Among the total area of the province, there is 2.779 million ha. of plain, accounting for 13.12%; 3.262 million ha. of upland, accounting for 15.4%; 2.938 million ha. of mountains, accounting for 13.87%; 1.3533 million ha. of water surface, accounting for 6.39%.

Water resources in HN is relatively rich. There are the second largest fresh water lake in China, Dongting Lake and four big rivers as Xiang River, Zi River, Yuan River and Li River. There are also 5,341 rivers and streams that are longer than 5 km, all the of which them flow into Dongting Lake through four big rivers and in the end into Yangtze River, except some in the south merges into Zhujiang River in Guangdong Province and some in the east pours into Poyang Lake and Gan River system in Jiangxi Province. There are in total 199.82 billion m³ of natural water resources reservation, including 156.52 billion m³ of surface water and 43.3 billion m³ of underground water (shallow level).
It has abundant plant recourses with various species and vast distribution in HN. Its vegetation belongs to subtropical evergreen broad-leaved forest zone, with 5000 species of plants that belong to 1,245 strains (119 indigenous), 248 genus, ranking 7th in China. Meanwhile, it has 2,470 species of timber plants. It has also the rare “living fossils” species of plants, namely silver fir, metasequoia, dawn redwood, ginkgo and Davidia involucrata. Particularly, part of the Central China plant area represented by dawn redwood, Davidia involucrata, eucommia, Bretschneider-asinensis, diteronia oliv and emmenopterysoliv is the essence of plant system in the Province.

Located at the subtropical area, HN has moderate climate, together with a rich variety of wild animals. To date, 897 varieties of vertebrates has been found in the province. It boasts 18 varieties of national first class protected animals, 79 varieties of national second class protected animals, as well as 216 varieties of Chinese endemic animals and 16 varieties of provincial endemic animals. It possesses various varieties of birds, among which 22 national level protected varieties, accounting for 44% of the total in China. The national first class protected birds in HN include: white-headed crane, Grus vipio, Tragopan temminckii, white crane, black crane, Phasianus reevesii and Mergus squamatus; the national second class protected birds include Golden Pheasant, Lady Amherst pheasant, whooping swan, whistling swan and mandarin duck, etc.

The soil in HN is divided into zonal soil and azonal soil. It has 418 soil types in 111 soil crumbs that belong to 24 subgroups in 9 groups. The zonal soil mainly consists of red earth and yellow earth, being divided along the east of Wulingyuan and Xuefengshan Mountain, east of which is mainly red earth, while the west is yellow earth. Azonal soil possesses alluvial soil, paddy soil, lime soil and purple soil. As the main type of soil, red earth covers 36.3% of the provincial area, distributed in the
mountains and hills east to Wulingyuan and Xufengshan Mountain, as well as the river basins of Xiang River and Zi River. It is suitable for cash crops such as camellia oleifera, tea and oranges. The yellow earth covers 15.4% of the provincial area, distributed in the mountainous area of Xuefengshan Mountain and Nanling Mountain. Alluvial soil covers only 2.5% of the province. The lime soil covers 6.0% of the province area, mainly distributed at the Wulingshan area, as well as the limestone area in central and south HN. The purple soil covers an area of 1.3333 million ha. which is 6.3% of the total land area of HN, distributed in the Hengyang Basin and Yuanma Basin.

HN is famous as “the home of nonferrous metals and non-metallic ores”. In the 160 kinds of minerals that discovered in the world, 141 of them could be found in HN, including the tungsten, stibium, phosphorus, manganese, iron, coal, mercury, arsenic, lead, zinc, copper, tin and molybdenumect. Particularly, the reserve of 41 of them, such as stibium, tungsten and manganese, is in the top five of China.

3.1.2 Natural Condition of Project Area

HFRDP covers 22 counties in 10 prefectures, including 7 counties in the worst damaged Chenzhou, 3 in Hengyang Prefecture, 2 in Huaihua, Yueyang, Changde and Yongzhou respectively, and 1 county in Changsha, Zhuzhou, Shaoyang and Xiangxi Autonomous Prefecture respectively. They are mainly distributed in Xiang River Basin and Yuan River Basin, among them 14 in the former and 5 in the latter. In terms of mountain locations, they are distributed in Luoxiao Mountain area (Yueyang, Pingjiang,, Liling,, Hengnan,, Guidong,, Anren,, Zixing, Yongxing and Rucheng counties) and Wuling Mountain area (Mayang, Yuanling, Luxi, Taoyuan and Ding-cheng ).

Changsha Prefecture is located at longitudes of 111°53'-114°5' and latitudes of
27°51’-28°40’ in the northeast of HN. It covers an area of 11,818 km² with the length of 230 km and width of 88 km. Shaped as strip stretching from east to west, the topography in the prefecture is divided by mountains, hills, upland and plain equally, characterized with mountains in the north, west and south, upland in southeast, hills in northeast. A variety of 221 types of soil can be found in Changsha. In the total area of 13.662 million mu, red earth and paddy soil covers respectively 70% and 25%. The rest 5% of area is covered with yellow soil, alluvial soil, lime soil and so on, which are suitable for multiple crops.

Zhuzhou Prefecture is located at latitudes of 26°03’05”-28°01’07” and longitudes of 112°57’30”-114°07’15”, in the east of HN and the downstream of Xiang River basin. It administers four districts of Tianyuan, Lusong, Hetang and Shifeng, as well as 5 counties of Liling, Zhuzhou, Xiuxian, Chaling and Yanling, with a total area of 11,272 km². Its topography is higher in the southeast and lower in the northwest. Zhuzhou has jurisdiction over square kilometers. As regards the feature of terrain, Zhuzhou is characteristic of lower in the northwestern part, higher in the southeastern region. In the northern central part, it is featured with gorges and belt basins, while in the southeast part, it is mountains. In the total area, there is 4676.47 km² of mountains, accounting for 41.52%; 1843.25 km² of plain along the Xiang River, 1449.86 km² of hills, 738.74 km² of high hills, 1916.61 km² of upland.

Yueyang Prefecture, known as “the land of fish and rice”, connected in its north with Yangtze River, four rivers (Xiang, Zi, Yuan, Li) in its south, has mild climate, beautiful landscape and fertile soils. In its total area of 15,019 km², there is 4,4934 million mu of arable land, 9.5352 mu of mountainous land, and 4.5168 mu of water surface which provides excellent condition for aquaculture. Yueyang also has rich metal resources, such as gold, silvery, copper, iron, lead and zinc. Some of them rank the first in the whole province and some rank top in the whole country. So it is also
famous for the “home of nonferrous metals”.

Changde Prefecture is located in the northwest of HN and the middle reaches of Yangtze River, downstream of Yuanjiang River as well as the middle and lower reaches of Lishui River. It is in the northeast of Wuling Mountain and Xuefeng Mountain. The area in the prefecture can be divided in terms of topography into 3/10 of hills and of upland, 2.5/10 of mountains and 4.5/10 of plain and water surface. In detail, it is 6.7761 million mu of mountains, consisting 24.8% of the total; 9.7898 million mu of plain, accounting for 35.9%; 2.2076 million mu of water surface, consisting 8.1%; and 8.53 million mu of hills and upland, accounting for 31.2% of the total. The climate in Changde is in the transition zone between the humid subtropical monsoon climate of Central Asia and tropical humid monsoon climate of Northern Asia, with rich rainfall and clear four seasons.

Hengyang Prefecture is located in the central south of the HN, and covers an area of 15,310 km². In terms of topography, it has 21% of mountains, 27% of upland, 27% of hills, 21% of plain and 4% of water surface. It is rich in mining resource, so it is known as “the home of nonferrous metals and non-metallic ores”. The soil in this prefecture is mainly red soil and purple soil which are suitable for the development of agriculture, forest and fishery. In terms of forest resources, lots of primitive forests are found in there, including 1,047 tree species, including 12 precious species and one species of Nanmu as the national first class preserved tree.

Yongzhou Prefecture is located in the south of HN, south bank at upstream of Xiang River and the convergence of Xiao and Xiang river basin. Its longitudes is 111°06'-112°21' and latitudes is 24°39'-26°51', with the length of 245 km and the width of 144 km, covering an area of 22,400 km². The topography varies greatly with splendid mountains, hills, criss-cross Rivers and basins. The mountain area occupies
over half of the prefecture area. There are 733 rivers and streams with the total length of 10,515 km. It has four distinct seasons, as it is in the Central Asian Continental Tropic Monsoon Humid Climate Zone. The annual average temperature is between 17.6 to 18.6°C and its annual average rainfall is 1,200 to 1,900 mm. Located in the evergreen broadleaved forest zone, it has plenty of natural plant resources, including 2,712 vascular plants species consisting 68% of the total in HN and 10% of China, as well as 6 arbor species which are among the national first class preserved tree species.

Chenzhou Prefecture is located in the southeast of HN, the convergence zone between the central part of Nanling Mountain and the south part of Luoxiao Mountain, at the longitudes of 112°13’-114°14’ and latitudes of 24°53’-26°50’, with the length of 217 km from south to north and the width of 202 km from east to west. It covers an area of 19,388 km². The main mountains of Nanling mountain ranges stretch from northeast to southwest in this prefecture. There is 2,066 km² of hills, 3,971 km² of upland, 2,355 km² of plain, 10542 km² of mountain land as well as 454 km² of water surface. The seasons there is distinct. Summer and winter are long, spring and autumn are short in plain and upland.

Shaoyang Prefecture is located in the center of HN, half covered by mountains and hills and half by upland. It also has a variety type of topographies, including mountains and hills consisting 2/3 of the total area. The prefecture is situated in the transitional zone between Jiangnan upland and Yunnan-Guizhou highland. Its climate is subtropical monsoon with plenty of sunshine and rainfall and distinct seasons. Its temperature is comfortable. The average annual temperature is 16.1-17.1°C and its average annual rainfall is 1218.5-1473.5 mm. There are also rich variety of plant species and precious tree species, which amounts to 2,826 species.
Huanhua Prefecture is located in the southwest of HN, between Wuling Mountain and Xuefeng Mountain with Yuan River flowing from south to north through it. It has a variety of topography and beautiful landscape. The forest coverage rate in the prefecture reaches 65.3%. It is also rich in water energy for over 800 rivers distributed in the area. In total, 45 types of mine resources including gold, copper, coal, phosphorus, antimony and manganese are discovered in the prefecture, which occupies 41.6% of minerals in HN. The reserve of barite and gold are occupied respectively over 80% and 20% of the whole province.

Xiangxi Tujia and Miao Autonomous Region is located in the northwest of HN, in the Wuling Mountainous area regions at the longitudes of 109°10'-110°22.5' and latitudes of 27°44.5'-29°38'. It covers an area of 15,486 km². In terms of hypsography, it is lower in southeast and higher in northwest. A variety of plants are well-persevered in the region. Some of the natural fossil plants are world famous, such as metasequoia, Davidia involucrata, gingko, southern yew, Breitshneiderasinensis, tulip tree and Emmenopteryshenryi. Meanwhile, there are 985 species of Chinese herb, including 19 national preserved species, such as astu-chung, gingko, gastrodiaelata, camphor and turmeric.

### 3.2 Social Economic Situation in project Area

HN Province consists of 14 prefectures, 122 counties (city, district) and 2,354 townships. Changsha is the capital city. HN is also one of the most populous provinces with the total population ranks the 7th in China. HN is also a densely populated area, with an average of 321 people per km² which is more than twice of the average level in the country. At the end of 2008, with an increase of 3.95 million from 2007, its total population is 68.452 million among which 28.8525 million is urban population and 39.5995 is rural population. The rate of urbanization is 42.2% HN is a multi-ethnic province with the Han accounting for 89.9% of the total population and the minority accounting for 10.1%. The minorities that has comparatively larger popula-
tion are Tujia Minority with 2.6 million and Miao Minority with 1.9 million and Dong Minority.

### 3.2.1 The definition of project Area

The principles that WB adopts to designate the project area are as follows: 1) forest land or forests that are defined as seriously damaged in the ice storm by the provincial government; 2) ecological plantation land designated by the government; 3) land that face clear environmental degradation or able to provide environmental functions; 4) forests seriously damaged in the ice storm and that has canopy density less than 0.5; 5) land that are voluntarily applied for the project; 6) area outside the boundary of the natural preservation zone, and/or the cultural heritage area, and there should be no claims or disputes; 7) land that are not expropriated.

On the basis of the loss situation in the 2008 ice storm and the recovery of forests later, the HPFD chose 22 counties in 10 prefectures including Changsha, Zhuzhou, Hengyang, Chenzhou, Yongzhou, Shaoyang, Yueyang, Huaihua, Changde and Xiangxi as the area for HFRDP (as shown in table 3-1).

<table>
<thead>
<tr>
<th>Number</th>
<th>Prefecture</th>
<th>County (city, district)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Changsha</td>
<td>Lingxiang</td>
</tr>
<tr>
<td>2</td>
<td>Zhuzhou</td>
<td>Liling</td>
</tr>
<tr>
<td>3</td>
<td>Hengyang</td>
<td>Hengnan, Leiyang, Changning</td>
</tr>
<tr>
<td>4</td>
<td>Shaoyang</td>
<td>Xinshao</td>
</tr>
<tr>
<td>5</td>
<td>Yueyang</td>
<td>Pingjiang, Yueyang</td>
</tr>
<tr>
<td>6</td>
<td>Changde</td>
<td>Taoyuan, Dingcheng</td>
</tr>
<tr>
<td>7</td>
<td>Huaihua</td>
<td>Mayang, Yuanling</td>
</tr>
<tr>
<td>8</td>
<td>Xiangxi Autonomous Prefecture</td>
<td>Luxi</td>
</tr>
<tr>
<td>9</td>
<td>Chenzhou</td>
<td>Suxian, Rucheng, Guiyang, Guidong, Anren, Zixxing, Yongxing</td>
</tr>
<tr>
<td>10</td>
<td>Yongzhou</td>
<td>Shuangpai, Jindong</td>
</tr>
<tr>
<td>total</td>
<td></td>
<td>22 project counties</td>
</tr>
</tbody>
</table>
3.2.2 Administration Institutions in Project Area

In HN Province, there are 14 prefectures level and 122 county-level administration institutes (including 35 districts, 16 cities, 65 counties and 7 autonomous counties). It is the most important origin of JING-CHU culture. HN boasts a total area of 211,829 km² and a total population of 69.251 million including 67.68 million permanent population (as the statistics in 2006). Shaoyang is the biggest city in terms of permanent population size. Since the national Reform and Opening-up, especially during the tenth five-year period, its economy maintains steady and rapid growth. In 2010, the GDP reached 1590.212 billion Yuan, which increased by 14.5% from the previous year. Among them, the added value of the first, second and third industry was respectively 233.944 billion Yuan, 731.356 billion Yuan 624.944 billion Yuan, which increased by respectively 4.3%, 20.2% and 11.5% from 2009.
3.2.3 Population, Minority Nationality and Poverty

In the end of 2010, the total population in the 22 project counties was 14.6955 million in which rural population accounted for 70.42% with an amount of 10.3484 million. Besides, there were 96.154 million minority nationalities population in project area, which occupied 6.54% of total (see table 3-2).

<table>
<thead>
<tr>
<th>Project county (city, district)</th>
<th>Total population (thousand)</th>
<th>Rural population</th>
<th>Population of minority nationalities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number (thousand)</td>
<td>Percentage (%)</td>
</tr>
<tr>
<td>Ningxiang</td>
<td>1310</td>
<td>1170</td>
<td>89.3</td>
</tr>
<tr>
<td>Pingjiang</td>
<td>1045.6</td>
<td>724.7</td>
<td>69.3</td>
</tr>
<tr>
<td>Yueyang</td>
<td>717.6</td>
<td>599.7</td>
<td>83.6</td>
</tr>
<tr>
<td>Taoyuan</td>
<td>976</td>
<td>840</td>
<td>86.07</td>
</tr>
<tr>
<td>Dingcheng</td>
<td>825</td>
<td>561</td>
<td>68</td>
</tr>
<tr>
<td>Yuanling</td>
<td>650.2</td>
<td>506.8</td>
<td>77.9</td>
</tr>
<tr>
<td>Mayang</td>
<td>388.3</td>
<td>342.5</td>
<td>88.2</td>
</tr>
<tr>
<td>Luxi</td>
<td>295.8</td>
<td>96.8</td>
<td>23.01</td>
</tr>
<tr>
<td>Jindong</td>
<td>58.94</td>
<td>54.756</td>
<td>92.9</td>
</tr>
<tr>
<td>Shuangpai</td>
<td>183</td>
<td>125.5</td>
<td>68.6</td>
</tr>
<tr>
<td>Liling</td>
<td>1032.3</td>
<td>880.1</td>
<td>88.26</td>
</tr>
<tr>
<td>Xinjun</td>
<td>800</td>
<td>550</td>
<td>68.75</td>
</tr>
<tr>
<td>Hengnan</td>
<td>990</td>
<td>730</td>
<td>73.7</td>
</tr>
<tr>
<td>Changning</td>
<td>902</td>
<td>693</td>
<td>76.8</td>
</tr>
<tr>
<td>Leiyang</td>
<td>1274.7</td>
<td>745.4</td>
<td>58.47</td>
</tr>
<tr>
<td>Suxian</td>
<td>385.8</td>
<td>199.7</td>
<td>51.76</td>
</tr>
<tr>
<td>Yongxing</td>
<td>640</td>
<td>404</td>
<td>63.25</td>
</tr>
<tr>
<td>Zixing</td>
<td>380</td>
<td>160</td>
<td>42</td>
</tr>
<tr>
<td>Guiyang</td>
<td>860</td>
<td>490.2</td>
<td>57</td>
</tr>
<tr>
<td>Rucheng</td>
<td>379.8</td>
<td>324.8</td>
<td>88.5</td>
</tr>
<tr>
<td>Guidong</td>
<td>170.48</td>
<td>149.41</td>
<td>84.5</td>
</tr>
<tr>
<td>Anren</td>
<td>430</td>
<td>360</td>
<td>83.7</td>
</tr>
</tbody>
</table>

Source: statistical bulletin and annals in project counties (city,district) in 2010

Changsha Prefecture has one project county as the Ningxiang County. Changsha had GDP of 454.706 billion Yuan in 2010. In the same year, local fiscal revenue rose to 50.6325 billion Yuan, city residents’ per capita disposable income was 22,814 Yuan. Rural residents’ per capita disposable income was 10,640 Yuan and their per capital net income was 11,206 Yuan. Chenzhou Prefecture, with seven project counties, achieved a GDP of 108.18 billion Yuan, a total fiscal revenue of 10.78 billion Yuan and total financial budget of 6.27 billion Yuan in 2010. Its urban residents’ per capita disposable income was 15,342 Yuan and rural residents’ per capita disposable income was 5,208 Yuan. Hengyang Prefecture, with 3 project counties, achieved a GDP of
142.034 billion Yuan in 2010. Its urban residents’ per capita disposable income was 15,635 Yuan, increased 12.4% from 2009; and rural residents’ per capita disposable income was 7,220 Yuan, increased 14.1% from 2009. Huaihua County, which has 2 project counties with above half Ethnic Minority population, achieved a GDP of 67.491 billion Yuan, a total fiscal revenue of 5.802 billion Yuan and total financial budget of 3.567 billion Yuan in 2010. Its urban residents’ per capita disposable income was 12,523 Yuan, increased 12.7% from 2009; and rural residents’ per capita disposable income was 3,520 Yuan, increased 17.9% from 2009. The economic development situation in the project counties is indicated in table 2-3.

In the 24 sample villages, rice is the main crop in most of them, while a few of them have fruit production, pig and goat raising. Generally, labor migration is the main income source. With special concerns for dependency on forestry industry, the SA team classified the villages into 3 groups by the ratio of forestry income in family income (see table 3-3). In ethnic minority villages, the area of ecological public-benefits forests consists only about 40% of farmers’ total forest land, thus their income mainly comes from non-ecological forests and land conversion subsidies.
### Table 3-3 Economic development indicators of Project Counties

<table>
<thead>
<tr>
<th>Project County (city, district)</th>
<th>population (thousand)</th>
<th>GDP (million Yuan)</th>
<th>Economic growth rate (%)</th>
<th>The per capita GDP (Yuan)</th>
<th>City residents’ per capita disposable income (Yuan)</th>
<th>Farmers per capita net income (Yuan)</th>
<th>The GDP ratio of the first, second and third industries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ningxiang</td>
<td>1310</td>
<td>42000</td>
<td>14.3</td>
<td>32061.1</td>
<td>18600</td>
<td>9227</td>
<td>12.6 : 65.8 : 21.6</td>
</tr>
<tr>
<td>Pingjiang</td>
<td>1045.6</td>
<td>11696.63</td>
<td>14.0</td>
<td>11148.26</td>
<td>10803</td>
<td>2666</td>
<td>23.9 : 44.1 : 32.0</td>
</tr>
<tr>
<td>Yueyang</td>
<td>717.6</td>
<td>13563</td>
<td>16.5</td>
<td>18900</td>
<td>17464</td>
<td>7451</td>
<td>24.1 : 45.8 : 30.1</td>
</tr>
<tr>
<td>Taoyuan</td>
<td>976</td>
<td>14951.27</td>
<td>14.3</td>
<td>15319</td>
<td>13320</td>
<td>5419</td>
<td>35.5 : 32.2 : 32.3</td>
</tr>
<tr>
<td>Dingcheng</td>
<td>825</td>
<td>14910</td>
<td>12.7</td>
<td>15258.18</td>
<td>15302</td>
<td>5241</td>
<td>29.8 : 33.7 : 36.5</td>
</tr>
<tr>
<td>Yuanling</td>
<td>650.2</td>
<td>9536</td>
<td>14.7</td>
<td>14666.26</td>
<td>11647.71</td>
<td>2626</td>
<td>10.7 : 65.1 : 24.2</td>
</tr>
<tr>
<td>Mayang</td>
<td>388.3</td>
<td>3223</td>
<td>13.6</td>
<td>9415</td>
<td>11107</td>
<td>2600</td>
<td>22.8 : 33.1 : 42.1</td>
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<td>2626</td>
<td>10.7 : 65.1 : 24.2</td>
</tr>
<tr>
<td>Mayang</td>
<td>388.3</td>
<td>3223</td>
<td>13.6</td>
<td>9415</td>
<td>11107</td>
<td>2600</td>
<td>22.8 : 33.1 : 42.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Luxi</td>
<td>295.8</td>
<td>3706</td>
<td>14.8</td>
<td>13400</td>
<td>10669</td>
<td>3144</td>
<td>13.4 : 61.2 : 25.4</td>
</tr>
<tr>
<td>Jindong</td>
<td>58.94</td>
<td>565.1</td>
<td>12.0</td>
<td>9587.7</td>
<td>8765</td>
<td>3850</td>
<td>24.5 : 24.2 : 51.3</td>
</tr>
<tr>
<td>Shuangpai</td>
<td>183</td>
<td>2728.26</td>
<td>14.5</td>
<td>14908</td>
<td>14333</td>
<td>3657</td>
<td>32.8 : 42.2 : 25</td>
</tr>
<tr>
<td>Liling</td>
<td>1032.3</td>
<td>26471</td>
<td>16.6</td>
<td>27982</td>
<td>18280</td>
<td>9304.25</td>
<td>12.3 : 60.5 : 27.2</td>
</tr>
<tr>
<td>Xinshao</td>
<td>800</td>
<td>5904.53</td>
<td>15.1</td>
<td>7698</td>
<td>10517.64</td>
<td>2893.78</td>
<td>27.4 : 38.6 : 34.0</td>
</tr>
<tr>
<td>Hengnan</td>
<td>990</td>
<td>15394</td>
<td>14.5</td>
<td>15410</td>
<td>14345</td>
<td>7115</td>
<td>28.9 : 45.6 : 25.5</td>
</tr>
<tr>
<td>Changning</td>
<td>902</td>
<td>14013</td>
<td>14.5</td>
<td>15535.5</td>
<td>16057</td>
<td>6931</td>
<td>42.8 : 35.2 : 22</td>
</tr>
<tr>
<td>Leiyang</td>
<td>1274.7</td>
<td>24008.2</td>
<td>16.5</td>
<td>18834.4</td>
<td>15454</td>
<td>7406</td>
<td>6.4 : 24.6 : 34</td>
</tr>
<tr>
<td>Suxian</td>
<td>385.8</td>
<td>14500</td>
<td>16.0</td>
<td>37584</td>
<td>16859</td>
<td>8278</td>
<td>11.2 : 61.8 : 27</td>
</tr>
<tr>
<td>Yongxing</td>
<td>640</td>
<td>15180</td>
<td>16.0</td>
<td>22656</td>
<td>15345</td>
<td>6994</td>
<td>9.0 : 68.0 : 23</td>
</tr>
<tr>
<td>Zixing</td>
<td>380</td>
<td>15614</td>
<td>16.8</td>
<td>41089</td>
<td>16712</td>
<td>7225</td>
<td>20.1 : 30.9 : 48</td>
</tr>
<tr>
<td>Guiyang</td>
<td>860</td>
<td>15838</td>
<td>16.0</td>
<td>18416</td>
<td>15840</td>
<td>7001</td>
<td>16.1 : 48.6 : 35.3</td>
</tr>
<tr>
<td>Rucheng</td>
<td>379.8</td>
<td>2628.07</td>
<td>16.0</td>
<td>6919.6</td>
<td>10697</td>
<td>2128</td>
<td>26.7 : 35.5 : 37.8</td>
</tr>
<tr>
<td>Guidong</td>
<td>170.48</td>
<td>1370.3</td>
<td>13.6</td>
<td>8038</td>
<td>9483</td>
<td>2014</td>
<td>21.1 : 30.9 : 48</td>
</tr>
<tr>
<td>Anren</td>
<td>430</td>
<td>3431</td>
<td>13.6</td>
<td>7979</td>
<td>12382</td>
<td>2309</td>
<td>31.6 : 32.2 : 36.2</td>
</tr>
</tbody>
</table>

Source: Various statistical bulletin by counties/ city/ district in 2010.
In the sample, there are 10 ethnic minority villages which received special concerns during the SA. In Yangjia Village and Liangchaxi Village of Yuanling County, there is relatively distinctive features of Miao culture and have respectively 91.% and 97.3% of Miao ethnic minority population who speak the unique Waxiang language. Farmers in the two villages are dominantly engaged in farming, with major income sources from rice, corn and labor migration. Their forests are mostly public-benefit forests, so they got little income from timbers. In Yantoushan Village and Bajiaoping Village in Pushi Town in Luxi County, there is respectively 66.8% and 72.2% Miao population who can speak Miao language and worship Pangu, a god in ancient Miao legends. They keep the traditional custom like Tiaoxiang Sacrificing Dance and celebrating the traditional festivals like Sanyuesan (March the 3rd in Chinese lunar calendar) and Liuyueliu (June the 6th in Chinese lunar calendar). In the two villages the culture of Miao nationality has been maintained quite well. The villagers rely on farming and orange production. As ecological function and forest protection is the focus of forestry production, farmers could not get much income from it. In Luojiachong Village of Wenchangge Township and Yaoshi Township in Mayang County, there is respectively 100% and 98.7% Miao population most of whom speak Madarin instead of Miao language but keep their traditional customs as the Pangu worship and Nuotang Drama. The villagers rely on farming and orange production, as well as grape production which develops fast and gradually grows into a large scale and helps to increase income. The forest-based income occupies only a small part in the whole income. In Dongshan Village and Xiangling Village in Xiuyaozu Yao Township in Rucheng County, there is respectively 70.6% and 49.7% Yao population, most of whom speak Madarin. Some minority features have been remained, such as Panwang Festival. They rely on agriculture including rice farming, fruit and ginger production for income. Though they have large area of woodland, not many forests are on the land, therefore the forest-based income is limited. In Songta Village and Puzhu Village in Tashan Yao Township in Changning City, there is respectively 33.3% and 52.1% Yao population that can speak Yao Language. The traditional culture as Panwang Festival, the Talking and Laughing Dance and the Long Drum dance, two traditional dances of Yao minority has been kept well. The
farmers depend on forestry of Chinese fir and Moso bamboo for income.

In the project area, food and clothing is no longer a problem for local residents, but there are low income and relative poverty problems. Infrastructures such as transportation, water, electricity, etc are equipped to some extent, while in some areas further improvements are required. Social infrastructures such as schools, medical services are also available in and around the villages. The project covers 5 poor counties at national level including Luxi, Pingjiang, Mayang, Rucheng and Guidong County. After implementing some poverty alleviation projects, the poverty has been alleviated greatly, so the main problems that proposed by farmers are insufficient infrastructure and investments for development. In each village, there are a group of poor population due to various reasons like illnesses, education, natural disasters, lack of labor, small area of farming land, low labor quality and so on. Families that have labor migration, transportation or tourism businesses, or other non-agro-businesses normally have higher income.

3.3 Damages and After-disaster Recovering from the 2008 Ice Storm

3.3.1 Area of damages

In the 2008 ice storm, over 40% of the total forest land (over 160 million mu\(^1\)) in HN Province, which is 67.88 million mu, were damaged and created a loss of 12.233 billion Yuan. Over half of the roads, houses, electricity and water supply equipments, watchtowers and other infrastructures in the forest area were destroyed. The achievements in the recent 10 years in restoration projects and land conversion project were unprecedentedly ravaged.

3.3.2 Types of the Plants Damaged, Degrees and Types of Damage

In Chenzhou Prefecture, the forests experienced the most severe damages which could not be restored in decades. The ice storm also damaged heavily 2.92 million mu of flower

\(^1\) 1 mu = 1/15 ha.
and tree seedling industry and cause the economic loss of 550 million Yuan.

3.3.3 Species and Rates of After-disaster Natural Regeneration

The forest area all through the whole province were affected by the ice storm, and most of the stricken forests have collective ownership. The main types that were damaged were pure coniferous, broad leaf forests or bamboo forests. The damaged area of the pure forests exceeded 90% of the total, and the damaged forest tree reserve or number of trees also exceeded 60% of the total. The major types of damages include frost killing, brunch broken, being uprooted, trunk broken and being split (mostly bamboo). Most of the ecological public-benefits forests recovered in a natural way with a recovery rate less than 30%. Due to the limited investment, the recovery period will be rather long.

3.3.4 After-disaster Reconstruction Projects Supported by State and Local Government

In recent years, the policies of land conversion and reform on forest land tenure carried out by the national government has inspired farmers’ initiative in afforestation and forest protection. Large investment have been made to afforest a number of fast-growing and high-yielding forests and economic forests such as jarrah forests, bamboo forests, camellia forests. However, they were just the types of forests that were seriously damaged by the ice storm. Right after the disaster, HN forest agencies made evaluation on the loss and developed restoration plans. They organized resource management personnel to issue cutting certificates and provided cutting guidance on-site, to issue the minimum price for bamboo and timber so as to protect farmers’ benefits. They also helped to recover the seedling production, coordinate the seedling allocation and enrichment planting, tending and improvements on forest plantations and tree species. Specific measures have also been taken to prevent secondary disasters, forest fires, pest and disease control and storage of pesticides.
3.3.5 Farmers’ Spontaneous After-disaster Restoration

After the disaster in 2008, the affected farmers started to clean the damaged forests by picking up dead and dry trunks and branches, sorting out broken bamboos and cutting down the tips of some brunch-broken trees.

3.3.6 Lessons Learnt

1) The pure forests were more prone to ice disaster than mixed forests.
2) The conifer trees were more seriously damaged than the broadleaf trees.
3) The exotic tree species were more seriously damaged than indigenous tree species.
4) The single-layered forests were more seriously damaged than multi-layered forests.
5) The over-utilized forests were more seriously damaged than the normally utilized forests.

Thus, some ways to Improve the resilience of the forest ecological system are concluded:

1) selection of tree species shall consider indigenous species as the majority;
2) forest stand structure shall be mixed, age-differed, multi-layered;
3) appropriate management are required.
4. IDENTIFICATION OF PROJECT STAKEHOLDERS

This chapter analyzes all the stakeholders involved in HFRDP. Since it is a recovery and development project of ecological public-benefit forests, the operating and running of the project will definitely involve a number of factors, therefore, it is necessary to figure out the framework of stakeholders. According to SA, the direct stakeholders include farmers, FCs, village-level organizations, township forestry stations, women and ethnic minorities; while the in-direct stakeholders include HN Forestry Department, County governments and its bureaus, township government that will be involved in project implementation.

4.1 Farmers

Farmers are the direct implementers and beneficiaries of the project. Through field survey, the SA team found out that most of the farmers in project area do not depend highly on forest for income (except the farmers in Shuangpai County and Jindong district where farmer has more than 50% of income from forestry), some other farmers have no income from forestry (in Xiangjia Town and Wukou Town in Pingjiang County) but they are willing to participate in the project with their forest land accept the project management mode, after being informed about the HFRDP.

In this project, the poorest farmers are those live in villages with extreme poverty, usually lack of skills or labor, or have insufficient land and forest resources. The other special group is those wealthy farmers who already have a certain social status as business owners in the village or township. Between the two extremities, there are the medium wealthy farmers who take up a majority. The three groups have different ways of participation: 1) The poor farmers normally have not contracted much forest land so they are more intended to do seasonal migration jobs. Most of the young farmers, or even younger farmers in mountainous area, migrate to work seasonally or for long period. There are migrants in both poor and not so poor families. Since planting trees doesn’t require much
skills, it is generally taken by the poor farmers. 2) Medium wealthy farmers usually take forest as a traditional way of livelihood, especially for those living in mountainous area. In recent years, more and more farmers take part in afforestation activities in projects from the poverty alleviation agencies or Women’s Federation. 3) Wealthy farmers normally are engaged in forest farm management supported by local forestry departments. They also have capacity of investment to certain extent and have certain techniques of forest management and experiences of managements.

Table 4-1 Comparison of Project Impact on Different Types of Farmers

<table>
<thead>
<tr>
<th>Farmers</th>
<th>Positive Impact</th>
<th>Negative Impact</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wealthy Farmers</td>
<td>Significant influence on those who contracted large area of bare lands and mountains; Strong capacity of participation</td>
<td>No influence on their livelihood</td>
<td>the major project beneficiary</td>
</tr>
<tr>
<td>Medium-wealthy Farmers</td>
<td>Comparatively strong positive influence; project targets</td>
<td>significant influence on farmers who mainly depend on forestry for income</td>
<td>The main project beneficiary</td>
</tr>
<tr>
<td>Poor Farmers</td>
<td>Comparatively weak influence; weak capacity of participation</td>
<td>Limited opportunity for participation due to insufficient land, laborers and capital</td>
<td>bearing the risk of being marginalized</td>
</tr>
</tbody>
</table>

The livelihood of the farmers in project area mainly focus on labor migration, with a few farmers engage in agricultural, forestry and processing industry, and some others engage in businesses. In forestry production, farmers mainly take part in restoration projects and scattered voluntary afforestation, which are basically done by themselves and their family members. The rich families employed laborers in the villages.

During the field survey, it is perceived that farmers generally have a positive and welcome attitude with the project. requirements for project organization and management are varied, including individual and united HHs afforestation, FCs and other possible suitable ways. Project HHs will be the direct beneficiaries, while the non-participatory HHs are indirect beneficiaries. Projects are designed to fit local conditions with different types of forests including mixed coniferous, mixed multi-functional bamboo Joe, broad-leaved forest,
forest cultivation and enrichment planting forest. Fir - Sassafras - *Liquidambar formosana* - camphor and *Pinus massoniana* - *Liquidambar formosana* - camphor - Sassafras mixed forests are more popular. Regeneration of natural forests by physical treatments with conifer-broadleaved mixed forests and broad-leaved forest are more welcomed.

### 4.2 Forest Cooperatives

As one form of farmers’ cooperatives, FCs is a voluntarily associated organization with democratic management by suppliers and users of the same type of forest products or services, which is based on the household contract system of collective forest land. Members in the cooperatives are all producers of forest products or suppliers of forest service who cooperate together to improve economies of scale that a single farmer cannot do or cannot do well, such as project implementation, organization and management, the ways of farmers cooperate on land use and participation, labor sources and interest distribution. in Ningxiang, Yueyang, Leiyang, Chang Ning, Ping Jiang Counties, FCs have been organized at an initial stage with regulated management and are running very well. Usually, farmer members contribute by their labor and the cooperatives provide farmers with production materials, techniques and information, which is easier to achieve the economy of scales and improve efficiency.

### 4.3 Village Organization

Most of the collective forest land have been contracted to farmers’ HHs through the reform of collective forest land tenure, while a very small part of are still managed by the village. Due to insufficient management and ice storm damages, forest fires and other reasons, the vegetation is thin and often are not utilized very well in collective forests. The village-level organizations expect to restore and develop the collective forest resources through HFRDP. In the better-off regions, village organizations are not very interested in direct involvement in HFRDP since most of afforestation activities are conducted individual households. On the contrary, village collectives are important project participants in the remote areas where ethnic minorities live.
It shall be signified that the administrative village (AV) and natural village (NV) will play different roles in the project. In ethnic minority area, AV is disadvantaged community organization, while NV is the basis of production team. When NV sign afforestation contracts with other stakeholders, NV could play a role of information transfer. However, in the respective of administration, the village committee is elected for the AV which is a legal corporate for project contracts.

In some villages where there are still some collective forest land, the village committee could play a role in the project. As the grassroots organization with close relation with farmers, it can publicize the government information downwards in time; and it can also reflect farmers’ opinion upwards to management agencies and improve the project implementation.

4.4 Women

Women's participation in the project could be influence by their family and social responsibilities, family and social roles, and opportunities. Among the interviewed families, the husband make decision in 64% of them, while husband and wife make decisions together in 35% families. In 15% of families, it is the husband who decide on the matters like “afforestation on family owned plot of forest land”, “user right of the family forest”, “who shall participate in the afforestation”, “who shall participate in trainings” and “who is responsible for forest product harvest”, while in 85% families, the man and woman will decide together. This result shows that generally women enjoy high family position thus gender would not be crucial to effect on their participation. Due to the improvements in education and participation in social production work, women have equal rights with men in fields of life, medical services, education, employments and so on. And, in some area, women consist of 70% of the labor force that stay in the villages.
4.5 Minorities

The HFRDP covers Miao, Tujia, Yao and other ethnic minorities. However, the Tujia minority have been completely integrated into Han Nationality so the WB Policy 4.10 is not applicable to Tujia minority. HFRDP is concerned with population, language, social status, ways of production and rights of ethnic minorities, which could in influenced by such social factors like ethnic minorities policies, the population, social and cultural features. Therefore, consultations shall be conducted to learn about their demands and gain supports from them, to put forward suitable measures for ethnic cultures to avoid negative impacts on them.

The SA team selected 10 minority villages with distinctive ethnic features for field survey (detailed information is shown in table 4-2). Workshops have been organized with officials at county and township level and village cadres to introduce to them about project information and learn about their opinions, willingness for participation and recommendations. Sociological questionnaires were applied. In total, 267 questionnaires has been collected, including 35 in Yuanling, 53 in Luxi, 61 in Mayang, 52 in Rucheng, 66 in Changning. The informants include 75 government officials, 192 farmers and village cadres; 165 men and 102 women with regard to gender, and 112 Miao minority and 85 Yao Minority informants. PRA was also conducted with tools of focus group discussion, resource mapping, seasonal calendars, scoring and ranking, family interviews.

<table>
<thead>
<tr>
<th>Project county</th>
<th>Yuanling</th>
<th>Luxi</th>
<th>Mayang</th>
<th>Rucheng</th>
<th>Changning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sampled villages</td>
<td>Yangjia and Liangchaxi</td>
<td>Yantoushan, Bajiaoping</td>
<td>Luojiachong, Mashantan</td>
<td>Dongshan, Miaoling</td>
<td>Songta, Puzhu</td>
</tr>
<tr>
<td>Minority</td>
<td>Miao</td>
<td>Miao, Tujia</td>
<td>Miao</td>
<td>Yao</td>
<td>Yao</td>
</tr>
</tbody>
</table>

In each village, the SA started with observations on village life and production and distribution of project materials. Later, farmers’ workshops were organized to introduce to them about HFRDLP and collect their attitudes and opinions towards it. consultations were conducted for discussions of ways of participation, selection of tree species and other is-
During these processes, farmers got comprehensive knowledge about HFRDP and expressed their opinions freely in forest management types, tree species, plots and size of project land, afforestation density and so on. Above 98% of minorities recognized the project to be helpful for forest restoration and improve ecological environment, so they have positive attitudes towards it and expect it to be implemented as soon as possible.

Meanwhile, some people had worries and doubts. They had eager demands for infrastructures of drinking water and irrigation, village roads. They also expected to plant indigenous tree species with both ecological and economic values; to participate in their own ways and be respected by project offices and governments, to get more project funds and receive convenient trainings from the project. They hoped that project officials could visit the village often and concern about their interests. They were also worries if they could not participate in the project, since the project adopts reimbursement system for financial supports while the poor minority farmers may not have income fund available.

4.6 Hunan Provincial Forestry Department (PFD)

Hunan PFD is the top leader of Hunan forestry management agencies. It makes forestry development planning, organize the implementation of all kinds of forestry development activities, and manage at macro level the nature reserves, forestry enterprises, township forestry stations, state-owned and collective forest farms. The PMO under PFD will be the macro manager for HFRDP and carries the responsibility to supervise the repayment of loans. The PFD will participate in HFRDP with roles of macro-guidance and policy management, organizer and coordinator between the project, companies and farmers.

4.7 County Governments

County government is the local government institutions between the prefecture and township governments. It participates in HFRDP by organizing farmers and FCs to participate in the project with laws policies. It is also the main carriers of the WB loan, and responsible to supervise the CFB to carry out and monitor all the project tasks. CFB is the
main functional agency when preparing for the project and is also the main coordinative agency during implementation.

4.8 County Forestry Bureau (CFB)

As the major agency for forestry management, the CFB usually performs a series of large-scale forestry projects, including ecological forest projects. CFB will be the backbone of the successful implementation of the project, as it provides overall guidance and policy management for HFRDP and coordinates between the project, company and farmers. Therefore, it is an important stakeholder for HFRDP. Among the 22 project counties, Shuangpai, Luxi and other counties have participated in one or more WB funded forestry projects in HN, and thus accumulated rich experiences. They also have strong capacities in organizing and management, for example, the CFB of Shuangpai County have more than 50 professional forestry engineers.

The township forestry station (TFS) acts as bridges between township government and farmers, forestry agencies and farmers, and among farmers. TFS helps township government to make forestry development planning and annual plans, organize and directs forest production activities for individuals and collectives. It also extends forest technologies, conduct trainings and consultancy services for forest farmers all through the production process. Generally, in each TFS, there is 3 to 4 technicians, the maximum could be more than 10, who are usually graduates from professional forestry colleges and have rich experiences in rural work. However, TFS is a self-supported organization, so they expected when they provide technical services for the HFRDP, they could also benefit in economic term.

4.9 Other project-related Bureaus at County level

Development and Reform Bureau (DRB) is the government's macroeconomic policy-making department. In HFRDP, the county DRB developed the general county devel-
opment plan so as to coordinate other line agencies to cooperate with the HFRDP. It also participated in the preparing work for the project.

The Nationality and Religion Administration Bureau (NRAB) at County level provides information about minority and religion for sampling villages in SA. It combines its own projects with HFRDP, and mobilizes minority farmers to participate in the project with their labor, resource and funds. It also offers guidance on the characters and problems of minorities in project area and helps to guarantee their interests.

County Women's Federation provides information about women for sampling villages in SA. It combines its own projects with HFRDP, and mobilizes women to participate in the project. County Office of Poverty Alleviation provides information about poverty issue and poverty alleviation for sampling villages in SA. It combines its own projects with HFRDP, and fulfills its responsibilities through co-afforestation with CFB. County Bureau of Agriculture provides information about land use for sampling villages in SA and offers technical services for HFRDP with livestock raising and pasture grass.

Township Government is the grassroots government organization in China. It will assist the county government to organize major companies, forest farms and farmers to participate in HFRDP, provides information about the administrative villages for SA team in sampling villages. It combines its own projects with HFRDP, mobilizes villages to participate and monitor them to guarantee the quality of the project.
5. POLICIES AND LEGAL FRAMEWORK

5.1 Policies and Laws on Ecological Restoration


5.2 Policies and Laws Relative to Mitigating Climate Changes

The Chinese government issued *China's National Climate Change Program* and *Chinese science and technology program to address climate change* in June, 2007, which stated China's overall objectives to address climate change till 2010. They are: effective control on greenhouse gas emissions, enhanced capability of adapting to climate change, improved research capacity on climate change, new progresses in scientific researches on climate change, strengthened public awareness of climate change reinforced institutional mechanisms of dealing with climate change. Furthermore, *Cleaner Production Promotion Law, Prevention and Control Law of Solid Wastes in Environmental Pollution, Circular*
Economy Promotion Law, Administrative Regulations on Urban Living waste and Recommendations on accelerating the development of circular economy were issued by People's Republic of China. In 2009, HN Province formulated the "HN Provincial Climate Change Program."

**5.3 Policies and Laws Relative to Ethnic Minorities**

About the nationality affairs, either national or provincial government has a series of laws and regulations. The Law of the People's Republic of China on Regional National Autonomy clarifies the state policies on ethnic affairs. The White Paper Book on this law was officially publicized in 2004 for the first time. The Law of the People's Republic of China on Regional National Autonomy is fully applicable to HFRDP. Article 2 in Chapter 1 points out that ethnic autonomy shall be applied in areas inhabited by minorities; Article 28 in Chapter 1 indicates that the ethnic autonomy governments should manage and protect local natural resources, and it has the priority to utilize local natural resources in suitable ways for local development in accordance with the planning of laws or national government. Article 65 also stipulates that when the state utilize resources in autonomous minority area for development, the interests of minority autonomous region and arrangements in favor of local economic development, local minorities’ life and production shall be taken into account. The State should compensate for when natural resource export happens in ethnic autonomous regions. In the Preamble of 1982 Constitution, it states that: “The People's Republic of China is a unitary multi-national state built up jointly by the people of all its nationalities. Socialist relations of equality, unity and mutual assistance have been established among them and will continue to be strengthened”. Article 4 of the Constitution indicates: “All nationalities in the People's Republic of China are equal. The state protects the lawful rights and interests of the ethnic minorities and upholds and develops a relationship of equality, unity and mutual assistance among all of China's ethnic groups. Discrimination against and oppression of any nationality are prohibited; any act which undermines the unity of the nationalities or instigates division is prohibited. The state assists areas inhabited by minority nationalities in accelerating their economic and
cultural development according to the characteristics and needs of the various minority nationalities. In the struggle to safeguard the unity of the nationalities, it is necessary to combat big-nation chauvinism, mainly Han chauvinism, and also necessary to combat local-national chauvinism. The state will do its utmost to promote the common prosperity of all the nationalities.” The Common Program of Chinese People’s Counter Political Consultative Conference settled in 1949 and the Constitution of the People's Republic of China” in each amendment have clearly pointed out that the minorities have the freedom to preserve or reform their ethnic customs. In 1994, the CPC HN Provincial Party Committee and HN Provincial People's Government issued a number of preferential policies on ethnic minorities and socio-economic development in their inhabited areas, and the No.23 document of 1994 have actively helped the Ethnic minority to develop forestry economy.

5.4 Policies and Laws Relative to Women

Achieving gender equality is a basic state policy of China. The Constitution expresses clearly that “Women in the People's Republic of China enjoy equal rights with men in all spheres of life, political, economic, cultural and social, and family life.” The article 2 in The People's Republic of China Law on the Protection of Women's Rights issued in 1994 states that the state shall take necessary measures to gradually improve various institutions to protect the rights and interests of women and to eliminate all kinds of discrimination against women. The state shall protect the special legal rights and interests enjoyed by women. Discrimination, abuse, abandonment, mutilation of women are prohibited. Article 6 in The People's Republic of China Law on land contracts in rural areas requires that women and men enjoy equal rights for the rural land contracts. Women’s legal rights is protected in land contracting, any organization or individual shall not deprive and offend against the land contracting right that women have. Development of Chinese Women (2011-2020) brings social gender awareness into the legal system and public policies, proposing to promote the comprehensive development of women and harmonious development between the two genders, to promote simultaneous development of women and social economy, to protect women's equal access to economic resources and participation
in economic development, national and social affairs and social security. It also pays special attention to the fundamental rights of rural women. *The Regulations to Protect the Legitimate Rights and Interests of Women and Children in HN Province* and *HN Provincial Women's Development Plan (1996-2000)* issued in 1996 are milestones for women’s development in HN Province. In 2000, People's Government of HN Province developed and issued *HN Provincial Women's Development Plan (2001-2010)* which mainly secures women’s equal access to capital, credit, land, technology, information and other rights, and that rural women enjoy equal rights with men in their habited area in land contract rights, production and operation rights, homestead allocation right, land compensation, stock dividends and other rights. And we should make specific investments in favor of women's survival and development to improve their economic situation.

**5.5 Ecological Public-benefit Forest Policy**

In 2003, *The CPC Central Committee’s Resolution to Accelerate Forestry Development*” (No.9 Document) was issued to initiate compensation program for ecological forests in China. In the end of 2008, most of the ecological forest has received state subsidies. According to *The Ares Delimits of Key Ecological Forest*, commercial lumbering are prohibited in all the state, collective or individuals forests that belong to ecological forests, and the state will compensate for the prohibition. The principle of “Who delimits, who subsidize” is applied in ecological forests. In other words, those ecological forests delimited by the state should be subsidized by the state, while those delimited by the local authorities (province, country) should be subsidized by themselves.

**5.6 Credit Policies**

In the *Lending General Provisions* issued by People’s Bank of China, Article 4 states that “Lending and borrowing activities between a borrower and a lender shall abide by the principle of equality, voluntariness, fairness, honesty and trustworthiness”. Its Article 5 states that “In the development of lending business, lenders shall abide by the principle of fair competition and close cooperation, and may not engage in unfair competition”. The
loan policies in China general includes 3 facets: 1) Concerning expansion of gross loan, there are some regulations about currency multiplier and flow of currency, for example, the regulation on the down payment of car and housing purchases, ratio of stock mortgage and so on. 2) Concerning the flow of loans, such policies like discount loans are issued to encourage the loans to be invested in areas and industries that require state supports. 3) There are also some restrictions on loans. “Window Guidance” is applied on commercial banks on amount of loans, credit risk rating and evaluation to guide some loans not to flow into certain industries or areas.

5.7 The WB Social Safeguard Policies

It is requested by OP 4.10 of WB that during project design and implementation stages, project information shall be publicized to minorities who will be influenced by HFRDP, so as to identify and analyze potential negative impacts, ensure the cultural needs and improve the participation of minorities as the project target beneficiaries. The main minority targets of HFRDP are Miao and Yao ethnic minority groups. The SA team developed “Ethnic Minority Development Plan of HFRDP” (EMDP) to meet the demands of OP 4.10.
6. EXPECTED BENEFITS FROM HFRDP

Based on the data collected in SA, the expected ecological, social and economic benefits from HFRDP are concluded as the followed.

6.1 Ecological Benefits

1) Improved quality of regional ecology. As a project focus on ecological engineering, the implementation of HFRDP will restore the vegetation rapidly in project area through large scale of afforestation, enrichment tending and regeneration of natural forests through physical treatments. The forest coverage rate in HN Province is expected to be increased by 3 to 5 percentage after the project, thus it will accelerate the ecological construction in HN. Through application of mixed forests, the forest structure and quality of forests will be improved extensively. Furthermore, the forests damaged in 2008 ice storm will be restored with rational structure of forest stand.

2) Reduced natural and ecological disasters. The HFRDP will be implemented in the ice-damaged area with serious soil erosion and slope in 15~25 degrees. Through afforestation tending, enrichment tending and regeneration by physical treatments based on strict environmental regulations, the function of water conservation by forests could be improved. The strict principles of site condition selection, diversified afforestation models and tree species, adoption of indigenous tree species and preservation of original vegetation will provide good habitats for wild animals and protect the natural enemies of pests. The control on chemical pesticides application will also preserve and improve local bio-diversity.

3) Increased carbon sequestration. Global warming, caused by the greenhouse effect, is a worldwide problem that threatening the survival of human being. It could be reduced by storage of carbon dioxide that produced by the photosynthesis of trees. Therefore, the
implementation of HFRDP will increase the carbon sequestration by afforestation and forest restoration.

6.2 Social Benefits

By introducing new tree species, funds and information, HFRDP will renew farmers’ concept of production and enhance the ideology green development, promote local forestry development and transfer the advantages of resources into economical advantages, provide employments by afforestation activities for local surplus labors and increase farmers’ income, activate local rural economy and strengthen the construction of new countryside; improve the ecological environment and thus help improve human health. Furthermore, the implementation of HFRDP will help to adjust local industry structure, promote the development of FCs and improve farmers’ capacity on forest management, well equip forest facilities and reduce forest fires, develop the institutional capacity of relative management agencies. Through information dissemination, people will have a better awareness about environmental protection and biodiversity and will act upon it.

6.3 Economic Benefits

The activities of either afforestation or restoration of HFRDP will benefit local economic develop in two senses: on the one hand, it will directly contribute to local income increase, on the other hand, it will promote the development of local tourism and increase income in turn. In mixed afforestation, mainly the precious broadleaved tree species will be planted which could bring higher income for farmers when it comes into physical mature age, even though it has little economic return in the pre-mature stage. Besides, farmers will receive subsidies from the project. The natural growth of trees and increasing of forest volume can also be transferred into considerable economic returns. The improved environment will favor the development of the third industry and green industries such as tourism, entertainments and social services, and will be more attractive for investments.
7. PROJECT IMPACTS ANALYSIS

7.1 Impacts on Ecological Environment

The HFRDP will largely improve ecological environment and living quality of people, restore the ice-damaged forests and increase forest productivity and quality of forest stand, enhancing the resilience of forests to disasters and pests. By extensive restoration in ice-damaged areas, HFRDP will ensure the function of water reservation, reduce soil erosion, bring back biodiversity, and thus decreases the possibility of natural and ecological disasters.

7.2 Impacts on Forest Quality

The HFRDP will increase the forest volume and improve the forest stand quality in HN Province. The project will effectively improve the resilience of forests to natural disaster. It will also ensure the positive economic output from forests.

7.3 Impacts on Biodiversity

The HFRDP will effectively construct multifunctional forest shelters for birds, reptiles, amphibians with a forest trinity of arbor, shrub and herb. A natural platform for development of biodiversity can be constructed through effective forest restoration in HFRDP. When the forest vegetation is recovered, there will be obvious increase of wild animals, growth of above and under forest resources, thus to ensure the biodiversity and good natural environment.

7.4 Social and Economic Impacts

Obviously, HFRDP will promote local economic development in project area by employments provision, income increase and improvements of life quality. Local government normally expect HFRDP to improve local ecological environment and investment
environment. Farmers from well developed areas (such as Liling City and Zixing City) with convenient transportation infrastructures have low expectations of income increase from the project in a short term. Furthermore, HFRDP has low income contribution in a short term for farmers in remote and less developed project counties (such as Luxi, Ma-yang and Yuanling Counties), especially on those who depend on forestry income. Therefore, the project design shall allow farmers to develop under forest crops and livestock/poultry raising, and select some economic trees such as waxberry and chestnut that also have high ecological values, so as to improve farmers’ income and reduce local poverty.

7.5 Institutional and Technological Impacts

The technical service has been good with sufficient technicians in project counties, but the HFRDP has even higher requirements for technical service and management and thus request the forestry management and technical service agencies to learn from international experiences and technologies, especially when some counties has never implemented WB projects. Therefore, technical trainings provided by HFRDP will improve the capacity of technical services at county and township level. The forestry management agencies at all levels could also have their capacity enhanced by learning from the international forest project management models.

7.6 Impacts on the Participation and benefits of Ethnic Minorities

Based on the second-hand data collected by SA team, the distribution of ethnic minorities in project area is indicated in table 7-1. Although, all the 22 project counties have ethnic minority population, some counties including Pingjiang, Dingcheng, Liling, Xinshao, Hengnan,Suxian,Yongxing and Anren are not included in table 7-1 due to its very small minority population.

<table>
<thead>
<tr>
<th>Names of counties</th>
<th>population of the minorities</th>
<th>Proportion in the total population (%)</th>
<th>Names of the minorities</th>
<th>Location</th>
</tr>
</thead>
</table>

Table 7-1 Ethnic minority population in project area (data in 2010)
As shown in table 7-1, the population of Miao minority group mainly reside in the counties of Mayang, Luxi and Yuanling in the west of the province, while Yao minority group are mainly inhabited in Rucheng, Zixing, Shuangpai and Changning Counties in the south of the province. The SA found that in project area, over 800,000 Miao minority population live in a concentrated area, so there requests and demands could be easily noticed and considered. However, Yao minority has a much smaller population of around 90000 and reside in a dispersed pattern with other nationalities, so their demands could be easily ignored. Thus, special attention shall be paid on Yao minority. Even though there is gap between Han nationality and Yao, Miao nationalities who have their unique culture, customs and languages, it is generally small. In project area, 70%-8 minority youth migrate out for work and are influenced strongly by external culture. Meanwhile, the minority culture is also being integrated into Han culture as the mainstream. However, they are still generally the social disadvantaged groups in HFRDP, so participatory consultation and planning shall be applied to guarantee opportunities for them to voluntarily participate in the project, and to develop EMDP to ensure their rights and benefits.
7.7 Impacts on the Social Status and Participation of Women

The HFRDP will provide women with opportunities of development, since women are the main labor force in agriculture and forestry in project area, and will consist of above 60% of project labor. Women are required to participate in all the stages of HFRDP, including planning, implementation, monitoring and evaluation. Consultations with women at project design stage is an important step to guarantee their voluntary participation in implementation, so workshops and interviews shall be conducted with women during project planning period. Village forestry development planning shall also invite women to participate. The selection of afforestation models and maintenance shall take into account women’s expectations and demands. As one of the main targets of project trainings, the minimum ratio or amount of women trainees shall be clarified. The SA team suggested that women shall receive special trainings on some project activities that will be implemented by them. Therefore, HFRDP is helpful to improve the socio-economic status of women and promote gender equality.
8. RISK IDENTIFICATION AND CONTROL

8.1 Risks and Risk Control for Beneficiaries

1) Project area and participants are not only the beneficiaries but also the implementers of the project. Their education level and ideology will safeguard the project success, but could also be risks on project implementation. The SA team has found that there is an outstanding difference between the ecological protection objective by HFRDP and farmers’ income increase expectation on it. Interviews with farmers and village cadres also indicated that they were particularly concerned about the economic benefits and expected increase of income from the project. For example, farmer Qu Changwu from Yangjiacun Village of Eryou Township in Yuanling County expressed clearly that HFRDP shall also bring some economic benefits for farmers when it focused on ecological benefits.

Risk control measures:
   a. to strengthen information dissemination with an emphasis on the importance of ecological construction. It shall be repeatedly introduced that HFRDP select ecological public-benefit forests for project and farmers could decide by themselves whether to participate in it. Those farmers who are not willing to participate will not be forced to do it.
   b. To develop some economic forests to increase farmers’ income when it is allowed by public-benefit forest management policies.
   c. To pay attention to farmers’ demand on knowledge and technology improvements. Various types of trainings in different ways shall be provided for farmers to address their demands at different project stages, so as to improve their knowledge system and their income or benefits from the project.

2) The poor farmers and social disadvantaged groups may be marginalized during the planning and implementation of HFRDP, in particular during decision-making process. There is a distinct gap of opportunities and capacity for project participation among rich
and poor farmers. Generally speaking, poor farmers and social disadvantaged groups in one community have less land, lack of skills, economic and social capital, so their capacity to participate in HFRDP is very weak. Due to this condition, they could be marginalized in the project.

**Risk control measures:**

a. to promote the development of FCs through which the social disadvantaged groups could have more opportunities for project participation. Special attention shall be paid to these groups, such as poor farmers and women, to offer them equal chances into the cooperatives.

b. To invite social disadvantaged groups such as women and poor farmers to participate in project consultations, and provide them with sufficient right to speak. During the selection of project participation and installments of project funds, they shall also receive special care.

c. To provide technical trainings for them and strengthen their capability for development.

**8.2 Management Risks and Risk Control**

This kind of risks mainly exist with project implementers, or in other words, the incapable management will be risky for the success of HFRDP.

1) **Funds management on both the loan and the counterpart funds.**

**Risk control measures:**

a. Project management shall be independent from loan management. The Forestry departments shall be only responsible for project implementation, instead of loan management which shall be managed by financial departments. This could also be risky for the project. However, it could be controlled when all relative agencies are fully informed about the objectives, contents and implications of HFRDP and a good system of communication, coordination and cooperation could be establish among different agencies.

b. Project funds shall have an independent account and be audited separately. All
project funds should be earmarked for specific use of HFRDP. Both the loan fund and counterpart funds shall be fully installed to farmers in time.

2) **Planning management risk control**
   a. The government departments should play well the role of coordinator to ensure the smooth implementation of projects. The leadership of project organized shall be strengthened and project planning shall be well developed.
   b. Irrational forest management including pure forest, plenary cutting, prescribed burning, cutting the branches and so on could be very dangerous for HFRDP and will reverse the ecological system. Therefore, even though there is no inputs on tourism development, it shall be taken into consideration in project planning and capacity building.

3) **Fire risk control**
   As government departments, the forestry departments shall enhance the fire prevention management after forest restoration. More village level rangers shall be employed. Fire Prevention Headquarters should strengthen the publicity of fire prevention, especially during the Tomb-sweeping Day and the period of prescribed burning and site preparation when personnel, material and vehicles shall be well deployed and coordinated.

### 8.3 Natural Risks and Countermeasures

As we all know, forest is most vulnerable to natural disasters including forest fires, pests and climate disasters. This kind of risks is relatively low for HFRDP (See Table 8-1)

<table>
<thead>
<tr>
<th>Risk items</th>
<th>Risk analysis</th>
<th>Level of risks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forest fires</td>
<td>Comprehensive bio-fire prevention zones have been cultivated, professional forest fire brigade have been established and mountain closures have been set up in project area. Therefore, the capability of fire prevention and fire extinguishing have been significantly increased. There is low level risk of large scale forest fire.</td>
<td>Medium</td>
</tr>
<tr>
<td>Risk items</td>
<td>Risk analysis</td>
<td>Level of risks</td>
</tr>
<tr>
<td>-------------------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>Freezing injuries</td>
<td>Even though Cold injuries have strong impact on plant growth, it generally occurs every 10 years. Furthermore, it will not do destructive harm to plants. The species selected by HFRDP and the indigenous trees are generally resilient to coldness.</td>
<td>Low</td>
</tr>
<tr>
<td>Typhoon</td>
<td>The project area is located in inland, typhoons and storms have low impacts on HFRDP.</td>
<td>Very low</td>
</tr>
<tr>
<td>Drought</td>
<td>The project area is in the subtropical region with plenty of rainfall. In the meantime, trees species selection and the promotion of dry-land cultivation techniques can reduce the effects of drought.</td>
<td>Very low</td>
</tr>
<tr>
<td>Diseases and pests</td>
<td>Perfect quarantine systems and forecasting networks of pests and diseases have been established in project area, and they are able to provide accurate forecasting work for timely prevention and treatment.</td>
<td>Medium</td>
</tr>
</tbody>
</table>

**Risk control measure:**

Public awareness on forest fire prevention shall be strengthened through intensified information publicity. The system rangers at village level shall be established. Forest fire cases shall be investigated and punished seriously. In this way, forest fires could be terminated. Forecasting capability of forest pests and diseases shall be reinforced. Forest resilience shall be improved through mixed afforestation which also reduced significantly the risk of pests, diseases and damage by ice and snow. The project technical models shall be well followed to avoid irrational afforestation risks.

**8.4 Technical Risks and Countermeasures**

The project area has carried out several national afforestation projects and have accumulated rich experiences in this regard, so there is a very low technical risk in afforestation. The capacity building component in HFRDP will provide maximized opportunities of trainings for project participants including women, poor farmers and minority groups. The trainees will acquaint skills and techniques that facilitate their participation in the project. Mobilizing more farmers in the neighborhood to participate in the project will
expand the scope of benefits and reduce the conflicts between beneficiaries and non-beneficiaries. Special attention should be attached to the disadvantageous ethnic minorities and their communities. Contents of training shall be extended to include subject irrelative to afforestation but will benefit the success of the project.

### 8.5 Policy and Institutional Risks and Countermeasures

The so-called policy risk refers to the implementation difficulties of HFRDP caused by inadequate or inappropriate and insufficient policies, including state macroeconomic policies and specific policies developed by the project.

At the macro level, the state policies on ecological and environmental protection will not change, neither will the forest land tenure system change after the reform on it. Therefore, there is little risk with policies and institutions. The impacts of HFRDP on improving ecological environment, ensuring ecological safety of land, and improving human living environment is in line with state policies and strategies of ecological construction that stated in *The Decision on Accelerating Forestry Development by the State Council of Central Committee of CPC, National Plan for Ecological Environmental Construction, Twelfth Five-Year Plan of National Economic and Social Development, Twelfth Five-Year and Mid-long Term Plan of Forestry Development* and etc..

The HFRDP could come-up principle in favor its implementation, for example, to provide equal opportunities to women and poor farmers, as well as other social disadvantaged groups participating in the project including trainings and benefit from the project. Reforestation contracts should be better designed and implemented to ensure the responsibilities and benefits of the participants.

### 8.6 Marketing Risks

Market risk is very low since HFRDP is aimed at ecological forests.
8.7 Risk of Commitment and Repayment of Loan

The HFRDP loans are committed by and will be repaid by governments, so there is no risk of repaying loans for forest farmers.

*Countermeasures:*

a. The Project shall state clearly that the government is responsible for the repayment of loans, and County financial Bureau shall issue a letter of commitment on loan repayment guarantees. Thus, the relation of lenders and borrowers is clear.

b. An account for loan repayment reserves shall be established to reduce the risk of repayment.

8.8 Comprehensive Stakeholder Analysis

Comprehensive stakeholder analysis matrix (table 8-2) was developed based on the analysis of project impacts, risks and risk control as well as state and local policies, laws and regulations. List an analytical matrix table of the project stakeholders. Comprehensively analyze the results on the field survey of social assessment. The SA team developed the following conclusions for the HFDRD.

1) The objectives of HFRDP are consistent with the Chinese policy of foreign funds investment and national planning for development of eco-forestry. The forest restoration and development activities in the project will improve farmers' income and human living environment, ecological and social environment in project area, which are in line with national objective on ecology and livelihoods.

2) The implementation of HFRDP has no serious social risks, but some social problems should be addressed. Firstly, there exists obvious gap between goals of ecological protection and expectations of income increase from farmers. Without voluntary participation of farmers, the gap may lead to conflictive objectives. Therefore, solutions could be developed through consultations with relative farmers and stakeholders by forestry agencies and HFRDP. Secondly, although HFRDP will not have negative impacts upon women,
poor farmers, ethnic minorities and other social advantaged groups, EMDP has still been developed.

3) The project received extensive supports from stakeholders. Due to the ice storm, forest resources were severely damaged in project area and ecological environment is fragile. Implementation of HFRDP will have a profound impact on the ecological environment and achieve good social benefits in project area. Beneficiary groups and governments at all levels in project area are very welcome for the project and will positively cooperate with it.

4) The project has been greatly supported by governments at all levels of HN province. The Government, Forestry Departments and other related departments and organizations have shown huge enthusiasm and provided strong supports for the project in the sampled 10 counties.
Table 8-2 Project Stakeholder Analysis Matrix

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>Impact on stakeholders</th>
<th>Several key issues</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive</td>
<td>Negative</td>
<td>Importance</td>
</tr>
<tr>
<td>Direct stakeholders</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Farmers</td>
<td>1. employments; 2. income increase; 3. knowledge and skills on forest management; 4. ecological awareness building</td>
<td>Low level of forest income</td>
<td>Very important</td>
</tr>
<tr>
<td>2. Forest cooperatives</td>
<td>Low level of forest income</td>
<td>important</td>
<td>Willing to participate</td>
</tr>
<tr>
<td>3. Village-level organizations</td>
<td>1. forest tenure reform promotion 2. impact reinforcements by FCs</td>
<td>1. Low level of forest income 2. potential pollution by inappropriate pesticide and fertilizer use</td>
<td>important</td>
</tr>
<tr>
<td>4. The TFS</td>
<td>None</td>
<td>Very important</td>
<td>Willing to participate</td>
</tr>
</tbody>
</table>

Social Assessment Report for Hunan Forest Restoration and Development Project
<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>Impact on stakeholders</th>
<th>Several key issues</th>
<th>Risk control</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive</td>
<td>Negative</td>
<td>Importance</td>
</tr>
<tr>
<td></td>
<td>by service provision</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Women</td>
<td>1. social position improvements</td>
<td>Increased workload</td>
<td>important</td>
</tr>
<tr>
<td></td>
<td>2. gender equality promotion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Minorities</td>
<td>1. improvements in production and living conditions</td>
<td>More inputs and less income generation in short period</td>
<td>important</td>
</tr>
<tr>
<td></td>
<td>2. income generation</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3. national unity reinforced</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Indirect stakeholders</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Hunan PFD</td>
<td>Management improvements</td>
<td>none</td>
<td>important</td>
</tr>
<tr>
<td>8. County Government</td>
<td>1. water conservation, soil and water conservation to promote the development of tourism</td>
<td>Increased Financial burden</td>
<td>important</td>
</tr>
<tr>
<td></td>
<td>2. maintaining social stability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. County Forestry Bureau</td>
<td>Improvements of forestry technology and management level</td>
<td>Add workload</td>
<td>important</td>
</tr>
<tr>
<td>10. County Finance Bureau</td>
<td>Improvements of management</td>
<td>repayment of loans</td>
<td>common</td>
</tr>
<tr>
<td>Stakeholders</td>
<td>Impact on stakeholders</td>
<td>Several key issues</td>
<td>Risk control</td>
</tr>
<tr>
<td>--------------</td>
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<td>--------------------</td>
<td>--------------</td>
</tr>
<tr>
<td></td>
<td>Positive</td>
<td>Negative</td>
<td>Importance</td>
</tr>
<tr>
<td>11. County Agricultural Bureau</td>
<td>high and stable yield</td>
<td>None</td>
<td>common</td>
</tr>
<tr>
<td>12. County Water Conservancy Bureau</td>
<td>Water conservation</td>
<td>None</td>
<td>common</td>
</tr>
<tr>
<td>13. County Land Bureau</td>
<td>Sustainable land management</td>
<td>None</td>
<td>common</td>
</tr>
<tr>
<td>14. County Environmental Protection Bureau</td>
<td>carbon sequestration increase</td>
<td>None</td>
<td>common</td>
</tr>
<tr>
<td>15. County Cultural Affairs Bureau</td>
<td>tourism development on culture and ecology</td>
<td>None</td>
<td>common</td>
</tr>
<tr>
<td>16. County Bureau of Nationality and Religious Affairs</td>
<td>promote ethnic equality and unity</td>
<td>None</td>
<td>common</td>
</tr>
</tbody>
</table>

A forestation projects selection shall avoid artifacts and monuments.
9. RECOMMENDATIONS FOR PROJECT DESIGN AND IMPLEMENTATION

9.1 Consultation

Purposes of participatory consultation shall be clarified.

1) To ensure voluntary participation by stakeholders in HFRDP;
2) To avoid the possible social risks and social conflicts caused by the project, and formulate risk control and conflict prevention measures with stakeholders;
3) To design the project's technical plan by consulting with farmers, including selection of tree species, afforestation model design, contract arrangements after planting and post-project forest management and maintenance programs;
4) To guarantee equal chances of participation for the low-income households, poor households, minority households, women and other social groups in the project;
5) To conduct participatory consultation with beneficiaries, which is also a good process of management capacity building and awareness construction of forest resource protection for farmers. This is also crucial to ensure the long-term impact of the project.

The consultation mechanism should be further improved. Workshops, questionnaires, interviews and information feedbacks shall be adopted to reinforce the communication between government departments, project-related agencies and stakeholder groups, so that people could be willing to participate in the processes of design, implementation, management and evaluation of HFRDP. Consultation workshops shall be conducted regularly to learn about questions and recommendations from government and other relative agencies, to develop solution plans and improve the project.
9.2 Participatory Consultation and Planning (PCP)

The main objective of PCP is to ensure the voluntary participation of farmers. In this process, stakeholders make decision to participate the project on the premise of fully understanding the project information and relative afforestation models. The HFRDP has designed the “PCP Guidelines” for participants to understand clearly its requirements, conditions and procedures.

The main steps of PCP is as follows (refer to Table 9-1):

1) information dissemination and farmers’ application: In the preparation phase, Various types of dissemination materials shall be prepared by the project offices. After a minimum period of 1 week for dissemination and mobilization through leaflets, banners, posters, broadcasts, television and so on, village and farmers’ households shall fill in the application forms on a voluntary basis.

2) consultation workshops with stakeholders: consultation workshops will be conducted to identify possible project farmers’ households and make a list of project participants, as well as to organize village meetings, consultation workshops in groups or with different stakeholders on topics including tree species, afforestation models, maintenance after planting and so on. This step shall achieve farmers’ full understanding of the project and make voluntary decisions on participation.

3) signing of project agreement: Project participation agreements shall be signed with farmers HHs or united HHs. Village meetings shall be organized to announce the list of project participants and results from consultation.

Main requirements of PCP:

1) Project design should adhere to principles of suitable plants for certain site condition and emphasis of ecological functions.

2) Information should be open and transparent, discussions shall be free and offer freedom for voices of different views towards the contracts. Communities and farmers should be given sufficient time to make a final decision.
Table 9-1 Procedures and methods of PCP

<table>
<thead>
<tr>
<th>Procedures</th>
<th>Main tasks</th>
<th>Methods and tools</th>
<th>Outputs</th>
<th>Main participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1: Introduction and mobilization</td>
<td>1. To design and distribute the project brochure &lt;br&gt;2. To introduce the project by various means &lt;br&gt;3. To distribute the project application forms &lt;br&gt;4. To design project participation contracts</td>
<td>Formats of brochure (shall be provided by PFD); copies of brochure (prepared by CPMO); Distribution of brochures and leaflets</td>
<td>Villagers including women, low-income and poor farmers fully understand the project information.</td>
<td>County and township officials, village cadres and villagers</td>
</tr>
<tr>
<td>Step 2: Consultation workshops and village meetings</td>
<td>1. To introducing project information &lt;br&gt;2. to collect application forms from farmers and group them on the basis of types of the land tenure &lt;br&gt;3. to consult with different types of farmers’ HHs on topics of afforestation species and models, seedling production and supply, tending arrangement, resource use restrictions and compensation plans, demands of training and technical services &lt;br&gt;4. To design on site the project activities &lt;br&gt;5. To consolidate the area to be reforested with what kind of models</td>
<td>1. Small group consultation coordinated by Cts and Tts &lt;br&gt;2. Consultation workshops attended by representatives of different types of farmers’ HHs &lt;br&gt;3. field reconnaissance</td>
<td>1. Detailed lists of project participants identified &lt;br&gt;2. Tree species, afforestation models, tending, resource use restrictions and compensation plans agreed by relative farmers’ HHs &lt;br&gt;3. Project plots consolidated with farmers HHs</td>
<td>1. T Cts and Tts as representatives for the project party &lt;br&gt;2. Farmer HHs who contracted collective forest land as project participants party &lt;br&gt;3. Farmers that may be influenced by resource use restrictions &lt;br&gt;4. Township officials and village cadres</td>
</tr>
<tr>
<td>Step 3: Signing the project participation contracts</td>
<td>1. To sign contracts with farmers HHs or village committees that will take part in the project &lt;br&gt;2. To announce the list of project participants in villages &lt;br&gt;3. To introduce the project content and other results from consultations</td>
<td>1. Public announcements</td>
<td>1. Project participation contracts signed &lt;br&gt;2. Project information and other consultation results</td>
<td>1. Farmer participants in the project &lt;br&gt;2. Village cadres, as the party for collectively managed project land &lt;br&gt;3. Representatives of the CFBs</td>
</tr>
<tr>
<td>Step 4: signing project management and protection contracts</td>
<td>1. To sign contracts with farmers HHs or village committees that will take part in the project</td>
<td>1. Project management and protection contracts that be held by both parties</td>
<td>1. Project contracts signed</td>
<td>1. Farmers, village cadres, or legal representatives of other participants as the party for project land owners &lt;br&gt;2. Representatives of County Forestry Bureaus as the Project Party</td>
</tr>
</tbody>
</table>
1) Local people's views on tree species selection shall be taken into full account. Project beneficiaries shall be provided with opportunities to fully express their opinions in project planning and implementation and achieve their interest requests, so that the sustainability of the project could be ensured.

2) Information announcements shall be organized, especially on land use contracts. Trainings shall be enhanced on forestry technologies, researches on forest restoration and regeneration models, as well as monitoring on carbon sequestration shall be reinforced.

9.3 Project Monitoring

After the project starts to be implemented, project monitoring (PM) will be conducted to investigate and evaluate the effectiveness of the project in every year, and report to relevant authorities. It aims to ensure the project implementation could follow the design. In order to ensure the participation and benefits of target groups, PM indicators in this regard shall be developed and included in the PM system of HFRDP. As the direct participants and beneficiaries, project farmers shall also participate in PM in the following ways, so as to identify problems and make improvements at any time.

1) PMO should regularly inform the progress of the project and organization of work to the villagers. It is recommended that each PMO edit and print newsletters and post it in the communities.

2) After each major activity, such as the implementation of reforestation, forest protection, fire prevention, centralized training, PMO or village project management team should collect and document the feedbacks from participants, which will also accumulate information and data for future project evaluation.

3) A number of farmers could be employed for daily monitoring on certain indicators. To encourage more farmers to participate and achieve fairness, the employed farmers could be changed regularly.

4) PMO should develop plans and objectives of PM, and organize the implementation of PM plan. PM teams shall be organized by relevant technicians to carry
out various monitoring work. Monitoring office equipped with necessary facilities and tools shall be established in each forestry technical station to ensure timely and smooth monitoring activities.

9.4 Recommendations for Project Implementation

1) **To enhance trainings relative to project implementation.** The dissemination shall be enhanced on knowledges of project including forest restoration and rehabilitation models, monitoring of forest carbon sequestration. Forest management technology training shall be conducted to achieve the targeted resilience of forest stand. Government agencies are suggested to conduct trainings on national and local ecological protection laws and knowledges for everyone, with the coordination from Bureau of Education, women’s organization, Bureau of Broadcast and Television, news agencies, township governments and village committees, so that people in the project area are aware of the impact of forest rehabilitation.

2) **To strengthen the cooperation among different line agencies.** HFRDP is an enormous ecological system project which could not succeed only by forestry agencies. Therefore, it is recommended that HFRDP shall be co-managed by agencies of land and water resources, agriculture and environmental protection, and coordinated by forest agencies, thus the various risks or negative factors could be exterminated for the project.

3) **To increase the project investment.** The rural economy in project area is less developed and depend strongly on forest resources, so the low level of project investment might influence negatively on farmers’ interests in it. Therefore, it is suggested that government agencies at all levels shall increase their counterpart fund in order to guarantee the sustainability of HFRDP.

4) **To develop under-forest cultivation and livestock breeding.** Most project areas are
impoverished area, for example, Pingjiang County, Rucheng County, Yuanling County, Guidong County and Luxi County are poor counties at national level. Since there is high pressure of poverty alleviation, proper development of under-forest cultivation and livestock breeding could be encouraged to develop forest - poultry, forest - grass - livestock, forest – mushroom economic chains, and to make rational use of the under-forest land. This could be a win-win solution to improve both the forest ecology and farmers’ income.

5) **To plant some trees with both economic and ecological values.** In the project technical model design, some tree species that are adaptable to local climate and have ecological function as well as strong and sustainable economic benefits, such as bayberry, chestnut, tung tree, lacquer and so on shall be selected, so as to have better income increase for farmers.

6) **To formulate and implement preferential policies for vulnerable groups.** The participation of women, poor people, minority groups should be ensured in open and transparent ways. Selection of tree species and modes of forest management shall respect the wishes of local residents. The residents themselves or their trusted representatives could participate in the project implementation. The collective forest land in the project shall be agreed and monitored by local civil juristic person. Training to the vulnerable groups should be designed to improve their capacity in participating in the project.

7) **To fully consider the development of poor ethnic minorities.** Measures shall be adopted by local government and forestry agencies to make participation convenient for minorities so that they could share project benefits, and to protect their traditional culture. To facilitate the poor minorities get out of the institutional advantaged situation and ensure sustainable development of the project, the SA team recommended that the project should encourage the organization of FCs in minority ethnic communities in accordance with the principles of village autonomy.
8) **To construct post-project management system.** Local residents in project area shall be included to participate in the post-project management. Post-project management teams could be organized on the basis of community management team during project implementation. Members of the team could be elected by the villagers, while women and minority representatives must be present in the team.
Appendix I

Questionnaire of SA for HFRDP

No._________

Site: _______ group _______ village/community _______ township/forest farm _______ county/city/district _______ prefecture _______
Name of interviewer: ______________
Time of interview: _____(Date), _____(Month), 2011
Name of respondent: ______________  name of the Registered householder ___________

I. Basic Information:

I.1 Basic Information of the Respondent

1. Gender: (1) Male  (2) Female
2. Age _______.(1) < 18 (2) 18-30 (3) 31-45 (4) 46-60 (5) > 60
3. Nationality _______.(1) Han (2) Miao (3) Yao (4) Tujia(5) Other _______
4. Religion _______.(1) Buddhism (2) Islamism (3) Christianism (4) Local religion (5) Others _______.(6) No religion
5. Marital status _______.(1) Married (2) Unmarried (3) Divorced (4) Widowed
6. Education level _______.(1) Illiterate(2) Primary school (3) Middle school (4) Technical secondary school (5) Vocational college (6) University
7. Profession _______.(1) Farmer (2) Worker (3) Business owner (4) Business employee (5) Other _______

I.2 Basic Family Financial Condition

1. How many people have meals together every day in your family?
2. How much is your annual family income? _____
   How much is the daily expenditure of your family in last year? _____
   (1) < 500  (2) 500-1000  (3) 1000-2000  (4) 2000-3000  (5) 3000-5000
   (6) 5000-8000  (7) 8000-10,000  (8) 10,000-20,000  (9) 20,000-50,000
   (10) > 50,000
3. The major three expenditures in your family are _____, _____ and _____.
   (1) food  (2) clothing  (3) production cost  (4) transportation  (5) education
   (6) health care  (7) daily expenditure(furniture, soap etc.)  (8) social relations
   (9) supporting the elderly  (10) others________
4. The sources of your family income are __________, among which the major one is ______.
   (1) crop cultivation  (2) livestock raising  (3) handicraft  (4) individual workshop
   (5) business  (6) migrant job  (7) wage  (8) other______
5. What do you think about the living level of your family?
   (1) under subsistence  (2) subsistence  (3) well-off  (4) medium  (5) weathy
6. Your family has ___ mu of land, including ___ mu of dry land, ___ mu of paddy field, ______mu of forest land, ______mu of fishpond and ____mu of orchard.
7. The number of livestock in your family is ______, including _____ head/heads of cattle/buffalo, _____ head/heads of pig, ____ goat/goats, ___horse/horses and head/heads of other domestic animal.
8. The number of poultry in your family is _____, including __ chicken, and ___duck/ducks, ______ goose/geese and _____ others.
9. Your family house was built in ______(year) , with an area of ______ m². The cost was about _____ Yuan.
10. Are you satisfied with your family financial situation?
   (1) very satisfied  (2) basically satisfied  (3) not bad  (4) a bit unsatisfied
   (5) very unsatisfied
II. Views and Suggestions on HFRDP

1. Do you know about HFRDDP?
   (1) Yes  (2) No

2. If you know about it, from where?
   (1) documents (2) meetings (3) media (4) leaflets (5) notice boards (6) others ( )

3. How was the loss of your family in the 2008 snow Storm?
   (1) serious  (2) not very serious  (3) slight  (4) none

4. Are you willing to participate in HFRDP?
   (1) Yes  (2) No

5. Are you willing to accept the conditions by HFRDP that forest land circulation is forbidden?
   (1) Yes  (2) No

6. Do you think HFRDP will bring development opportunities to your family or to your local area?
   (1) Yes  (2) No  (3) Maybe  (4) I don’t know.

7. What benefits do you think the implement of HFRDP will bring to your family and local development?
   (1) forest restoration (2) income generation (3) environment improvement (4) others

8. Do you think HFRDP will bring negative impact to your family or the local area?
   (1) Yes  (2) No  (3) Maybe  (4) I don’t know.

9. What negative impact do you think HFRDP will bring to your family and the local area?
   (1) income decrease (2) break of local customs (3) limitations on production (4) others

10. What management model will you accept to take part in HFRDP?
    (1) individual HH  (2) united HHs  (3) FC  (4) others (please notify here)

11. What forest restoration model will you accept when participate in this project?
    (1) conifer and broadleaved mixed forest  (2) conifer mixed forest
    (3) broadleaved mixed forest  (4) pure conifer forest  (5) pure broadleaved forest
III. Ethnic Minorities Development (answered by people of ethnic minorities)

1. How many people of your ethnic group can speak your own minority language?
   (1) many  (2) a few  (3) I don’t know.

2. Can you speak your minority language?
   (1) Yes.  (2) only a little.  (3) No.

3. Does your ethnic group has its unique customs?
   (1) Yes.  (2) No.  (3) I don’t know.

4. Does your ethnic group has its own traditional festivals?
   (1) Yes.  (2) No.  (3) I don’t know.

5. Does your ethnic group has its own religious belief?
   (1) Yes.  (2) No.  (3) I don’t know.

6. Does your ethnic group has its own costume?
   (1) Yes.  (2) No.

7. Do you think your ethnic group is different from the Han ethnic group?
   (1) Yes.  (2) No.

8. How many people of your ethnic group marry with Han nationality?
   (1) many  (2) few

9. What benefit/benefits do you think the implement of HFRDP will bring to the local ethnic minorities?
   (1) forest restoration  (2) biological environment improvement
   (3) income generation  (4) employment provision
   (5) minority development promotion  (6) gender equality promotion  (7) others____

10. Do you think HFRDP will bring negative impacts on local ethnic minorities?
    (1) Yes.  (2) No.  (3) Maybe.  (4) I don’t know.

11. If you think HFRDP might bring negative impacts, then what do you think is/are the impact/impacts?
    (1) decreased forestry income  (2) hampering the development of other industries
(3) negative impacts on poverty alleviation (4) increased labor burden (5) against the development of women (6) aggravating the vanishing of the ethnic minorities’ culture (7) others
Appendix II

Survey Form for Basic Information of Administrative Villages

I. Location:

<table>
<thead>
<tr>
<th>county/city/district:</th>
<th>Township:</th>
<th>administrative village:</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of village production teams:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

II. Population of Residents and labor force:

<table>
<thead>
<tr>
<th>No. of households:</th>
<th>Per capita net income : Yuan ( 2010 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of Population:</td>
<td>Among which No. of male: No. of female:</td>
</tr>
<tr>
<td>No. of total labor force:</td>
<td>Among which No. of male: No. of female:</td>
</tr>
<tr>
<td>No. of stable labor force:</td>
<td>Among which No. of male: No. of female:</td>
</tr>
<tr>
<td>No. of HHs depend solo on agriculture, forestry and animal husbandry:</td>
<td></td>
</tr>
<tr>
<td>No. of HHs Depend partly on forestry:</td>
<td>Area of forests : ( mu ) Number of employees:</td>
</tr>
<tr>
<td>No. of specialized forestry production HHs:</td>
<td>Area of forests : ( mu ) Number of employees:</td>
</tr>
</tbody>
</table>

No. of ethnic minority HHs:

<table>
<thead>
<tr>
<th>Ethnic group 1:</th>
<th>No. of population:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethnic group 2:</td>
<td>No. of population:</td>
</tr>
<tr>
<td>Ethnic group 3:</td>
<td>No. of population:</td>
</tr>
<tr>
<td>Ethnic group 4:</td>
<td>No. of population 5:</td>
</tr>
<tr>
<td>Ethnic group 5:</td>
<td>No. of population:</td>
</tr>
<tr>
<td>Ethnic group 6:</td>
<td>No. of population:</td>
</tr>
<tr>
<td>Ethnic group 7:</td>
<td>No. of population:</td>
</tr>
<tr>
<td>Ethnic group 8:</td>
<td>No. of population:</td>
</tr>
</tbody>
</table>
### Village cadres from ethnic minorities

<table>
<thead>
<tr>
<th>Ethnic group 1:</th>
<th>Ethnic group 3:</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of cadres:</td>
<td>No. of cadres:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ethnic group 2:</th>
<th>Ethnic group 4:</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of cadres:</td>
<td>No. of cadres:</td>
</tr>
</tbody>
</table>

### Marriages among different ethnic minority groups

<table>
<thead>
<tr>
<th>Between minorities of ___ and ___</th>
<th>Between minorities of ___ and ___</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of marriages:</td>
<td>No. of marriages:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Between minorities of ___ and ___</th>
<th>Between minorities of ___ and ___</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of marriages:</td>
<td>No. of marriages:</td>
</tr>
</tbody>
</table>

### III. Labor migration (by the year of ___)

<table>
<thead>
<tr>
<th>No. of HHs with migrant workers:</th>
<th>among which No. of ethnic minority HHs:</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of migrant workers:</td>
<td>among which No. of male: and No. of Female:</td>
</tr>
</tbody>
</table>

**Major types of job for migrant workers:**

**Major places for migration:**

**Daily salary of migrant workers:** $\text{Yuan}$, the lowest $\text{Yuan}$; the highest $\text{Yuan}$; the average $\text{Yuan}$

### IV. Education Situation (by No. of people)

<table>
<thead>
<tr>
<th>Education level</th>
<th>Illiterate or semi-illiterate (adult)</th>
<th>Primary school</th>
<th>Middle school</th>
<th>High school</th>
<th>Above high school</th>
<th>Drop outs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male of ethnic minorities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female of ethnic minorities</td>
<td></td>
<td></td>
<td></td>
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<td>----------------------------</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Total of ethnic minorities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**V. Land use and land tenure types:**

<table>
<thead>
<tr>
<th>Total land area:</th>
<th>mu</th>
<th>Per capita land area:</th>
<th>mu</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultivated land area:</td>
<td>mu</td>
<td>among which Paddy field area:</td>
<td>mu</td>
</tr>
<tr>
<td>Dry land area:</td>
<td>mu</td>
<td>Private managed:</td>
<td>mu</td>
</tr>
<tr>
<td>Forest land area:</td>
<td>mu</td>
<td>among which collective managed area:</td>
<td>mu</td>
</tr>
<tr>
<td>Contracted to household:</td>
<td>mu</td>
<td>State-owned:</td>
<td>mu</td>
</tr>
<tr>
<td>Barren hills and grassland area:</td>
<td>mu</td>
<td>among which the area contracted to HHs:</td>
<td>mu</td>
</tr>
<tr>
<td>Not contracted area:</td>
<td>mu</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**VI. Infrastructure (please mark with tick)**

<table>
<thead>
<tr>
<th>Road</th>
<th>Village-level road with pavement</th>
<th>Earth path</th>
<th>No road</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Electricity</td>
<td>Access to every HH</td>
<td>Access to some HHs</td>
<td>No electricity supply</td>
</tr>
<tr>
<td></td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>Clean drinking water</td>
<td>Tap water</td>
<td>Well water</td>
<td>No clean drinking water supply</td>
</tr>
<tr>
<td></td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

**VII. Income Situation**

1. No. of poor HHs: , % in the total | features: has thatched house, no labor, no television, average per capita net annual income is below Yuan

2. No. of medium HHs: , % in the total | features: has television, labor, enough food, extra money, average per capita annual net income is Yuan
3. No. of wealthy HHs: , % in the total  
feature: has multi-floor house, motorcycle, business or stable migrant job, telephone, average per capita annual net income is above Yuan

| No. of HHs of ethnic minorities in group 1: |
| No. of HHs of ethnic minorities in group 2: |
| No. of HHs of ethnic minorities in group 3: |

VIII. Gender situation (please mark with tick)

<table>
<thead>
<tr>
<th>Who has the user right to forest land?</th>
<th>man</th>
<th>woman</th>
<th>both</th>
</tr>
</thead>
<tbody>
<tr>
<td>Who is willing to participate in afforestation?</td>
<td>man</td>
<td>woman</td>
<td>both</td>
</tr>
<tr>
<td>Who is willing to participate technical training?</td>
<td>man</td>
<td>woman</td>
<td>both</td>
</tr>
</tbody>
</table>

IX. General Situation of the Village (please mark with tick)

1. Does the overall village development plan include forestry development?
   Yes  No
2. Does the overall village development plan include animal husbandry development?
   Yes  No
3. Has your village completed its 10-year poverty alleviation planning?
   Yes  No
4. How many enterprises/companies/FCs are there in your village?
5. Does your village has forest enterprise cooperative/FC?  Yes  No
6. How do they operate?
7. Are there still forestry workers in your local area?
   Yes  No
8. Who do the workers work for?
9. What’s their salary?
10. Is there culture relic site in your village?
   Yes       No
11. What types of culture relics are in your village?
12. Are they protected?
   Yes       No
13. Is the surrounding area of the culture relics site suitable for planting trees?
   Yes       No
14. Is there any damages by wild animals in your village?
   Crop damage;   human hurt;   livestock hurt
15. Who in your village knows the most about traditional culture?

X. Forestry Information
1. The area of forest plantation is:   \textit{mu}
2. The management style of the forest plantation is:
3. Are the seedling for afforestation free?
   Yes; No
4. Where are the seedlings from?
6. How many species of seedlings are there?
7. What’s the quality of the seedling?
   Good; Not bad; Bad
8. Who are the labor to plant and tend the trees?
   Self-employed labor; employed labor; labor exchange
9. Does your village allow cutting forest trees?
   Yes; No
10. Is there a quota for tree cutting?
    Yes; No
11. Are there rules and regulations on acquisition of forestry by-product and fuel wood and grazing?
12. Did your village have forestry project before?
    Yes; No
13. The forestry project planted:
    Public-benefit forest; Economic forest; Timber forest;
    Protection forest
14. What were the problems in the previous forestry projects?
    Land tenure; labor; low return
15. Have you received forestry technical services?  Yes; No
16. If you have, then what kind of services have you received?
   Afforestation; tending; grafting; pest control; others
17. Who supplied technical services for you?
   Forestry department; Township government; FCs
18. Are there any accidents happened on the forest plantations?

XI. HFRDP
1. Does your village have land suitable for afforestation?
2. The area of the suitable land is; (1) public-benefit forest:  mu; (2) to be managed as public-benefit forest:  mu
3. Have your village been damaged by the snow storm?
   Yes; No
4. Does the suitable land fit for scale management?
   Yes; No
5. Are there enough labor in your village to take part in afforestation?
   Yes; No
6. Who should be the organizer of the afforestation activity?
   Village committee; farmers themselves; FCs
7. Do you think the cost apportionment is reasonable?
   Yes; No
8. What benefits do you think will come from participation in HFRDP?
   Labor income; Timber income; others
9. Do you think the poor and the rich; the Han nationality and other ethnic minorities will enjoy the same benefits?
   Yes; No
10. Which group of HHs in your village is willing to take part in this project?
    The poor HHs; the medium HHs; the wealthy HHs
11. Is the poorest villagers’ groups willing to take part in HFRDP?
    Yes; No
12. Are women willing to take part in the afforestation activities of HFRDP?
   Yes       No
13. Are the women willing to take part in other activities of HFRDP?
   Yes; No
14. Are the women willing to carry loan?
   Yes       No
15. Are the ethnic minorities willing to take part in HFRDP?
   Yes       No
16. If the project loan includes labor input, how to calculate your working days will be reasonable?
17. What do you suggest to improve the operation of HFRDP?
Appendix III

Interview Outlines for Village Cadres

I. Basic Information of the Project Village:
1. Population (size, gender, ethnic group, religion, profession, the proportion of agricultural and non-agricultural population)
2. Natural resources (land, forest, mineral resources and so on) and the situation of utilization.
3. The major sources of family income and their respective proportion; income ranking in the township.
4. The means of livelihood (agriculture, non-agricultural livelihood and animal husbandry) and their development.
5. The economic development level: the average per capita annual income; poverty situation; economic development ranking; and development of collective economy.
6. The history and planning of the village.
7. The problems and current situation of the infrastructure.
8. The ecological environment situation and its influence on local people’s life.
9. The situation and operation of formal and informal institutions in the village.
10. The experiences of similar project implementation in the village.

II. Ethnic Minorities (Only for villages with a large portion of ethnic minorities population)
1. The composition, population, proportion and living area of ethnic minorities in the village.
2. The source of the ethnic minorities.
3. The informal social organizations of ethnic minorities.
4. The natural resources owned by ethnic minorities, their customs and practices in environment protection.
5. The economic development of ethnic minorities.
6. The religions and beliefs of ethnic minorities.
7. The production and consumption situation of ethnic minorities.
8. Governmental aid for ethnic minorities.
9. The communication between ethnic groups (marriages)

III. Opinions on HFRDP
1. What benefits do you think HFRDP will bring to the village?
2. What difficulties do you think HFRDP will face during its implementation?
3. Will the project afforestation impact upon other activities in the village? If yes, what?
4. Are there enough labors in your village for afforestation?
5. Who do you think will benefit the most from this project?
6. What factors do you think will interfere with the project?
7. What negative impact will this project produce (social, cultural, economic and environmental)?
8. What can be the countermeasures to reduce the negative influence?
9. Are women and ethnic minorities willing to participate in the project?
10. Will there be conflicts between animal husbandry and forestry? If yes, how to avoid?

(Note: This interview outline can also be used for group interviews in townships and interview township officials. The topics could be cut or added according to specific conditions, with the common aim to understand the socio-economic backgrounds of the project area and the opinions of farmers, village cadres and officials on HFRDP.)
Appendix IV

Outlines for Farmers’ Workshop

I. Topics for Interview:

1. Do you know about HFRDP? When, where and what did you know about it? What else do you still want to know about it?

2. Do you think your village is a poor or a rich village when compared with other villages in this county? If poor, what are the reasons?

3. How is the damage by Snow Storm on your family and the village?

4. Are you in for or against HFRDP? If against, what are the reasons?

5. What impact that HFRDP will bring to production and life of your family?

6. What are the issues that you care most about this project? Please give some examples and list them according to their degree of importance.

7. Who will benefit the most from this project?

8. What’s your suggestion to this project? (list them according to degrees of recognitionn)

9. What impact will the development of this project exert on the environment and culture, historical relics, religions and scenic spots in your village?

10. What impact will HFRDP have on the production and life of women? What are their requirements and suggestions for this project? (only for women)

11. What impact will HFRDP have on the production and lifestyle, customs and habits of your ethnic group? What’s your suggestion on this issue? (only for ethnic minorities)

II. Drawing Pictures

1. Everyday life charts and seasonal calendars shall be developed for and by men and women separately.

2. Everyday travel routes and interactions shall be developed for and by men and women separately.

(Note: This interview outline can also be used for field interviews that shall be conducted on the basis of questionnaire survey)