

Supporting policy, legal and institutional frameworks
for the reform of forest tenure in China's collective
forests and promoting knowledge exchange

GCP/CPR/038/EC Working Paper: WP-035-E

Policy Assessment and Pilot Application of Participatory Forest Management in Jiangxi Province



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GCP/CPR/038/EC Working Paper: WP – 035 - E

Policy Assessment and Pilot Application of Participatory Forest Management in Jiangxi Province

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**State Forestry Administration of China
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Rome, 2012

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1 Introduction

1.1 Problem description

The collective forest tenure system in China has been through several changes since the founding of New China. In between adjustments of centralization, decentralization and back and forth of the ownership reform, the planned economic management model had been playing a dominant role, which after all, hadn't properly resolve the problems of forest farmers' property rights toward woodlands and forests. And the collective forest tenure system hadn't been able to become the important channel for forest farmers for increasing their income and employment opportunities either.

The reform is the fundamental way to promote forestry development. In 2003, the Chinese Government has started the reform in collective forest tenure system, mainly emphasizing on "clarifying property right, reducing taxes, opening management, standardizing process". The results showed that this reform has greatly motivated forest farmers to engage forestry production, thus increased forest farmers' income, and promoted the development of collective forest tenure. Meanwhile, the forest farmers and forest farmer cooperatives (FFCs) have legally become the true manager of forests. The traditional "top-down" approach in forest management is no longer suitable as the situation develops. To further and intensify the reform, the forest property rights shall be the major focus, after this main structure reform, such as how to bring up the awareness and capacity of forest farmers and FFCs, to better participate in the management and decision-making of forestry, and how to strengthen the capacities, improve the efficiencies of government, to support the reform of related policies about forest property rights and resource allocation of collective forests.

Therefore, it is necessary to train forest farmers and FFCs on their capacity in participatory forest management, take the needs of forest farmers and FFCs as the basis, and respect the local opinions, thereby planning the forest management using participatory theories and methods from bottom to top. Meantime, the evaluation and analysis of related policies shall be conducted, to fully and objectively implement the viewpoints, needs and benefits of local grass root forest farmers and FFCs, as well as other stakeholders.

This project not only helps to raise forest farmers' awareness of participation and their capacity in forest management, but also helps to increase forest farmers' income, and accelerate the development of FFCs. Further helps to achieve sustainable forest management, enhance the effectiveness in collective forest tenure reform, and promote the development of local forest and forestry, which marks an important practical significance.

1.2 Literature review

1.2.1 Participatory forest management research

1.2.1.1 Definition of participatory forest management

Chinese scholars Liu Jinlong (1999), Huo Peng (2009), Tan Xinping et al (2001) think that participatory forestry refers to applying the participatory theory and methods in forest resource management, and allow forest producers to actively participate in planning, implementing, profit distributing, monitoring and evaluating forestry management. Thus, the participatory forest management can be understood as a forestry management activity that multi-stakeholders actively and voluntarily participate in, and share the results of management.

1.2.1.2 Study of participatory forest management

The participatory forestry is gradually formed and developed in the practice of aiding the developing countries (Huang Wanshun, 2008). In the 1970s, the Indian forester, JG Westoby, put forward the concept of social forestry, for the first time in the 8th World Forestry Congress 1978, gaining the worldwide attention and support.

The earliest systematic exposition of "Participatory Forestry" in the world was a monograph named "Participatory Forestry or Participatory Forest Management" published by British International Development Research Centre in 1992. The 11th World Forestry Congress in 1997 emphasized that, every country and international organization should better promote the public awareness of important role of forests, and encourage rural forestry projects. After that, the concept of participatory forestry was gradually adopted by Food and Agricultural Organization of United Nation (FAO), the World Bank and other institutions (Ye Jingzhong, 2002).

In recent years, the studies of participatory forest management, by scholars from all over the world, have reached the culminating point. Based on their study in Asian forest management, Lee DK and Park YK (2001), OP Shukla (2000), SK Gill and other scholars believe that the participation of local people in forest resource management can maintain the integrity of local ecology, that forest co-management can facilitate forest protection and development, help to reduce poverty, and further to meet their survival needs.

The representative scholars that focus on participatory forest management in African regions are Agus C and Karin Gerhardt (2003), Karin Gerhardt et al (2006). They think that the participatory forest management is being widely popularized in African continent. It is also considered an

important measure to promote sustainable forest management in the regions. The participatory forestry in Africa in general is oriented on decentralization of power; the state control forests are devolved upon the communities or private companies step by step.

Comparatively, more scholars in Europe and United States study on the participatory forestry, such as Roger Moya Roque (2004), Anonymous (2010), Kathleen L. Wolf, Linda E. Kruger (2010), Reddy MV, (2002) et al. They believe that the participatory method has been used as an important means to protect forests, coordinate partnership between forestry and relevant agencies, and carry out conflict management.

1.2.2 Practices of participatory forest management at home and abroad

The participatory forest management took place in foreign countries earlier comparing to China. The foreign governments paid more attention and established relevant policies and systems. Many countries have been practicing community forest management in their natural reserves or national parks, some even in their state-owned forests. When the community or community based enterprise manage forests in accordance with ecological development, and retrieve considerable profits, achieving double benefits in both ecology and economy.

The participatory theory was first introduced into China in the late 1980s. With funding support by the World Bank, UNDP and other organizations, participatory theory were applied in different projects gradually, such as agricultural projects, forestry projects, environmental projects, and international cooperation projects of integrated community development, and achieved good results. (Zhang Yong, 2010)

Meanwhile, with the implementation of “Project of Converting Cultivated Land Back to Forest”, the participatory theory and methods were introduced in Sichuan, Yunan, Guizhou, Gansu, Shanxi and other provinces by community forestry workers. Xian Kaibing et al (2001), Zeng Falin et al (2008) summarized the steps of participatory planning and specified contents and scopes in each step.

Through case studies in quality management of forest cultivation projects, Huo Peng et al (2009), Ye Jingzhong et al (2006), Liu Xinyu et al (2010) and other scholars summarized the current situation and characteristics of participatory forestry in China and abroad, and proposed their recommendations for management quality improvement.

Zhang Dahua et al (2002), Xu Yongheng (2007), Zhuang Zuofeng (2009) analyzed the issues and conflicts occurred in implementing the natural forest protection projects, as well as the economic development of forests and livelihoods of forest farmers. The strategic multi-objective forest management plans were established in both township and village levels.

1.2.3 Application of participatory methods in relevant areas of this project

1.2.3.1 Participatory forestry planning

The participatory forestry planning refers to a process that land users (i.e. the executors of the plans – forest farmers), under encouragement and assistance of technical staffs, planning experts, government and other external project staffs, conduct systematic analysis and assessments on natural, social, economic factors, as well as potential and limitation factors of land use, and demonstrate and confirm the land usage plan under future conditions in accordance with the results. (Bai Lijiang, et al, 2005).

1.2.3.2 Participatory monitoring and evaluation (PM&E)

The Participatory Monitoring and Evaluation (PM&E) is a new monitoring and evaluation method brought in from abroad. It is a monitoring and evaluation method combining with qualitative and quantitative analysis on top of traditional method, taking full account of involvement of stakeholders, content effectiveness, processing the efficiency and power of grassroots level, as well as further integrating various advanced means and methods, such as the participatory rural appraisal (PRA), matrix analysis, flow charts, issue tree, group interviews of featured topics, semi-structured interviews.

1.2.3.3 Participatory training

The forest farmers are the mainstay of participatory forest management. The improvement of forest farmers' capacity of participations is critical. Thus, the project training is a major content in capacity improvement process.

The participatory training is a relatively new approach gradually developed for adult education. It is a trainee-oriented training and learning mode combining with characteristics of adult education. The ideal participatory training shall contain four steps: identifying needs, planning, implementing, and result evaluation. Specific participatory training methods include: "Little Lecture", group discussions, case study, etc. (Ding Ying, 2010).

1.2.3.4 Participatory SWOT analysis

The SWOT analysis sorts out the major internal strengths (S), weaknesses (W), and external opportunities (O) and threats (T) of the study objects, through investigations and investigations. These factors are then laid down in a matrix form, using systematic analysis to draw out the

appropriate conclusions, such as development strategy, and measures. Ding Wenen (2006) conducted a SWOT analysis towards the issues in community forestry development.

Applying the SWOT analysis to participatory forest management can effectively summarize its strengths and weaknesses, discover the opportunities as well as challenges, further identify its problems, and establish proper policies to promote the sustainability of forest management.

1.2.4 Strengths of participatory forest management

The reason why participatory forest management has been widely applied to many forestry projects is because that participatory forest management has its unique strengths, i.e. bringing benefits to forest management and protection to government departments and to forest farmers.

From the point of forest protection, the participatory forestry gives full respect to forest farmers' will, and stimulates their enthusiasm in afforestation and forest protection, which undoubtedly is a large advancement for sustainable use of forest resources.

From the point of forestry departments, the participatory forest management can fully reflect the market economy, decentralize the decision-making, improve the transparency, and help to facilitate scientific decision-making (Houyan Nan, Bai Fangmin, 1999). It is able to shift the functions of government departments, achieve the equality between cadres and masses, as well as eliminate or mitigate the conflicts between grassroots and competent forestry departments (Li Wanjin, 2002; Xiao Jun, Liu Jinlong, 2008); and ease the pressures of government in forest protection (Qu Xiu Qin, Wen Yali, 2008).

From the point of forest farmers, the participatory forest management can increase forest farmers' income in forestry production activities, and provide employment opportunities for rural surplus labor force (Yang Qing et al, 2001). The implementation of participatory methods in forestry projects can improve community's confidence and self-development ability, raise sense of ownership, as well as status of grassroots and vulnerable groups (Li Wanjin et al, 2002; Xiao Jun, Liu Jinlong, 2008). The participatory forest management can guarantee the fair distributions of forest farmers' rights and benefits, and define clear relationships between responsibilities and powers (Yang Qing et al, 2001; Xiao Jun, Liu Jinlong, 2008).

1.2.5 Domestic constraints of participatory forest management

Some studies think that China's participatory forest management is restricted, in various degrees, by factors as following:

- (1) Imperfect legal systems.

China's current forest tenure reform lays clearer and broader emphasis on the devolution of rights of usage in lands and forests to individual households, which has already obtained some achievements. However, due to the imperfect legal system and conflicting provisions, there are

many problems in reality, which to some extent affect the forest farmers' participatory forest management (Wang Li Ying, Ren Dapeng, 2010).

(2) Low literacy level of forest farmers

The literacy level of forest farmers is generally low. Most of their education levels are below high school or even middle school. Due to lack of capital and technology, coupled with lack of the knowledge in management, marketing, sales, and scientific research results, their risk-resisting ability is low. These results, during forest management, the incapability to solve problems like pests and diseases, transition of woodlands and woods, and forest protection. Therefore, the low literacy level is restricting forest farmers to participate in the decision-making in forest management.

(3) Low economic efficiency of forest

Liu Jinlong et al (2000) believe that the long cycle of forestry production, forest externality benefits are also important factors that affect participatory forest management.

1.2.6 Problems of domestic participatory forest management

(1) Inadequate training efforts and ineffective training results of forest farmers

In many cases, the training institutions carry out the training to forest farmers just because they have to complete tasks assigned by the superior or are driven by interests. Most forest farmers are under pressure to participate in training, some even consider the training as a burden. Many reasons result this phenomenon, which include the problem of forest farmers' subjective understanding, and the ineffective guidance by governments and training institutions due to lack of in-depth researches; also many teachers' lectures stay in theoretical levels, which is lack of practical experience and far from the reality. (Ma Li, 2010).

(2) Unaccepted participatory methods in practical work by cadres and community forest farmers

Viewing from some practices of local participatory forest management, the forest farmers only participated in the forest protection, not in management, either do not have the decision-making right, which led to adverse consequences. For example, in Mengla district, the timber forest area had been declining ever since the forest farmers participated in forest management, the reason was that the forest farmers could only utilize limited forest products under the control of forestry administration (Yang Qing et al, 2001).

(3) Some influence generated by participatory forest management activities.

The current participatory forestry activities, supported by non-governmental organizations, are mainly in case studies and knowledge dissemination stages, thus affecting very limited scopes. In those projects invested by foreign investments or foreign aids, the application impacts are still confined within the projects, which stayed in the inner loop and has not adopted by the mainstream policy-making yet. And, the studies and practices, done by academics or local

communities in participatory forestry or afforestation, haven't produced any significant impacts on macro-forestry development, especially afforestation management (Liu Xinyu, et al., 2010).

(4) Insufficient communications between governments and forest farmers

Because of institutional system, China always emphasizes the top-down working method. This inertia thinking makes the participatory forestry management has weaknesses on participation rights of the weak, the marginal and the poor, creating the misunderstandings and mistrusts between governments and forest farmers.

2 Objectives and methods

During 8th -18th , December 2010, according to the project requirements, the project team completed the training on participatory forest management to forest farmers and FFC members in two pilot villages in Sanxi Village and Dacao Village in Tonggu County, Jiangxi Province, as well as the investigation task of policy evaluation on forest management related to forest tenure reform. The specific objectives and methods are as follows:

2.1 Objectives

2.1.1 Objectives of capacity building

Make forest farmers and FFC members in pilot villages understand the participatory forest management, improve forest farmers' participation awareness as well as skills and capacities on participation of forest management on the basis of training materials of participatory forest management guidance compiled by FAO, and through participatory training methods; make forest farmers and FFC members understand the compilation processes of participatory forest management plans, truly reflect and embody forest farmers' demands and native knowledge in management plans, improve forest farmers' capacities on future compilation of forest management plans and independent decision-making, as well as promote and realize the sustainable forest management through applying the participatory methods in compilation of forest management plans.

2.1.2 Objectives of policy evaluation

Dacao Village and Sanxi Village in Tonggu County, Jiangxi Province were selected as pilot villages of the project. The perspectives, reactions and views on forest management policies of different stakeholders (including villagers, forest farmer cooperative members, village cadres and cooperative principals, forestry institutions at provincial, county and township levels, as well as wood-bamboo processing factories) on cutting quota, forestry taxes, microfinance policies, public welfare forest compensation fund management, and non-wood forest products related to forest

tenure reform were evaluated and analyzed by using the participatory methods. On that basis, further SWOT analysis was carried out from forest farmers' point of view on forest management policies and systems related to forest management. The problems existing in various policies and systems were analyzed and policy recommendations were proposed, so as to improve the participation awareness and capacities of forest farmers, FFCs, and other stakeholders in promoting the process of sustainable forest management.

2.2 Methods

2.2.1 Capacity building

As required by the project, Jianxi Tonggu project team took the training materials of participatory forest management guidance etc. as the basis, and took forest farmers and operatives of project villages as the objects, conducting the participatory forest management training by utilizing the participatory methods. On the basis of training, a forest farmer planning team was formed by six members of Shuangxi Forestry Cooperative in Sanxi Village and six villagers of Dacao Village Villager Group in Dacao Village, which was the mainstay. With the help of project team, the planning team respectively compiled forest management plans for Shuangxi Forestry Cooperative and Dacao Village Villager Group through practical application of participatory ideas and methods.

2.2.2 Policy evaluation

This investigation mainly adopted the approach of semi-structure interview. The stakeholders of Forestry Department of Jiangxi Province, Forestry Bureau of Tonggu County, and the village leaders etc. were conducted key person interviews and collective interviews. The open-ended questions around the theme were raised to interviewees. With the help of local village committees and cooperatives, the methods of questionnaire investigation and semi-structure interview were respectively applied to 20 farmers and FFC members in Sanxi Village and 20 farmers and FFC members in Dacao Village, focusing on their attitudes, opinions and perspectives on forest management policies.

The simple statistical method was used to summarize and analyze the status of forest resources, forest products, proportion of forestry income in household income, and status of forest management in Dacao Village and Sanxi Village. At the same time, the attitudes and perspectives of different stakeholders on forest management policies related to cutting quotas, forestry taxes, microfinance (including microfinance, forest tenure certificate mortgage loan and Yen loan), non-wood forest products and special industry supporting etc. were analyzed. Then with the use of SWOT analysis method, the forest farmers' recognition of internal attributes (strengths and weaknesses) and external environment (opportunities and challenges) of various related policies

and systems was analyzed from their own point of view on forest management. At last, the shortages and problems of current policies were evaluated and analyzed, and policy suggestions were proposed. The participatory methods and tools in Table 2-1 were mainly involved in this investigation analysis.

Table 2-1 Participatory Methods and Tools in Use of Investigation and Analysis

Steps	Major Methods and Tools
Preparation Stage	Collection and analysis of information; semi-structure interview
Investigation Stage	Questionnaire investigation; semi-structure interview; field trip; group discussion
Analysis Stage	SWOT analysis; problem analysis; team discussion

3 Basic Information

3.1 Description of activities and targeted groups/ interviewees

3.1.1 Capacity building

In accordance with the requirements of FAO, the Project Team carried out the training of forest farmers in Sanxi Village and Dacao Village on participatory forest management, and completed the task of assisting Shuangxi Forestry Cooperative and Dacao Village Villager Group in compiling participatory forest management plan from December 8 to December 18, 2010. First, the Project Team recruited the Director of Project Office of Tonggu County as training expert who had participated in the training of participatory forest management. The Project Team also invited the Director of Forest Tenure Reform Office, Subsection Chief of Forest Administration Unit and relevant personnel to participate in the discussion, compilation and modification of training plans and compilation programs of participatory forest management planning according to the realities and demands of forest farmers. These people also helped with various preparations of training courses and the compilation of forest management plan. The entire training process was divided into three stages of training, practical application, and training evaluation. The detailed organization and implementation process was as follows: (1) Training Stage. On the basis of training materials, training programs and relevant training contents for concentration training, the training experts and Project Team members adopted the participatory training methods of "small courses", field trip, group discussion, brainstorming, meetings, case studies and so on to complete the training on contents of *Participatory methods and Participatory Forest Management, Forest Status Evaluation*, as well as *Strategic Choice and Strategic Planning* etc. (2) Practical

Application Stage. After the training, according to the relevant standards, requirements and procedures, six members of Shuangxi Forestry Cooperative and six forest farmers from Dacao Kou Villager Group that had participated in the training were selected to form the planning group, who would then play the leading role in compiling forest management plan. With the help of trainers and collaborators, the planning group utilized the knowledge learned in training courses and turned it into specific application, and compiled the participatory forest management plans of Shuangxi Forestry Cooperative and Dacao Kou Villager Group. (3) Training Evaluation Stage. After the previous stages of training and practical application, trainers, collaborators, members of planning group and forest farmers exchanged the training experiences together. They summarized and evaluated the deficiency and effectiveness of training through interviews and questionnaires to know how the forest farmers had understood the course contents and training methods, and what proposals forest farmers had for future training.

3.1.2 Participatory policy evaluation

The entire project implementation process was divided into three stages of preparation stage, investigation stage and analysis stage. The specific organization and implementation process of each stage were as follows: (1) Preparation Stage. First, the Project Team collected and sorted out forest management policies related to forest tenure reform at levels of CPC central committee, province and county, and determined the investigation objectives. Next, the Project Team combined the actual situation in Dacao Village, Saxin village and Shuangxi Forestry Cooperative, sorted out various issues related to forest management policies, and preliminarily designed the semi-structured interview outlines and rural household questionnaires at levels of village, cooperative, town, county, and province. (2) Investigation Stage. Based on the pre-investigation, the semi-structured interview programs and questionnaires at various levels were discussed and modified again. Then the key person interviews, stakeholders' seminars, and rural household questionnaires were carried out, investigating relevant information. (3) Analysis Stage. By using participatory methods, the information of social economy, forest resources, and forest management status of project villages, the views, responses and opinions of different stakeholders on forest management policies related to forest tenure reform were analyzed and summarized. From the forest farmer's point of view, the SWOT analysis and problem analysis of forest management policies and systems related to forest tenure reform were further conducted. See Table 3-1 for the implementation process of project.

Table 3-1 Analysis Steps of Participatory Investigation

Steps	Main Activities
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Preparation Stage	Collect and sort out forest management policies related to forest tenure reform at CPC central committee, provincial and county level; determine investigation objectives; preliminarily design semi-structured interview outline and rural household questionnaires
Investigation Stage	Semi-structured interviews at various levels; seminars of stakeholders; rural household questionnaires and semi-structured interviews; field trip
Analysis Stage	Analyze and summarize views, responses and opinions of different stakeholders on forest management policies related to forest tenure reform; conduct SWOT analysis and problem analysis of forest management policies and systems from farmer's point of view.

3.1.3 Selection of pilot project villages and investigation objects

Dacao Village of Sandu Town and Sanxi Village of Paibu Town were selected as pilot villages according to the requirements of project. The views, responses, and perspectives of different stakeholders (including villagers, FFC members, forestry institutions (bureaus) of Tonggu County) on cutting quotas forestry taxes, micro-finance policy, public welfare forest compensation fund administration and non-wood forest products have been identified, by using participatory methods to collect and analyze relevant information. On that basis, further analysis was carried out on problems existing in policies of forest tenure and forest management. Finally the policy recommendations were made at the end. See Table 3-2 for specific investigation objects.

Table 3-2 Investigation Objects

No.	Training/Investigation Objects	Department./ Number of People
1	FFC Members	Three-Prevention Association in Dacao Village/3, Shuangxi Forestry Professional Cooperative in Sanxi Village/10
2	Forest Farmers	Dacao Village/17, Sanxi Village/10
3	Village Cadres: Secretaries, Village Heads	Committee in Dacao Village/ 2, Committee in Sanxi Village/ 2
4	Principals of FFCs	Three-Prevention Association /1, Shuangxi Forestry Professional Cooperative /1
5	Forestry Workstations	Forestry Workstation of Sandu Town/1, Forestry

		Workstation of Paibu Town/1
6	Forestry Bureau of Tonggu County	Office of Forest Tenure Reform; Office of Forest Tenure Circulation, Forestry Main Workstation, Forest Administration Department, Forest Policy Department, Forest Administration Department, and Planning & Finance Department /8
7	Forestry Department of Jiangxi Province	Forestry Main Workstation, Key Project Inspection Office, Planning & Finance Department; Administration Office of Forest Administration Resource Protection, and Forest Industry Bureau /5
8	Wood and Bamboo Processing Enterprises	Manager/2

3.2 Social and economic information on pilot villages/FFCs

3.2.1 Social and economic information in Sanxi Village/FFC

3.2.1.1 Social and economic status in Sanxi Village

There are 14 villager groups with total 256 households in Sanxi Village. The village population totaled 1,220 at the end of 2009, among which labor forces were more than 400. The total land area in Sanxi Village amounts to 25,068 mu (1 mu=0.00667 hectares), of which forest area is 21,154 mu, accounting for 84.4% of total land area; the agricultural land area is 3,914 mu, accounting for 15.6%. The population in Sanxi Village is relatively concentrated, and forestry is the major industry. The economic incomes mainly come from sales of wood and primary forest products, as well as migrant laboring. Sanxi is a middle-income village throughout the whole county of Tonggu, the employment and working methods mainly are the help and lead by acquaintance, the working income is about RMB 1,500/month. The annual net income per capita in Sanxi Village is about RMB 3,000, 90% of which is occupied by forestry income.

3.2.1.2 Development status of Paibu Shuangxi forestry cooperative

Located in Sanxi Village of Paibu Town, Tonggu County, Shuangxi Forestry Cooperative is a large-scale forestry professional cooperative. The establishment of the cooperative can be traced back to May 2008, when 8 forest farmers in Sanxi Village carried out the joint afforestation

management as shareholders, four of whom were small-scale dealers of local bamboos and logs. Due to the influences of multiple factors, at the time when FFCs could get relevant supporting policies and sprung up like mushrooms, the cooperative was registered in Commerce and Industry Bureau of Tonggu county in March 2009. The cooperative had a registered capital of RMB 30,000 and 11 founders, 9 founders respectively invested RMB 30,000 each, and the other two respectively invested RMB 15,000. The cooperative members also joined the cooperative with their own forests, totaling 2,857.2 mu. Two members invested 1,911.3 mu of mountain forests. The member who had the invested the least forest of 36.3 mu. Their forests consisted of 4 parts of forest lands surrounding the village committee with respective area of 1,200 mu, 500 mu, 400 mu and 700 mu. 70% of their forests were China fir forest, the rest 30% were bamboo forest. 10 new members joined the cooperative in 2010 with forest area of 1,620 mu and funds of RMB 250,000 . Now, there are 21 members in Shuangxi Forestry Cooperative, possessing the forest land of 4,500 mu.

Table 3-3 Forest Invested by Cooperative Members

Forest Land Area(mu)	Number of People
35-40	2
45-50	1
50-100	4
100-150	6
200-260	6
500-600	2



The cooperative has 1 chairman, 3 directors, and 3 supervisors, all of whom are investors and have brought their own mountain forest into the cooperative. The chairman is elected by the entire members, and one of the directors is the head in Sanxi Village Committee.

3.2.2 Social and economic information in Dacao Village/FFC

3.2.2.1 Social and economic status in Dacao Village

There are 8 villager groups and 177 households in Dacao Village. The village population totaled 746 in the end of 2009, among which labor forces were 450. The total land area in Dacao Village amounts to 29,239 mu (1 mu=0.00667 hectares), among which forest land area is 28,022 mu, accounting for 95.84% of total land area; agricultural land area is 1,167 mu, accounting for 3.99%. The annual net income per capita in Dacao Village is about RMB 9,000, among which the forestry income is RMB 2,000, accounting for 20%. The forestry income mainly has three ways of sources: the income from cutting and selling logs and raw bamboos, compensation of forestry projects, and

income of non-wood forest products. The bamboo shoots are main non-wood resources of income in Dacao Village, accounting for about 90% of non-wood resource income. Other income sources include running bamboo flooring factories that manufacture bamboo floor boards, working in local factories developing under-forest economy, and migrating labor forces and so on. There are 40-50 migrant laborers, accounting for 8-11% of labor forces of Dacao Village.

Table 3-4 Basic Social and Economic Status in Dacao Village

Villager Groups	Households	Population	Labor Forces	Total Land Area(mu)	Agricultural Land Area(mu)	Forest Land Area(mu)	Net Per Capita Income (yuan)
8	177	746	450	29239	1167	28022	9000

3.2.2.2 Situation of FFC

There is no FFC for productive management, however there's a "Three-Prevention (i.e., fire prevention, theft prevention, and pest prevention)" Association in Dacao Village in the process of developing collective forest tenure system reform, which was set up in June 2006. The "Three-Prevention" Association was registered as a public organization legal person in Civil Affairs Department of Tonggu County. As a special type of cooperative organization, it is quite different from FFC in governance structure, for it has no council or board of supervisors, nor does it engage in joint production activities for management. It is mainly responsible for responsibilities of fire prevention, theft prevention, pests and diseases prevention etc., compensating for vulnerableness of single household of manager on these preventions. Since its founding, the cooperative has mainly adopted the practice of patrol conducted by association members along the fixed route and report. So far, the "Three-Prevention" Association has played the active role in ensuring no forest fire in Dacao Village for many years, which has also sent members to actively participate in pest-resisting training in the past two years, for the incidence of forest pests and diseases continues to rise.

See Figure 3-1 for organization structure of the association:

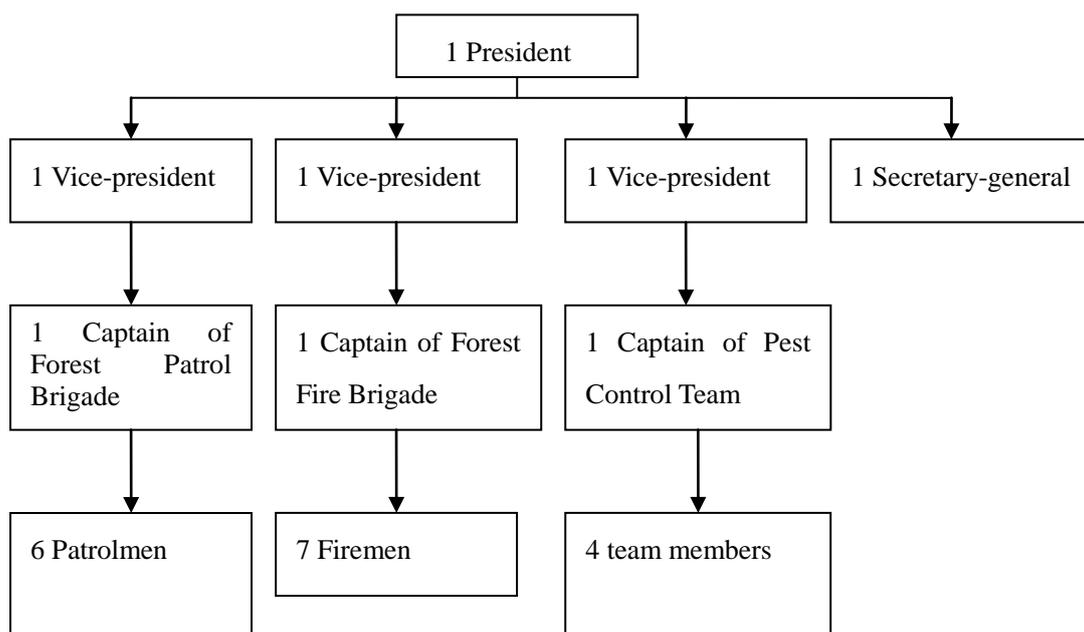


Fig. 3-1 Organization Structure of "Three-Prevention" Association in Dacao Village

4 Forest management status of pilot villages/FFCs

4.1 Current status of resources and changes in history

4.1.1 Sanxi Village

4.1.1.1 Situation of forest resources

(1) Areas and growing stock of various forest lands

The data of secondary investigation in 2008 showed that the total land area in Sanxi Village was 25,068 mu, among which there was 21,154 mu of forest lands, accounting for 84.4% of total land area. There was 19,690 mu of forest lands, accounting for 93.88% of forest land area; 1,294 mu of immature forests, accounting for 6.12% of total forest land area. There were 6,712 mu of arbor forests, accounting for 33.80% of woodlands, and 13,148 mu of bamboo forests, accounting for 66.20%. The total storage volume of standing timber was 75,470 m³ and the total plant number of moso bamboos was 1,385,664.

Classified by forest age, the young arbor stands have an area of 1,303 mu and growing stock of 382 m³. The middle-aged arbor stands have an area of 4514 mu and growing stock of 24,813 m³. The near-mature arbor stands have an area of 745 mu and growing stock of 4,562 m³. The mature arbor stands have an area of 70 mu and growing stock of 584 m³.

Classified by forest origins, there are 3,891 mu of planted forest, accounting for 18.4% of total

forest land area; and 8,008 m³ of growing stock, accounting for 10.6% of total tree growing stock; there are 17,263 mu of natural forests, accounting for 81.6% of forest land area, and 67,199 m³ of growing stock, accounting for 89.4% of total tree growing stock.

Classified by forest functions, there are 1,914 mu of ecological public welfare forests in Sanxi Village, accounting for 9.0% of total forest land area. All the ecological public welfare forests are classified as forests for water and soil conservation. There is 19,240 mu of commercial forests, accounting for 90.9% of total forest land area. Among the commercial forests, there are 19,130 mu of general timber forests and 110 mu of economic forests, accounting for 90.4% and 0.5% of total forest land area respectively.

(2) Comprehensive analysis on status of forest resources

In general, the current status of forest resources in Sanxi Village has the following characteristics: First, the forestry land area occupies a large part of total land area, accounting for 84.4% of total village land area. Second, the proportion of commercial forest area is high, accounting for 90.9% of total forest land area and 91% of forested land. Third, the moso bamboo forests occupy a large place, accounting for 66.2% of total timber forested area and 65.4% of timber forest. The scattered trees in the bamboo forests take over a large proportion in total growing stock of the village. Fourth, the area and growing stock of middle-aged arbor forests dominate those of arbor forests, accounting for 68.06% and 81.78% respectively.

4.1.1.2 Changes in history

(1) Changes in areas of various forest lands

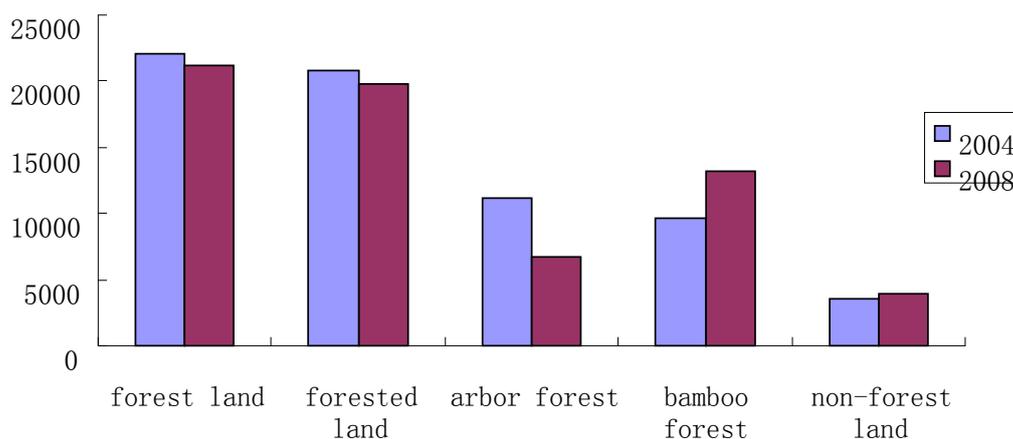


Figure 4-1 Changes in Various Forest Lands in Sanxi Village

From the figure, we can see that between the two secondary investigations, areas of forest land, forested land and arbor forest have been reduced except areas of bamboo and non-forest land. The

forest land area has decreased by 926 mu. The forested land area has decreased by 951 mu. The arbor forest land area has decreased by 4,409 mu (about 40%). The bamboo forest area has increased by 3,458 mu (about 36%). During the period from 2004 to 2008, some trees were cut down, and bamboos were replanted. But the area of replanted bamboo forests was less than the area of cut forests, indicating that some forest lands were not reforested.

(2) Changes of forest stock

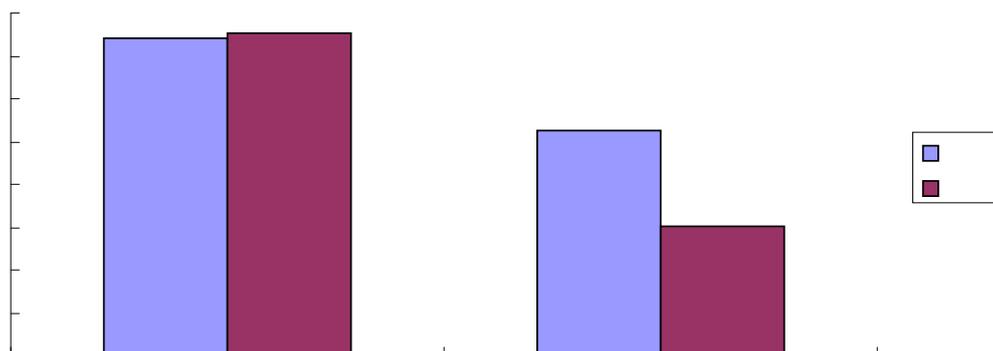


Figure 4-2 Changes of Forest Tree Stock in Sanxi Village

According to the data of secondary investigations, there were 1,109,495 bamboos in Sanxi Village in 2004. The number reached to 1,385,664 in 2008, with a net increase of 276,169. It can be seen from Figure 4-2 that the total growing stock in Sanxi Village had little change from 2004 to 2008, with a net increase of 1,392 m³ but the stock volume of arbor forest significantly reduced by 22,050 m³. Between these two secondary investigations, the stock volume of arbor forest was decreased, but the total volume was increased, indicating that the increase amount of bamboo forest stock volume was greater than reduction amount, and that the cutting quota policy on cutting forest trees made forest farmers in Sanxi Village be more willing to grow bamboo forests because of more cutting indexes for bamboo forests.

4.1.2 Status of forest resources of Shuangxi Forestry Cooperative in Sanxi Village

The forest lands of Shuangxi Forestry Cooperative consist two parts: 2,857.2 mu of original mountain forests brought by initiators and 1,642.8 mu from 11 new members who joined in 2010. Now the total forest land amounts to about 4,500 mu, 92.9% of which is commercial forests, and the other 7.1% of which is ecological public welfare forests. 321 mu of ecological public welfare forest has been classified as provincial ecological public welfare forests. The total growing stock is 9,467.9 m³, among which the growing stock of commercial forests is 8,474.9 m³ accounting for 89.5% of the total; the growing stock of ecological public welfare forests is 993 m³ accounting for

10.5% of the total.

In the forest land area, the area of forested land is 4,366 mu with growing stock of 9,467.9 m³. Among forested lands, there are 1,084 mu of young and mid-aged forests, accounting for 24.9%; 524.4 mu of mid-aged forests, accounting for 12.0%; 1,362.1 mu of near-mature forests, accounting for 31.2%; 901.1 mu of mature forests, accounting for 20.6%; and 429.4 mu of over-mature forests, accounting for 11.3%.

Classified by forest origins, the forest land of Shuangxi Forestry Cooperative can be divided into two categories of planted forests and natural forests. There are 2326.6 mu of planted forests with growing stock of 3,948 m³, accounting for 51.7% of forest land area and 41.7% of total growing stock; 2,382 mu of natural forests with growing stock of 5,519.9 m³, accounting for 48.3% of forest land area and 58.3% of total growing stock.

4.1.3 Dacao Village

4.1.3.1 Situation of forest resources

(1) Areas and growing stock of various forest lands

The total area in Dacao Village was 29,239 mu, among which there was 28,022 mu of forestry land, 1,217 mu of non-forest land, with percentage of forest cover of 95.8%. In the forest land area, the area of forested lands reached 28,005.9 mu, accounting for 99.94% of forest land area; in forested lands, there were 5,777.5 mu of arbor trees, accounting for 20.63%, and 22,228.4 mu of bamboo forests, accounting for 79.37%. There were 99,926 cubic meters of total standing timber growing stock and 2,311,673 plants of bamboos.

Classified by forest sorts, there are 2,196.1 mu of protective forests in Dacao Village, among which 1,950.8 mu is protective forests for soil and water conservation with 7,470 m³ of growing stock; 245.3 mu is other protective forests, with 952 m³ of growing stock. There are 25,825 mu of general timber forests with 91,464 m³ of growing stock. All moso bamboo forests are timber forests, occupying 21,102.9 mu, accounting for about 82% of total timber forest lands. Besides, the standing timber growing stock in agricultural land is 40 m³.

Classified by forest origins, there are 25,640 mu of natural forests with 85,578 m³ of growing stock; 2,382 mu of planted forests with 14,308 m³ of growing stock, respectively accounting for 91.5% and 8.5% of forest land area.

Classified by forest age, there are 454.9 mu of young arbor forests with 901 m³ of growing stock; 440.6 mu of half-mature arbor forests, with 2,264 m³ of growing stock; 3,758.5 mu of near-mature arbor forests with 21,144 m³ of growing stock, 1,123.5 mu of mature arbor forests, with 6,375 m³ of growing stock; 967.5 mu of young moso bamboo forests with 3,106 m³ of growing stock;

20,901.4 mu of mature moso bamboo forests with 65,306 m³ of growing stock; 360 mu of old bamboo forests with 788 m³ of growing stock.

In addition, the dominant tree species in Dacao Village include fir, alder and so on. There are 5,249.4 mu of fir forests with 28,402 m³ of growing stock; 189.1 mu of other hardwood forests with 764 m³ of growing stock; 245.3 mu of alder forests with 952m³ of growing stock; 93.7 mu of mixed coniferous and broad-leaved forests with 566m³ of growing stock; and 15.6 mu of shrubs; 22,228.9 mu of bamboos with 69,202m³ of growing stock.

(2) Comprehensive analysis on status of forest resources

In general, the current status of forest resources in Dacao Village has the following characteristics: Dacao Village is rich in forest resources with high percentage of forest coverage, being maintained at above 95% for many years. The forest land area occupies a large part of total area, accounting for 95.84 % of total village land area. The near-mature arbor trees dominate in arbor forests. The proportion of timber forest area is high, accounting for 92.21% of forested land, leaving 7.79% over to the ecological public welfare forests. The moso bamboo forests take over the most part of timber forests, accounting for 86% of timber forest area.

4.1.3.2 Changes in history

(1) Changes in areas of various forest lands

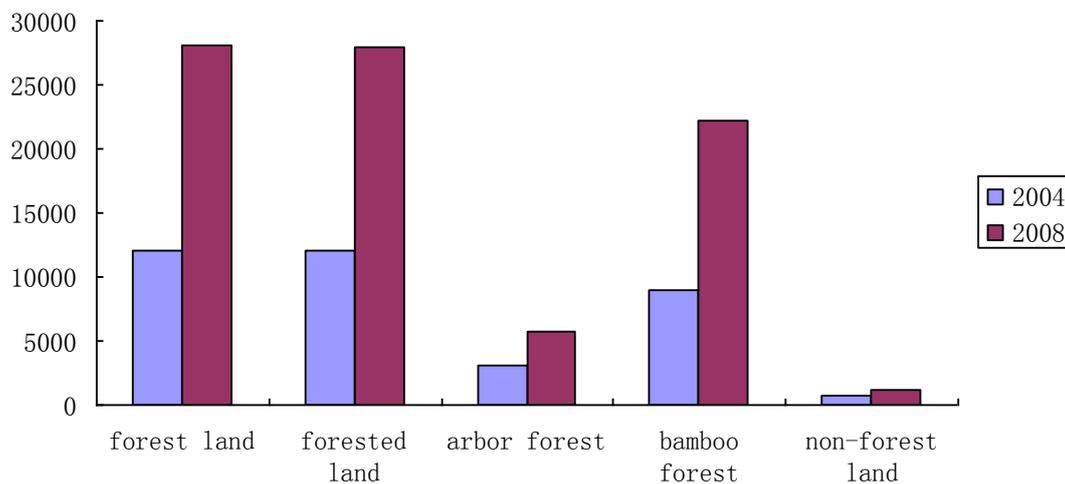


Figure 4-3 Changes in areas of various forest lands in Dacao Village

From Figure 4-3 we can see that between the two secondary investigations, the forest land area, forested land area, arbor and bamboo forest area were significantly increased, specifically as follows: the forest land area of Dacao Village was 28,022 mu in 2004, including 11,991 mu of forested land area, the forest land and forested land area have been increased by 1.3 times in 2008; the arbor forest area was increased from 3,025.5 mu in 2004 to 5,777.5 mu in 2008 with an

increase of about 91%, and the largest area increase was bamboo forests, which had an increase of 147.9 %.

(2) Changes of forest stock

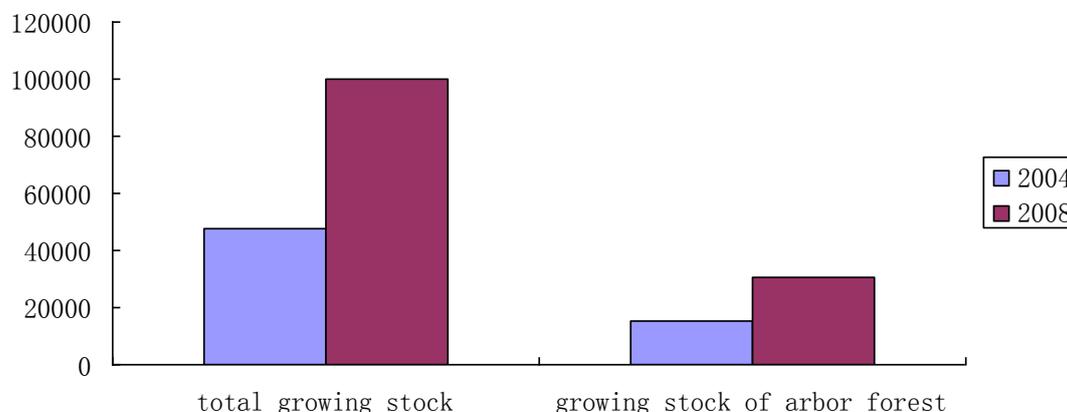


Figure 4-4 Changes of forest stock in Dacao Village

According to the data of secondary investigation, there were 816,177 plants of bamboos in Dacao Village in 2004. The number reached to 2,311,673 plants in 2008 with a net increase of 1,495,496. The total growing stock in Dacao Village was 47,736 m³ in 2004 and increased to 99,926 m³ in 2008 with a net increase of 52,190 m³. The growing stock of arbor forests in Dacao Village was 15,448 m³ in 2004 and increased to 30,684 m³ in 2008 with a net increase of 15,236 m³. This was because of the implementation of cutting quotas, protection of ecological public welfare forests, and a variety of forest management measures. The protection awareness and management enthusiasm of forest farmers were also the important factors for these improvements.

4.2 Main forest products and changes in history

4.2.1 Current status of forest products

The major forest products in Sanxi Village and Dacao Village include bamboos, firs, pines, alders, weed trees, bamboo shoots, mushrooms and so on. The investigation data in Sanxi Village shows that most forest farmers being interviewed plant moso bamboos with plantation rate of 95%, and then plant fir with plantation rate of 85%. The investigation data in Dacao Village shows that all the forest farmers being interviewed plant moso bamboos with plantation rate of 100%, and then plant fir with plantation rate of 85%.

The moso bamboos grow quickly, in every other year the bamboo forests can produce 60-80 bamboos per mu on average. However, the fir forests grow slowly, an average annual growth is 0.3-0.8 m³ per mu.

The first wood processing factory in Dacao village was jointly founded in 2005 by the village

secretary and other investors. The output value of factory is about RMB 4 million. The supplies of raw materials come from the village. The factory has 30-40 workers in total, 50% of whom are villager in Dacao Village. The main products of the company include: bamboo flooring, bamboo drawing (manufacturing bamboo toothpicks), forest farm, power station, core-board, computer table, as well as art and craft.

4.2.2 Changes in forest product management

The non-wood forest products in Dacao Village and Sanxi Village are mainly mushrooms and bamboo shoots. The cultivation of mushrooms was first started in 2001, being mainly exported to Japan. Because the mushroom production needs the hardwood as raw material, therefore the hardwood destruction was gradually getting worse. In 2006, the policy on hardwood cutting ban was implemented in Jiangxi Province. Since 2007, the successive relevant documents were issued in Tonggu County to prohibit the cutting and use of natural hardwood for mushroom production, decreasing the mushroom production.

The bamboo shoots could be freely dug without distinguishing the land boundaries, which has become the tradition in Sanxi Village and Dacao Village. However, due to lack of responsibilities, the villagers often dig bamboos to death, affecting the growth of bamboos. In recent years, in order to protect bamboos and cultivate bamboos, the digging ban policy was issued in Tonggu County, greatly decreasing the production volume of bamboo shoots.

4.3 Income dependency of forest farmers on forest management

4.3.1 Sanxi Village

According to the interviews of key personnel, the villagers live relatively concentrated and the forestry is the main industry; the farmers' incomes mainly come from sales of timber and primary forest products, as well as migrant laboring. The annual net income per capita is RMB 3,000, 90% of which is occupied by forestry income. Based on the information from interviews with forest farmers in Sanxi Village, the income dependency of forest farmers on forest management is as follows:

4.3.1.1 Situation of total annual household income

Among the forest farmers being interviewed in Sanxi Village, the most (85%) of interviewees' total annual household income is below RMB 50,000. 10% of interviewees' total annual household income is between RMB 50,000 and RMB100,000; and 5% is above RMB 100,000.

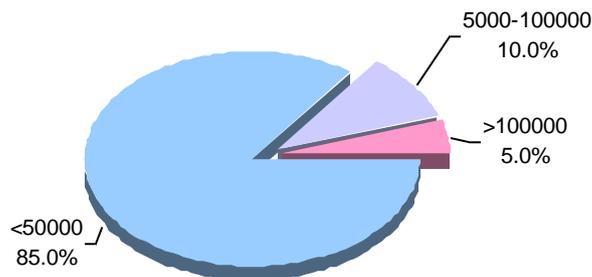


Figure 4-5 Total Annual Household Income

4.3.1.2 Situation of income sources

The forest management is an important pillar of villagers’ family income, 90% of households rely on forest management for living. In addition, 60% of households have other sources of income. The farming is mostly organized for family needs, not as the major source of family income. The agricultural products will be sold only when there is a surplus.

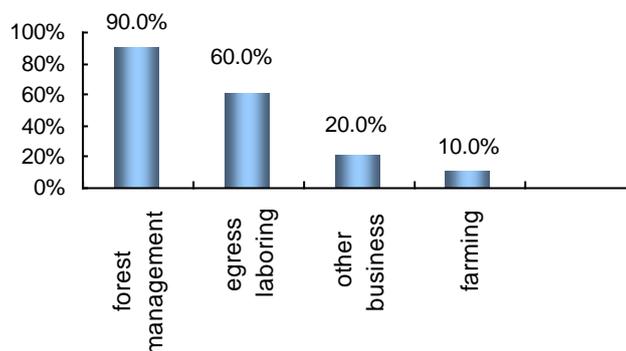


Figure 4-6 Household Income Sources

4.3.1.3 Main income sources of forest management

In the process of forest management, the timber cutting and bamboo cutting are the most important production activities of forest farmers. The incomes from timber and bamboo cutting account for 90% of forest farmers’ total revenue of forest management. The income from non-timber forest products collection is not much, only accounting for 8.6% of total revenue of forest management. This is mainly because the local collection of bamboo shoots and mushrooms have been banned in the last two years.

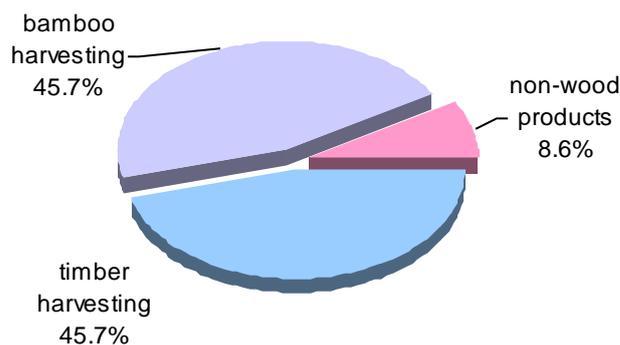


Figure 4-7 Income Sources of Forest Management

4.3.1.4 Proportion of forest management income in household income

It can be seen from the following figure, 95% of families' incomes of forest management accounts for a large share in total household incomes. 25 % of families have their total family income entirely dependent on forest management. 25% of the families have 30% of their total family income dependent on forest management. These two groups are the largest.

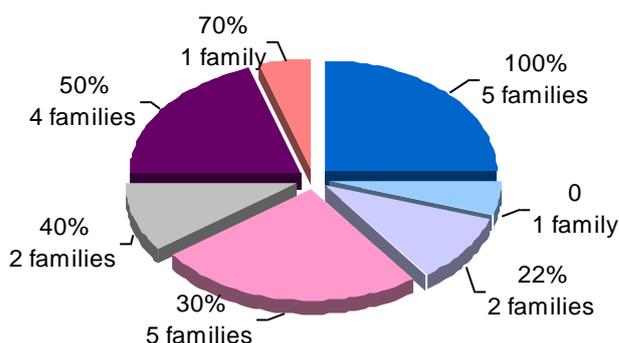


Figure 4-8 Proportion of Forest Management Income in Household Income

4.3.2 Dacao Village

According to the interviews with key personnel, the annual net income per capita in Dacao Village is RMB 9,000 with forestry income of about RMB 2,000, accounting for 20%. The forestry income is earned mainly in three ways: sale of logs and raw bamboos, compensation of forestry projects, revenue of non-wood forest products. The bamboo shoots are the main non-wood resource income for villagers, accounting for about 90% of non-wood resource income. Other income sources include running the bamboo flooring factory to manufacture bamboo floor boards, working in local factories, developing the under-forest economy, and migrant laboring and so on. Based on the information from interviews with forest farmers, the income dependency of farmers on the forest management is as follows:

4.3.2.1 Situation of total annual household income

Among the forest farmers being interviewed in Dacao Village, the most (90%) of interviewees' total annual household income is below RMB 50,000. 5% of interviewees' total annual household income is between RMB 50,000 and RMB100,000; and 5% is above RMB 100,000.

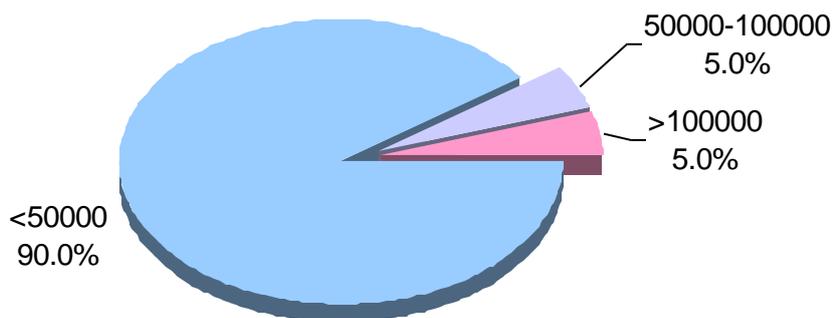


Figure 4-9 Total Annual Household Income

4.3.2.2 Situation of income sources

The forest management is an important pillar of villagers' family income, 85% of households rely on forest management for living. In addition, 50% of households have other sources of income, and 45% of families have wage income. The farming is mostly organized for family needs, not as the major source of family income. The agricultural products will be sold only when there is a surplus.

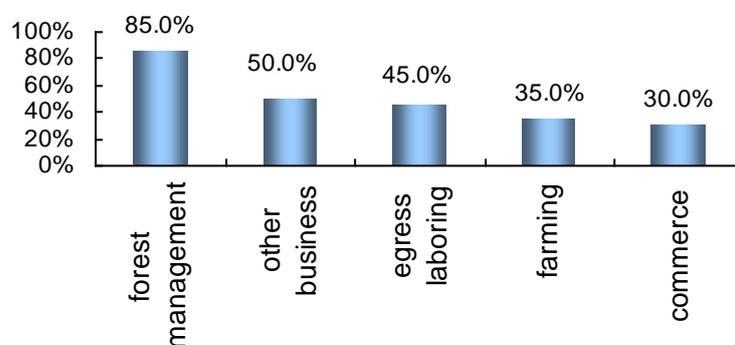


Figure 4-10 Income Sources

4.3.2.3 Main income sources of forest management

Because Dacao Village mainly cultivates moso bamboo forests, therefore, the main forest management activity is bamboo wood cutting. cutting50% of forest farmers live on bamboo wood cutting.

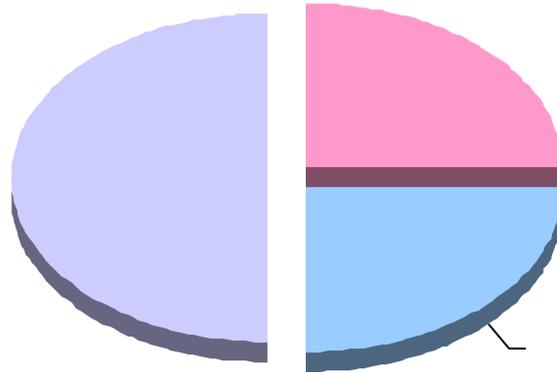


Figure 4-11 Income Sources of Forest Management

4.3.2.4 Proportion of forest management income in household income

It can be seen from the following figure, the proportion of forest management income in household income mainly centers on 10-30%, accounting for 75%. The family whose forest management income accounted for 30% of total household income takes over the highest proportion (40%) of total families. 5% of families has their total family income entirely dependent on forest management.

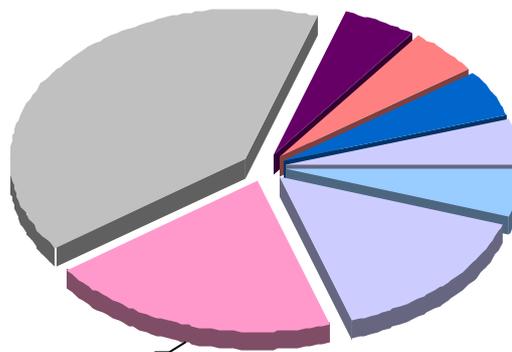


Figure 4-12 Proportion Forest Management Income in Household Income

4.4 Administration of forest management

Before the forest tenure reform, the property rights belong to the collective or are unclear. Hence the forestry farmers put little enthusiasm in forest management activities. After the reform, the forest farmers have been allotted with mountain forests, explicitly possessing the forest land use right and forest ownership. At present, the forest farmers can participate in forest management in the form of individual household in the two project pilot villages. The forest farmers who have obtained forest tenure certificates gradually increase the awareness to manage their forests independently, so their enthusiasm for forest management has been greatly improved. Meanwhile, the forest farmers' responsibilities on fire, pest, and theft prevention have been significantly increased. The reforestation has also been carried out actively by them after the cutting, and some forest farmers have conducted the transformation of low-yielding bamboo forests.

The forest management is composed of afforestation, cultivation, as well as cutting and so on. With the deepening of forest tenure reform, the promulgation and implementation of supporting measures, farmers' autonomous decision-making capabilities have been enhanced, and the restrictions on afforestation and forest management have become less. However, the ecological public welfare forests are still prohibited against cutting, and there is also cutting quotas for commercial forests. The forest farmers must acquire cutting indexes for tree cutting and selling. The cutting indexes are primarily based on the situation of forest resources. During 2009-2010, a pilot reform was launched in collective forest tenure system in Jiangxi Province, which was aimed at improving and reforming the cutting quotas system by putting forward an administrative approval system of "pre-approval, double-path management, and two public notifications", thus gradually creating a more favorable environment for forest farmers. The "Double-path management" means that in every October, the provincial forestry administration department will issue a notice of cutting quota application. Then, the village committees organized forest farmers to submit the applications. The requisition form of village cutting indexes will be completed and sent to forestry workstations which will verify the relevant forest resources. Later, through the township (town) government, the requisition form will be submitted to the county forestry administrative department, and then to the provincial forestry department. This is a "bottom up" application path. According to the application cutting indexes and cutting indexes that can be cut across the province, the Forestry Department of Jiangxi Province will examine the cutting amount of each county. Then the cutting quotas will be issued to the county and townships (towns), then to the villages. This is called the "top down" approval path. The examination and approval work is brought forward at the end of the previous year, which is called "pre-approval". The forest

managers can develop the cutting and marketing programs flexibly in the coming year, thus the hysteresis of cutting quotas distribution can be changed, providing forest farmers with a more favorable management environment. The application amount and approved amount of cutting will cutting be posted in villages for publicity, so as to ensure the fairness, openness, impartiality of cutting quotas system. This is called the “two public notifications”. The forest management plan as an important means to manage forest resources is still compiled on the county-level.

After the forest tenure reform, the forest fire, theft, and disease become the important challenge faced by forest farmers in forest management. In order to effectively solve this problem, the government of Tonggu County has issued favorable policies (in loans, cutting quotas), promoting the establishment and development of various types of forestry cooperative organizations, and making up the weak points for single family in forest management such as in the scale of forest management, market information access, fire, theft, and pest prevention.

4.5 Interventions on forest management

4.5.1 Sanxi Village

In recent years, in accordance with the current situation of forest resources, Sanxi Village has carried out different management measures to different types and origins of forests, such as closing hills to facilitate forests, thinning during tending, transformation of low-yield forests, so as to achieve sustainable forest management and ensure gains of forest farmers.

From 2004 to 2010, a total of 5,550 mu of forests have been planted or reforested, 2,790 mu of which was the regeneration in cutover lands. There were 2,760 mu of afforested area in barren hills and wastelands, counting the transformation area of defective forests. Many efforts had been made in 2008 and 2009 to afforest and reforest in large scale. The reforestation of cutover lands took over a half of the planted 1,300 mu in 2008 and 700mu in 2009 when the planted forests reached 1,200 mu. In 2010, there were not barren hills and wastelands to be planted any more in the village. The planted trees were mainly firs, including some hardwood species like poplar, blue tree (*Schoepfia jasminodora*), paulownia, as well as tea-oil tree (*camellia oleifera*). Only a small part of pure broad-leaved forests have been planted in recent years, the rest were mostly fir and broad-leaved forests which were dominated by firs with ratio between firs and broad-leaved trees being about 3:1.

Sanxi Village has consistently adhered continuous tending of five years to the new afforestation. In fact, most of the forests in the village are young and middle-aged forests, where forest farmers have carried out the thinning operations by themselves after the forest tenure reform.

Between 2004 and 2010, 8,000 mu of low-yield forests were transformed, of which 1,500 mu was transformed at high standards with the cost of RMB 280/mu; the rest 6,500 mu was transformed at

low-standard with the cost of RMB 100/mu. The annual output of moso bamboo in Sanxi village is about 200,000.

4.5.2 Dacao Village

Bamboo and fir are the dominant tree species in Dacao Village. There are also a small number of oaks and other broad-leaved trees. There are 5,777.5 mu of arbor forest, accounting for 20.63% of forested land area, and 22,228.4 mu of bamboo forests, accounting for 79.37% of forested land area. Most of the existing mature forest resources are naturally regenerated, only a few forest resources are planted through manual work.

The forest management in Dacao Village in recent years is shown as follows:

First, due to the implementation of national key projects in recent years, such as Converting Cultivated Land into Forests, the afforestation has been strengthened in Dacao Village. Since 2002, 450 mu of farmland in Dacao Village has been incorporated into the project of Converting Cultivated Land into Forests, 70% of which came from the abandoned agricultural lands, and the remaining were barren hills. Most of the open forests have turned into forests or immature forests through measures of reinforcement planting, low-yield forest improvement, closing hillsides to facilitate afforestation. The net increase of forest land area accumulated to 3,388 mu.

Second, the cultivation of bamboo resources has been emphasized. On one hand, a lot of cultivating measures have been carried out in recent years, such as bamboo shoot nursing, transformation of low-yield bamboo forests etc. On the other hand, various means of forest management have been executed, including woodland circulation mechanism, cultivation and transformation of bamboo forests, especially those in the remote areas, and clearing small and old bamboos.

In the past 10 years, the annual average amount of forest growth in Dacao Village has always been greater than that of consumption. The forest growing stock and forest area have also been growing, too. But there are some problems. For example, the timber yield per mu is low, the forest productivity is not high, the low-yielding stands occupy a large proportion, and the recoverable resources are inadequate. All of these problems are difficult to solve due to smaller scale management after the forest tenure reform, so they must be more focused. Thus, in the next 5 years or longer period of time, villagers of Dacao Villager need to spare no efforts to solve them, try every means to raise funds, strengthen forest management, and improve forest quality and forest productivity.

4.6 Strengths and weaknesses of current forest management

4.6.1 Sanxi Village

4.6.1.1 Strengths

(1) Rich forest resources

The forest lands in Sanxi Village cover an large area, the forested land accounts for 93.88%; meanwhile, there are few public welfare forests, the commercial forests are the majority.

(2) Improved enthusiasm for forest management

After the forest tenure reform, along with the deepening of various supporting reforms, tax reduction, strong market demands for woods and bamboos, and rising market prices, the farmers' enthusiasm for forest management has been significantly improved compared to that before the forest tenure reform.

(3) Continuous development of FFC

Sanxi Village has specialized FFC, which to some extent solved the problems of small scale production, farmers' limited capacity of market competition, labor shortages and other issues. The joint operation of FFC members' forest resources has been achieved. The afforestation cost in per unit forest area and the individual members' afforestation cost can be reduced. The economies of scale of forestry production and management activities can be realized.

(4) Increasing national policy support for forest management.

In addition to tax relief, the governments at national, provincial and county level also vigorously support the development of special industries in areas of bamboo forest transformation, and afforestation on barren hills etc. The loan channels are also broadened. The farmers can use the forest tenure certificate to get mortgage loans after the forest tenure reform.

(5) Robust market demands for timbers and bamboos

The market demands of bamboo are strong and the price of moso bamboo increases rapidly. After several natural disasters in southern China, the timber industry and bamboo industry have been rapidly developed, for the timber market is vibrant and the price of woods and bamboo are soaring day after day.

4.6.1.2 Weaknesses

(1) Low awareness level of pest prevention

Sanxi Village is lack of pest and disease prevention. The investigation shows that, the villagers

reflected that only a few (25%) forest farmers carried out the prevention activities. But the preventive measures are simple; they sprayed the pesticide to their own forests. There is the county-level technical guidance, but it does not happen frequently.

(2) Lack of technical guidance

The forest lands and trees are mainly managed by single family in Sanxi Village after the forest tenure reform. Most of families are lack of technical guidance in forestry production and management. The lack of technical services and technical guidance not only hinders the improvement of forest productivity, but also increases the risk during forest management process, which will bring losses to forest management.

(3) Reduction of labor forces

By the end of 2009, the population in Sanxi Village was about 1220, including more than 400 labor forces only. But the forest management requires adequate labor input. It is reflected that young people take little interest in forest management. Therefore, there will be no enough labor forces in forest management.

(4) Lack of funds

The forest lands are owned by forest farmers after the forest tenure reform and forest farmers have certain rights to operate forests independently, but in fact, most of forest farmers are lack of capital investment, causing some difficulties in the afforestation.

4.6.2 Dacao Village

4.6.2.1 Strengths

(1) Dacao Village is a place especially ideal for growth of moso bamboos, for it has mild climate and abundant rainfall and sunshine.

(2) The market demands of bamboos are strong and the price of moso bamboos increases rapidly.

(3) The strong national policies play an important role as taxes and other charges are reduced or exempted after the forest tenure reform, lifting the farmers' initiatives in forest management.

(4) The costs to grow moso bamboos are not high, for almost all of bamboo forests grow naturally and require relatively low management costs.

(5) The forestry farmers have high sense of responsibilities to manage and protect the bamboo forests. It is reflected that the forest farmers in Dacao Village have strong awareness and protection to forests. It is rare for them to be so short-sighted as to cut all the bamboos down at a time; moreover, they are rich in traditional forest-related knowledge and practical experiences on forest management, facilitating the forest protection and utilization. In addition, the forest farmers in Dacao Village have other ways to increase income, such as raising live stocks, establishing

factories to process bamboo products or developing the under-forest economy etc., which are less dependent on moso bamboo and good for sustainable management.

(6) Three-prevention is laid much importance on. The pest control and fire prevention are challenges the forest farmers face After the forest tenure reform, for they carry out the forest management activities in the form of single family. In order to effectively solve this problem, The Three-prevention Association was set up, With the guidance of Three-Prevention Association, the measures to protect forest against fire, theft, and pests and plant diseases are practiced well, helping the forest to grow up healthily and ensure the consistency of forest production in collective forest regions. Meanwhile, the ways of supplying public services, i.e. services to get rid of fire, theft, pests and diseases, are innovated in forest management.

(7) The advanced technology is learnt and used. Dacao Village has actively taken the advance experience and technologies from Zhejiang Province on forest land management, taking hills as fields. For example, after plowing, they can plant roots of bamboo in flat lands and cover them with plastic sheets for sake of collecting shoots.

4.6.2.2 Weaknesses

(1) After the distribution of forests and hills to households, the initiatives of forest farmers for forest management are improved, but the capital for management is not adequate. Especially for those who have fewer lands, it is difficult for them to get subsidies from the government.

(2) The support of national policies is improved but far from being sufficient. For instance, the compensation funds for ecological public welfare forests are too little and the disaster subsidies are scarce or even zero; in terms of plans like road construction in mountains, the forest farmers can get no relative government allowances but only rely on themselves, at the same time, they are charged for vegetation recovery (according to various types of forest lands, the charges are RMB 2-10 per mu or so).

(3) The communication between government and forest farmers is not enough, which renders poor practices of government policies. For example, small loans are only available to those who manage agriculture but not forestry; the bachelors are forbidden to get loans; the distribution of cutting quotas is not fair; there are broad-leaved trees in hybrid bamboo forests, but as the former are the protected species and cannot be cut down, it is impossible for moso bamboo growing around to get cutting quotas as well.

(4) The bamboo forests have been suffering from serious destruction by animals. With the improvement of ecological environment, the wild boars breed exceedingly. They feed on bamboo shoots and destroy enormous forests. In addition, as farmers in the village raises live stocks like goats, sometimes these animals would eat up the fir sapling for the carelessness of owner.

(5) Digging up bamboo shoots in winter is a tradition for the villagers. Some of them may even work for more shoots in other people's land. Once the shoots break through the soil their taste may be less delicious, the villagers would hunt for those underneath and dig them up in a circle around the roots of moso bamboo, which can be harmful to the growth of moso bamboo.

(6) A large part of forest land in Dacao Village is remote and inaccessible, so it is hard for the owners to carry out proper management and cutting.

5 Factor analysis on constraints of participatory forest management in pilot villages/FFCs

5.1 Mechanism and Basic Requirements on implementation of participatory management

5.1.1 Background of participatory forestry management

The concept of participatory methods was introduced to China in the late 1980s. After 20 years of development, the participatory concepts and practices have been applied in a number of forestry areas and projects, achieving good results. But so far, the concepts and practices of participatory methods have not yet become the mainstream in China. They are not fully accepted by the government management and decisions-making.

China launched the reform of collective forest tenure system in 2003. Since then, the reform has been already widely carried out in China's collective forest areas, with the core object to clarify property right in most of areas, --"all mountains, all shares, and all benefits" have been already allocated to households. The collective forest tenure reform is another major breakthrough in China's rural system. A large number of documents show that reforms have brought great changes to forestry, forest districts, and forest farmers. For example, farmers' incomes and enthusiasm in afforestation have been improved, and rural economic development has been promoted. But the in-depth study found that the vitality of forest tenure reform is far from being released in many places (Tian Shuying, 2010). As far as the reason is concerned, the forest management relies mainly on traditional methods of command and control, the forest farmers still have little involvement in compilation of forest management plan, the implementation, monitoring and evaluation of the project. The forest management plan gives little or no consideration of interests of rural communities and farmers. It even does not solicit the views of rural communities and farmers. The rural communities and farmers essentially have no rights to participate in compilation and design of forest management plan, they are just told what to do, when to do, and

where to do (Zhang Xiaoguang, 2005).

The forest farmers have become lawful managers of forests after the forest tenure reform. Their participation is crucial to sustainable development of forests. Without the voluntary, real participation of communities, the expected goals of sustainable forestry development can not be achieved. Therefore, it is beneficial to introduce the theory and methods of participatory forest management, encourage farmers to join the process of compilation, implementation and evaluation of forest management plan, so as to weigh and fulfill their needs based on local situations and knowledge, i.e. respect their ideas and improve their awareness of participation. These can help to carry out the participatory forest management effectively, increase the income of forestry farmers and boost the development of community, and at the same time receive the desired effects of forest sustainable management and forest tenure reform. Meanwhile, it also is conducive to improve the government's working ideas, ways, and methods, helping to improve the management capacity of farmers and their democratic awareness, and promote rural social and economic development. Also it can provide advanced management modes and experiences for forestry construction and reform in China.

5.1.2 Mechanisms and basic requirements on implementation of participatory forest management

The participatory forest management is to allow forest farmers' active and independent participation in compilation/decision-making, implementation, as well monitoring and evaluation, the benefit distribution of participatory forest management or programs. The participatory forest management is essentially different from traditional forestry thinking and practices, mainly reflects in:

The core of participatory forest management is to return the rights to say, to analyze, as well as to make decisions back to local forest farmers. It is a "bottom-up" working and decision-making process where local forest farmers act as the mainstay, that gives full respect for indigenous knowledge and farmers' wills and takes full account of their interests. It is not a working and decision-making process where government department plays the leading role and the relevant technical departments develop forest management plans, that lacks of participation and supervision of farmers, and where forest farmers are only passive executors.

Therefore, the participatory forest management is participatory, which includes all stakeholders. Its mainstays are local communities, and the government departments and technical staffs are partners and facilitators. It is non-mandatory, but a voluntary and positive behavior, without the compulsion of the government department or other enforcement agencies. Moreover, it remains egalitarian, for forest farmers have equal decision-making rights and benefit-sharing rights. It is inclusive, for lays

much emphasis on local knowledge, and encourages and promotes the dissemination of indigenous knowledge.

In short, the participatory forest management is a process where local forest farmers utilize and control forest resources, and improve their viability. It stresses that forest farmers should have a sense of ownership, actively participating in the whole process of forest management planning. The forest farmers participate in decision-making and make choices, and apply traditional knowledge in familiar environment. They have initiatives and sense of responsibility in the planning and implementation process, and actively participate in the monitoring and evaluation.

5.2 Attitude, behavior, capacity analysis of different stakeholders on participatory forest management

5.2.1 Forest Farmers and FFC Members

According to the results of questionnaires and interviews, the attitude, behavior, capacity analysis of 10 FFC members and 30 forest farmers from Sanxi Village and Dacao Village on participatory forest management are as follows:

(1) It is very important to implement the participatory forest management. After the forest tenure reform, forest farmers who have become the owners of forests hope to constantly improve their capacity on forest management. Through training, farmers and FFCs have known about participatory forest management. They believe that the participatory forest management considers and respects their wishes and choices, better caters to their actual situation, and improves their capacity of forest management in the process of participation.

(2) The implementation of participatory forest management is also facing some challenges. The forest farmers and FFC members believe that the implementation of participatory forest management is very important, but some forest farmers believe that the participatory forest management is far away from their own management because of their management inertia and other drawbacks in participatory forest management activities. They are interested in only some part of the contents, such as forest management problems and forest management policies. The discussion and free speech are problematic, because the farmers treat training as a channel to reflect the existing problems.

(3) The main factors to influence forest farmers' participation in forest management are that they have little schooling and know little about some professional knowledge. The results of questionnaires and interviews show that the interviewed farmers believe that the little schooling is the main reason for lack of professional knowledge and technology. For example, none of six members in the planning group understands the map of forest compartments, so they discussed the

relevant contents of FMP only based on “metes and bounds” of the compartments.

5.2.2 Forestry administrative departments of counties and townships

The participants from forestry departments at the county and township level have identical idea of participatory forest management, positively confirming the significant functions on promotion of participatory forest management after the forest tenure reform. They believe that with the deepening of forest tenure reform, it was very important to improve the farmers’ ability of forest management and decision-making through introducing advance concepts and modes of participatory forest management. In addition, the previous FMPs are compiled by professional departments, while the participatory FMP emphasizes the involvement of multi-stakeholders and the reflection of their opinions, taking into account the interests of all parties. It is more practical and has better implementation effectiveness. However, it is new and has a long way to go before it is popular. There are problems in multilateral participation in compilation of FMP: the participants’ quality is uneven, and most of forest farmers are not clear about various compilation standards of the country.

5.3 Restrictions of current policies, laws, and regulations on participatory forest management implemented by pilot villages /FFCs

According to practical situation of individual management after the forest tenure reform, the concepts and practical methods of participatory forest management are introduced into forestry administration, and are determined as administration system, which is crucial to ensure the effects of forest tenure reform. But now, seen from pilot villages, the participatory forest management has been hindered by some existing policies, legal and institutional factors, mainly including:

(1) The participatory forest management requires forest farmers with the forest management decision-making power, but current laws and policies impede forest farmers to manage forests fully as their intensions. For example, the implementation of forest cutting quotas system makes the forest farmers can not adjust their cutting amount according to changes of market and price, they cannot independently decide the future cutting plans. Though they have the rights to use forest lands and forest tree ownerships, however they have no rights to decide when to cut, how much to cut, which is contradictory to the "autonomous consciousness" of participatory management.

(2) Judging from existing practices, the participatory forest management concepts and practical methods advocate the "bottom-up" working process, which has contained conflict with the current

government-led "top down" forest management system and operation mechanism. Currently, the compilation of forest management plan, determination of cutting indexes, and annually issued cutting plans do not meet the requirements of participatory forest management.

(3) In general, the participatory forest management is not widely spread in China, and is not included in the category of policy management. Moreover, the inertia of traditional thinking makes the implementation of participatory forest management system lack of security, resulting in affecting the implementation results. Therefore, it is the future development direction of China to organically combine the concepts and practical methods of participatory forest management with existing management system and operation mechanism, which still needs a process of exploration.

6 Capacity Building

6.1 Trainees

6.1.1 Situation of trainees from Sanxi Village

The constitutive features of 20 farmers and FFC members from Sanxi Village participating in the investigation could be concluded: FFC members and villagers account for one half each. They were male, and heads of households. They (85% of investigation objects) were mainly aged at 20-50. They had low educational degree, mostly (65% of investigation objects) at the education degree of junior high school. Their family population was mostly (85% of investigation objects) between 3 to 5, and the labor forces were mostly (47% of investigation objects) two people. Most (65%) of them were ordinary forest farmers.

6.1.2 Situation of trainees from Dacao Village

The basic situation and constitutive features of 20 forest farmers participating in the investigation could be concluded: They were male, and heads of households. They (80% of investigation objects) were mainly aged at 30-60. They had low educational degree, mostly (55% of investigation objects) at the education degree of junior high school. Their family population was mostly (75% of investigation objects) between 3 to 5, and the labor forces were mostly between 1 to 3. Among 20 villagers, three people were members of Three-Prevention Association. Most (75%) of them were ordinary forest farmers

6.2 Training methods and contents

The participatory methods were mainly used in this training. The participatory training is a kind of training and learning mode by which trainees are the primary subjects during the training.

According to the needs and characteristics of forest farmers and different training contents, the specific participatory methods that had been adopted were: "small course", field trip, group discussion, brainstorming, meetings, case study, etc. During the training process, the needs and interests of participants were greatly concentrated and were put in the first place. The teaching contents and issues that forest farmers mostly concerned about, as well as local knowledge and experiences of forest farmers were combined together. A variety of methods were used to mobilize and encourage forest farmers to actively participate in learning process, make more statements, and ask more questions. It was found that the experiences and knowledge of participants had their strengths in compilation of FMP. By using the participatory methods, the forest farmers were guided to determine and analyze problems and find ways to solve them. The use of vivid examples, such as large paper, pictures, drawings, tables and other visual aids made the training contents easy for forest farmers to understand; while the language and teaching modes the trainers adopted could make the training interesting.

The training contents were divided into 10 courses, including *Participatory methods and Participatory Forest Management*, *Preparation to Formulate Participatory Forest management Plan*, *Evaluation Outline*, *Forest Management System Assessment*, *Forest Status Evaluation*, *SWOT and Strategic Choice*, *Strategic Planning*, *Logical Framework: Issue Tree and Target Tree*, *Compilation of Forest Management Plan*, and *Evaluation of Monitoring and Training*. Different participatory training methods were adopted according to the specific course contents.

6.3 Compilation practices of forest management plan

6.3.1 Compilation process of forest management plan

According to the process requirements of participatory management procedure described in the project *Guidance* (see Table 6-1), through combining the actual situation of principal plan compilation part of Shuangxi Forestry Professional Cooperative and Dacaoou Villager Group, and in the light of *Concise Techniques for Compilation of Forest Management Plan*, and *Outline of Compilation and Implementation of Forest Management Plan* of State Forestry Bureau, the forest farmer planning group took the leading role to discuss and determine basic procedure for compiling the *Forest Management Plan of Shuangxi Forestry Professional Cooperative*, and *Participatory Forest Management Plan of Daocaokou Villager Group*:

(1) Preparation for compilation: Through adopting the participatory methods, some preparation work was done before the compilation, including organization preparation, basic data collection, related investigation, determination of technical and economic indicators, and compilation of work plan and technical plan.

(2) Systemic assessment: The management environment, current status of forest resources,

management requirement trends, as well as requirements of management and administration etc. were systematically analyzed, mainly including the quantity, quality and dynamic change of forest resources, forest ecology integrity, forest health, biodiversity, capacity of forests to provide wood and non-wood forest products, and strengths, weaknesses, opportunities, and threats etc. of current and future forest management, thereby determining the management objectives, main issues of forest management plan to be solved, as well as the depth and breadth, and focal points. (3) Managerial decision-making: During the compilation, full respects were given to views and needs of forest farmers. The planning group first proposed requirements and schemes in various aspects according to actual situation. Then trainers and facilitators helped them conduct the input and output analysis, ecological and social impact evaluation, and select the best option.

(4) Plan optimization: The opinions of administrative departments (Tonggu County Forestry Bureau, Sandu Town Forestry Station/Paibu Town Forestry Station), forest farmers of Dacao Kou Villager Group and members of Shuangxi Forestry Professional Cooperative, as well as other stakeholders were extensively solicited. The FMP was appropriately modified and became the basis for future forest management.

(5) Planning and design: On the basis of the best plan, the facilitators and forest farmer planning group together carried out various designs of forest management planning, and compiled texts of forest management plan together.

(6) Review and revision: In accordance with the relevant requirements on administration of forest management plan, the plan was submitted to Tonggu County Forestry Bureau for opinions, and was revised and finalized in accordance with reviewing comments.

Table 6-1 Procedure of Participatory Forest Management: Stages, Steps, Results, Activities and Tools

Stages	Steps	Results	Activities	Tools /Materials
1. Preparation	1. Current information	1. Strengthen collaborators' understanding on forests and villages 2. Help with coordinating and handling key problems 3. Schematic diagram of current status of village resources 4. Main contents and references	1. Determine resources and collect information from different departments 2. Analyze and synthesize information 3. Determine and interview key information people	1. Determine key information person and data 2. Semi-structured interview: theme, sub theme and summarization 3. Analyze existing materials

	2. Inform government officials, village cadres, FFC leaders and members	1. Obtain support from government officials, village cadres, FFC leaders and members 2. Member candidates of forest farmer planning group	1. Inform government officials, village cadres and FFC leaders about processes and principles 2. Select candidates / participants of forest farmer planning group	1. Leaflets 2. Selection standard for forest farmer planning group
	3. Inform participants	Know why and how to compile participatory forest management plan and its procedures	1. State procedure 2. Explain provisions in process of compilation	1. Compilation cycle of participatory FMP 2. Examples of rules for participatory monitoring
2. Participatory approaches	4. Evaluation outline	Outline of villagers' evaluation and analysis	Prepare analysis outline	Evaluation standard of forest management system
	5. Evaluation on current situation of forest management system	1. Development baseline of current status and priority 2. Act as basis on determination of strengths, weaknesses, opportunities and threats	Evaluate forest status, utilization, management and administration	1. Theme and sub-theme of evaluation 2. Current status map of village resources 3. Field interview and field trip 4. Sequencing
	6. Discussion about future development	Understand past changes and future development to identify opportunities and threats	1. Analyze recent changes 2. Identify future development trends	Analysis of development trends
3. Compilation of participatory forest management	7. Strategic choices and planning	Analyze findings to determine strategic choices	1. Determine strengths, weaknesses, opportunities, threats 2. Determine strategic choices 3. Screen strategic choices	1. SWOT 2. Opportunities and analytical determination 3. Screening of strengths and weaknesses
	8. Forest management development planning	Development and action plans	1. Logical framework 2. Long-term planning 3. Medium-term planning (5 years) 4. Annual plan	1. Issue/Target tree 2. Logical framework

4. Participatory monitoring	9. Monitoring objectives and results	Monitoring tasks and responsibilities	Assign tasks and responsibilities (who, what, how, and when to monitor)	Suggestions
	10. Monitoring results and impacts	Outline of monitoring effects of action plan	Determine indexes and methods of each standard	Village-level target system for sustainable forest management
5. Feedback and share	11. Preparation and share on first draft of plan	Report of findings and recommendations	1. Prepare report of findings and recommendations 2. Ask for opinions of key stakeholders	Suggestions on outline and process
	12. Evaluation and share on final draft of plan	1. Recommendations to improve procedures 2. Make consistent recommendations	1. Evaluation of plan and its procedures 2. Submit plan to the county forestry bureau and ask for opinions	Suggestions on outline and process

6.3.2 Structure and contents of forest management plan

There are seven parts in forest management plan, including “(1) Basic Situation of Forestry Cooperative or Villager Group, (2) Evaluation of Forest Management, (3) Objectives of Forest Management, (4) Forest Cultivation, (5) Forest Cutting, (6) Cultivation and Utilization of Non-wood Resources and Biodiversity Conservation, as well as (7) Investment and Benefit Analysis”. See Table 6-2.

Table 6-2 Structure and Contents of Forest Management Plan in Villager Group/FFCs

Modules	Categories	Contents
Basic Situation of Forestry Cooperative or Villager Group	Natural Conditions	Geographic Location
		Geographic Topography
		Climate
		Soil
	Social Economic Status	Population and Labor Force Incomes and Income Sources
Forest Resource Status	Forest area and growing stock of various types	
Evaluation and Analysis of Forest Management	Comprehensive Analysis of Forest Resource Status	
	Situation of Forest Management	Changes and Management status of Forest Ownership and Management Forms
	SWOT Analysis of Forest Management	Strengths
		Weaknesses
		Opportunities
Threats		
Objectives and Layout	Management Guidelines and	

of Forest Management	Principles	
	Management Objectives	Five-Year Objectives
	Management Types	Public Welfare Forests
		Commercial Forests
Specific Management Measures		
Forest Cultivation	Afforestation Expenditures of Each Compartment in Next Five Years	
	Reclamation Expenditures of Compartments in Next Five Years	
Forest Cutting	Principles of Forest Cutting	
	Cutting Methods	Cutting Methods of Firs
		Cutting Methods of Moso Bamboos
Cutting Planning		
Cultivation and Utilization of Non-wood Resources and Biodiversity Conservation	Distribution and Characteristics of Non-wood Resources	
	Management Utilization and Protection of Non-wood Resources	
	Forest Protection	Forest Fire Prevention Measures
		Prevention and Control of Forest Pests and Diseases
	Biodiversity Conservation	Current Conditions and Distribution of Plants and Animals
Conservation Objectives and Measures		
Investment and Benefit Analysis	Investment Estimation	
	Incomes	
	Analysis of Economic Benefits	
	Analysis of Ecological and Social Benefits	

6.4 Deficiency on knowledge and ability of forest farmers when participating in compilation of forest management plan

The participatory methods are a kind of work process where forest farmers act as mainstay, and where forest farmers get together to identify problems, analyze problems and solve problems. In the process of course training, theory application, and compilation of participatory FMP, the Project Team introduced the participatory methods, used language and tools that were easy to understand by forest farmers, and helped the planning group to complete FMP. The compilation of FMP was complex and highly professional; moreover, the forest farmers had never done it before,

so there were some difficulties for forest farmers, being reflected as follows:

(1) Lack of expertise. Most members of the planning group were graduated from junior high schools. They lacked of expertise or did not understand the professional knowledge for compilation. For example, the forest farmers only knew the metes and bounds of forest compartment, but they could not link them with planning map.

(2) Low-literacy level. Before carrying out this project, the forest farmers and members of planning group had never heard of participatory management, participatory method, and they had not been involved in compilation of any FMP. Due to restrictions of low-literacy, they had difficulty in understanding the training contents. During the compilation process of FMP, some members behaved badly in discussion and speeches because of their poor analysis ability of current situation and future management. Their writing skills were poor, too.

6.5 Assessment on Capacity Building

6.5.1 Assessment on capacity building in Sanxi Village

Through more systematic training and practical application of participatory forestry management, the forest farmers, especially members of planning group of the cooperative had experienced the process from "never heard of it", to "know the name of it", to "understand the contents of it", to "actually participate in it". Therefore, the forest farmers not only had conceptual changes, but also had the access to new knowledge and new experiences of forest management.

First, through this training, forest farmers and members of the cooperative learned that forest farmers' participation in forest management was being strengthened. As the owners of forests, they realized their roles and status would be changed in future forest management.

Second, through participatory training and participation in compilation of FMP, the forest farmers had better understanding on current problems in forest management; they had clear understanding of forest management targets, too. More importantly, the awareness and capacity of forest farmers to participate in forest management had been increased.

Third, the lagging thoughts of forest farmers ideas in forest management had been changed. Before the forest tenure reform, the forest farmers had limited rights of self-management; they were passively obliged to participate in forest management activities in accordance with the "top down" management requirements.

In addition, the direct effects of participatory training and theoretic application were to enable farmers, especially members of planning group, have the capacity of compiling FMP, thereby completing the *Forest Management Plan of Shuangxi Forestry Cooperative* as the results of participatory training and theoretic application. The cooperative planning group declared that there were four "first-times" in the compilation process: the first time to mark all the plots owned by the

cooperative on a map; the first time to comprehensively and systematically analyze conditions and environment of forest management; the first time to make FMP for the next five years; and the first time to have a FMP belonging to their own cooperative, which was the significant basis for the design of various forestry programs and operations of Shuangxi Forestry Professional Cooperative, and had positive guidance functions for adopting more scientific management measures, promoting the management level, and achieving the sustainable forest management.

6.5.2 Assessment on capacity building in Dacao Village

(1) The awareness and capacity of forest farmers to participate in forest management were improved. Through the participatory training and participation in the compilation of FMP, the forest farmers had better understanding on current problems in forest management; they had clear understanding of forest management targets, too. More importantly, the awareness and capacity of forest farmers to participate in forest management had been increased.

(2) The forest farmers gained the knowledge of forest management and more information. Through the participatory training and specific application, the forest farmers not only learned relevant knowledge of forest management, but also understood the process and technique of FMP compilation. They would be able to apply the knowledge to current forest management and future development of forest industries, so as to promote their incomes. In addition, in the process of participatory training and specific application, the forest farmers learned information and knowledge of forest management directly or indirectly, such as forestry policies and regulations. Their horizons have been broadened through answering questions, discussion, and introduction of training contents by trainers.

(3) Exchanges between government staffs and forest farmers were improved. Due to institutional system of China, where the working method "from top to down" has been used in forest management, the forest farmers did very little or nothing in decision-making, and the demands and benefits of forest farmers hadn't obtained enough importance. The results of this working and decision-making style was divorced from realities of forest farmers, thereby creating the misunderstanding and mistrust between the government and forest farmers. Through the introduction of participatory methods in training and capacity building, all stakeholders participated in training and compilation of FMP, the government staffs and forest farmers had equal extensive communications and interactions. In the long run, the government's ideas, ways, and methods could be improved, which makes decision-making results more realistic to solve difficult problems in rural China. The technological level of forest farmers and their consciousness of equal participation were improved. The forest sustainable management was better promoted.

There is no FFC for production purpose in Dacao Village, but forestry is the main business industry and source of income. Thus, the participatory training and compilation of "Forest

Management Plan of Dacao Village Group" can improve the awareness and ability of participation of forest farmers, who have realized that the scientific forest management and cutting measures could increase productivity. The forest farmers also recognized the weaknesses of small businesses, as well as the strengths of FFCs and scale management. With continuous introduction and implementation of preferential policies in funding and cutting, Dacao Village will have more incentives to promote production and establishment of FFCs.

7 Review on forest management policies and systems at state, province and county level

Through the questionnaires and interviews, the policies related to forest management of two project villages in Dacao Village and Sanxi Village at state, province and county level cover the scope of cutting quotas, forestry taxes, micro-finance, compensation fund management of ecological public welfare forests, non-wood forest products, and supporting policies of special industry. This report is going to review and sort out the changes of these policies and systems at state, province and county level, particularly the changes before and after the forest tenure reform.

7.1 Cutting quotas administration system

The cutting quotas system is one of the basic systems stipulated by the *Forest Law*, limiting the forest cutting within a certain amount during a given. In China, the forest cutting quotas system is implemented. The fundamental principle for annual forest cutting quotas is that the timber forest consumption should be lower than annual forest growth. It is based on the reasonable annual cutting amount determined in forest management plan. The compilation process of cutting quotas is as follows: As far as the state-owned forests and trees are concerned, the state-owned forestry enterprises and institutions, farms, factories and mines present the annual cutting quotas targets of their own. As far as the collective-owned forests and trees are concerned, the county does so. It is reported level by level to forestry departments of the province (autonomous region, municipality), and it is reviewed and balanced by the government at same level and sent to the State Council for approval, and copied to the State Forestry Bureau. Once the annual cutting quotas is approved and issued, it will become the basis for compilation of annual timber production plan and cutting application. The cutting that exceeds the cutting quotas, or excessive issue of cutting permits, is considered illegal. The system of national forest cutting quotas has been implemented since 1986, and revised every five years.

7.1.1 Changes of cutting quotas administration system at state level

Before 1985, what was implemented in China was timber production plan, which primarily focused on tasks of forestry timber production. Due to years of over-exploitation, the national forest coverage and recoverable resources had been decreased significantly by the 1980's. The *Forest Law of the People's Republic of China* enacted on January 1, 1985 clearly states that : In compliance with the principle that the consumption of timber shall be lower than the growth, the State shall impose strict controls over the annual forest cutting volume. In order to implement the *Forest Law*, the Ministry of Forestry issue the *Interim Provisions on Developing Annual Forest Cutting quotas* in June 1985.

The annual forest cutting quotas of "Seventh Five Year Plan" was approved in 1987. In the same year, the *Administrative Measures on Forest Cutting and Regeneration* was promulgated to provide rules and regulations of cutting methods and cutting area of timber forests. China had implemented the five periods of cutting quotas in every five years between the "Seventh Five Year Plan" and the "11th Five Year Plan".

In 1998, the Second Meeting of Ninth NPC Standing Committee examined and approved the *Decision on Modification of Forest Law of the People Republic. China*, confirming once again the legal system of forest cutting quotas.

In July 2009, the *Suggestions on Reforming and Improving Collective Forest Cutting Management* issued by the State Forestry Bureau clearly states that, the timber cutting on non-forest lands is not included in quota administration, the forest lands are the resource basis on guaranteeing the state ecological security and timber safety, the forest cutting quotas administration system shall be implemented. The *Suggestions* adjusted the cutting quotas from unilateral growing stock control into the double control of "growing stock, and timber volume".

7.1.2 Changes of cutting quotas administration system in Jiangxi Province

The *Interim Procedures on Administration of Forest Cutting quotas* of Jiangxi Province put into force in 1991 in accordance with the *Forest Law of the People's Republic of China* and relevant regulations of its implementation rules etc., so as to strengthen the administration of forest cutting quotas, control forest resource consumption, and ensure sustained yield of forests, according to The *Interim Procedures on Administration of Forest Cutting quotas of Jiangxi Province* was discussed and passed on January 15, 2002 by Jiangxi Province People's Government, regulating the issuance of forest tree cutting certificate, of which the effective service life couldn't be used beyond the year.

The *Suggestions on Strengthening the Administration of Forest Cutting quotas in Jiangxi Province during the “Eleventh Five Year Plan”* was issued by Forestry Department of Jiangxi Province in 2006, regulating the continuous implementation on plan administration of annual wood production quotas during the “Eleventh Five Year Plan” with the plan of annual wood production quotas being compiled from bottom to top.

The *Forest Ordinance of Jiangxi Province* promulgated in 2007 regulated that: the public welfare forests are prohibited from commercial cutting. If the forest cutting is needed due to cultivation, regeneration or natural disasters such as forest fires, it should be reported to relevant forestry departments for approval. The commercial moso bamboo forests can be independently cut by production operators, but the verified annual cutting quotas shall not be exceeded. The moso bamboo under four years old shall not be cut. The standing bamboo number in moso bamboo forest shall be not less than 1500 plants per hectares after being cut.

According to *Suggestions on Reforming and Improving the Administration of Collective Forest Cutting by State Forestry Bureau*, the forest tree cutting administration system in Jiangxi Province was adjusted in 2009 to improve the forest cutting quotas (plan), fairly and rationally allocate cutting indexes, deregulate the cutting administration of commercial forests, and strictly control the cutting of ecological public welfare forests, and strengthen the inspection and supervision of forest tree cutting, as follows:

(1) Optimize the implementation environment of cutting quotas system. Beginning in 2010, approval procedures of cutting has been simplified. Forest managers can apply for cutting quotas from local forestry workstation, or directly from the county forestry department in charge of cutting applications. After the cutting indexes are approved, the township forestry station, or the county forestry authorities can issue cutting permit. The other intermediate verification work has been cancelled.

(2) To reform cutting control system of wood and bamboo. The bamboo and trees whose diameter is less than 10cm are not included in the production plan. The cutting of wood and bamboo can be approved by county forestry department in accordance with provincial cutting quotas. They can be utilized immediately if qualified. Priorities are given to the cutting amount of over-mature and mature timber planted forest, and the forest for directed cultivation of industrial raw material. The cutting within the cutting quotas will be approved when it is qualified and applied for. Meanwhile, the bamboo cutting range has been expanded. The ecological bamboo forests are allowed to be cut for tending and reforestation.

(3) To adjust the scope of cutting quotas. The trees planted in non-forest land, and the seedlings planted on nursery grounds by artificial seeding or cultivated by cutting propagation are not included in the cutting quotas.

(4) To simplify the structure of cutting quotas. Since the “Twelfth Five Year Period”, the cutting modes of commercial forest are simplified from clear cutting, selective cutting during tending, cutting for regeneration, transformation of low-yield forest and other cutting to clear cutting, cutting during tending, and other cutting. Selective cutting during tending and other cutting can occupy cutting quotas. The cutting modes of ecological public welfare forests can be divided into cutting for regeneration, selective cutting during tending and other cutting. The cutting quotas were no longer divided in accordance with consumption structure (commercial timber and non-commercial timber) or stand origins (planted forest and natural forest).

(5) The cutting age of commercial forest can be determined by the forest farmers themselves. The remaining cutting quotas of commercial forest can be used in the next year, but that of ecological public welfare forest cannot.

7.1.3 Changes of cutting quotas administration system in Tonggu County

(1) Before and during the "Eleventh Five-Year Plan”

Before and during the "Eleventh Five-Year Plan", Tonggu County carried out the administrative policies on forest cutting quotas in accordance with national and provincial regulations. The forest cutting quotas were checked and ratified in every 5 years. The annual cutting quotas disassembled and transmitted to Tonggu County by the province was that the annual cutting with diameter at breast height of more than 5 cm was the maximum limited quantity of forest storage, which cannot be exceeded. Various cutting quotas couldn’t be mutually swapped, diverted, or used beyond the year.

The determination process of cutting quotas was from bottom to top at first, and then from top to bottom: first, the cutting quotas were reported level by level from individuals, groups, villages, and townships to the county. Higher authorities determined the annual cutting quotas based on actual situation of class II investigation, and then issued indexes to county, townships, villages, groups, and individual farmers. The forest farmers were informed about cutting quotas through the method of two public notifications. The cutting quotas not being used couldn’t be used in the next year. The cutting quotas of state-owned forests were allocated to the level of forest farms, and the cutting quotas of collectives were allocated to the county level.

During the "Eleventh Five-Year Plan", the amount of commercial forest cutting quotas was 157,040 cubic meters per year, which included the cutting quotas of 19,184 cubic meters for five state-owned forests, and 137,856 cubic meters for collective forests. See Table 7-1 and Figure 7-1.

Table 7-1 Cutting Quota of Tonggu County during “11th Five-Year Plan”

Unit	Total	Cutting Mode	Consumption Structure
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	(m ³)	Clear Cutting	Intermediate Cutting	Regeneration Cutting	Transformation of Low Yield Forest	Other Cutting	Commercial Timber			Non-commercial Timber
							Cutting Amount	Output	Output Rate	
Tonggu County	462203	22.3169	10.4461	1.583	8.7398	3.1345	25.3156	15.754	62%	20.9047
Unit	Total(m ³)	Planted Forest					Natural Forest			Moso Bamboo (10,000 plants)
		Total Amount	Commercial Timber		Industrial Timber		Total	Commercial Timber		
			Cutting Amount	Output	Cutting Amount	Output		Cutting Amount	Output	
Tonggu County	462203	21.124	17.1202	10.6928	13.3569	8.288	25.0963	8.1954	5.0612	477.2887

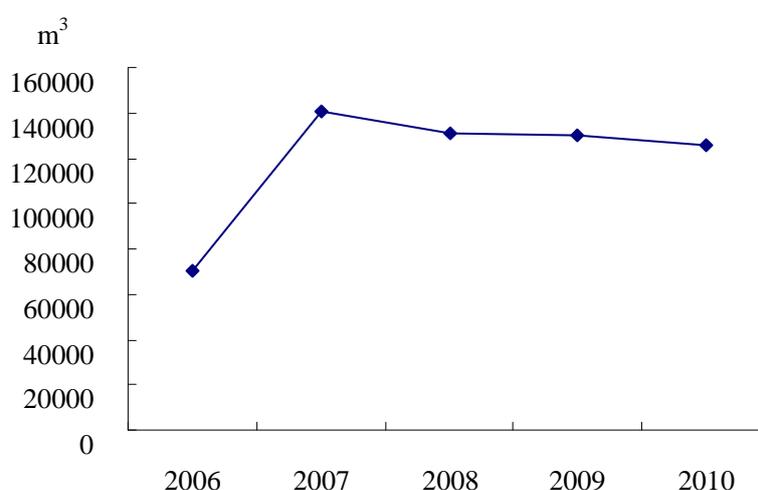


Figure 7-1 Cutting quotas during “11th Five-Year Plan”

(2) Policies in special years

After the snow and ice disaster in 2008, the approval procedures were simplified and the additional cutting indexes were added in Jiangxi Province in accordance with the *Urgent Notice on Efforts to Clean Affected Forest Trees* issued by the State Forestry Bureau.

(3) Administrative pilots of Cutting quotas from 2009 to 2010

In 2009, the State Forestry Bureau agreed that provinces, autonomous regions and municipalities including Tianjin City could carry out the reform pilots on forest cutting administration. At present, there are 102 cutting quotas pilots. Jiangxi Province is one of the pilot provinces, which has listed 12 counties (cities) including Tonggu County as reform pilot units on cutting administration management, launching the work of reform pilots for two years.

The cutting quotas are one of the basic policies of forest cutting administration. The reform of forest cutting administration continuously optimizes cutting administration system under the premise of adhering to changeless forest cutting quotas system.

In 2009, Tonggu County carries out the reform pilots according to implementation opinions approved by Forestry Department of Jiangxi Province. The biggest difference was that the pilot counties only have two cutting methods of clear cutting and selective cutting without distinguishing the cutting types.

7.2 Forestry taxes

Forestry taxes refer to taxes and charges collected on wood, forest wood, and other derivative products, including two parts of forestry taxation and forestry charges. Forestry taxation can mainly be divided into two categories: forest taxes and forest land taxes. The forest taxes can be divided into two categories of log taxes and bamboo wood taxes. The forest land taxes mainly refer to the forest vegetation recovery charges.

7.2.1 Changes of state forestry tax policies

(1) Forestry taxes

From 1983 to 1987, the agricultural and forestry specialty product taxes, income taxes and product taxes were gradually collected by the state. The income taxes were collected at the beginning of first step of taxes for profits, the tax rate of product taxes to woods were 10%.

From 1987 to 1994, the value-added taxes of wood processing products including sawn timber etc. were collected in accordance with 14% of processing added value. The agricultural and forestry specialty product tax of logs was unified to 8%.

In 1994, the state conducted the significant reform to tax system, establishing the turnover tax system with value-added taxes as main part, merging the agricultural and forestry specialty product taxes with product taxes to change into agricultural specialty product taxes, and beginning to collect income taxes again.

Since January 1, 2001, all the enterprises and public institutions including the state-owned enterprises and public institutions have been temporarily exempted from corporate income taxes for incomes obtaining from their plantations of forest trees, forest tree seeds, nursery-grown plants, as well as preliminary processing of forest tree products.

The agricultural specialty product taxes have been gradually repealed since 2004.

(2) Forestry Charges

According to the *Notification on Issuance of Catalogue of Administrative Charge Items Collected Nationally or by Central Government Departments and Units in 2004* released by the Ministry of Finance and National Development and Reform Commission, the charge items related to forestry include: the administration charges of import and export of wild animals and plants, forest plant quarantine charges, afforestation charges, charges of land and wildlife resources protection and

management, charges of forest tenure investigation, charges of new plant variety protection right, certificate charges (such as forest tenure certificate).

(3) Forestry governmental funds

First, the afforestation funds and renovation fund of southern collective forests (that is, the maintenance funds.) The management units of wood and bamboo in production area are collected 20% of first sales price (the afforestation funds is 12%, plus the maintenance fund of 8%). In some provinces, autonomous regions difficult to collect the tax, the tax can be reduced, but to not less than 15% of sales revenue. Most of afforestation funds and maintenance funds are not handed over the province but left to timber-producing counties. In 2009, in accordance with national regulations, the afforestation funds did not exceed 10% of forest product sales revenue. The specific criteria could be determined by relevant departments of provinces, autonomous regions and municipalities after considering the affordability of forest production and management units and individuals. In areas with appropriate conditions, the afforestation funds may not be charged.

Second, the forest vegetation restoration charges collected for the compensation for woodland occupation, such as road construction.

In summary, the characteristics of taxes at national level are as follows: the overall forestry taxes tended to decrease; some taxes have been gradually phased out; and the taxes are dominated by governmental funds.

7.2.2 Changes of forestry tax policies in Jiangxi Province

(1) Reform of Forestry Taxes

In order to entirely alleviate the forest farmers' tax burden in forestry production and management, and match with the forest tenure reform, the collection of forestry taxes in Jiangxi Province was specified and regulated in 2005, which could be summarized as "two abolitions, two adjustments, and one regulation". The "two abolitions" means the abolition of taxes on special agricultural products such as woods and bamboos (the funding gap would be filled by financial transfer payments) and abolition of wood and bamboo charges collected at levels of city, county, township and village. For the "two adjustments", first, the adjustment of average billing prices of afforestation funds (the billing price of directly cultivated industrial raw material forests and intermediate cutting woods with diameter at breast height of more than 10cm (including 10cm) had been adjusted to RMB 180/m³ and the other commercial timber to RMB 360/m³ RMB 1 would be collected from each plant of standard bamboo); second, the adjustment of sharing proportions of collective afforestation funds. The provincial and municipal governments surrender 7% of the fund to townships. That is, the afforestation funds of four levels of province, city, county (city and district), township (town) governments are respectively divided into 8%, 15%, 70%, and 7%. The "one regulation" means the regulation on collection scope of value-added taxed

and income taxes. The incomes obtained from logs and original bamboos obtained from self-produced and self-marketed wood and bamboo production units and individuals shall be exempted from value-added taxes and temporarily from income taxes pursuant to the law.

In 2010, Jiangxi Province uniformly adjusted again the billing prices of afforestation funds. The billing price of timber with diameter at breast height below 10 cm (including 10 cm) from forests directly cultivated for industrial raw materials was RMB 350/m³; and the billing price of timber with diameter at breast height over 10 cm was RMB 700/ m³. RMB 1 of afforestation fund was collected from standard bamboos (1 foot long or longer). RMB 0.10 per inch was collected from bamboos shorter than the standard. The afforestation fund of collective forests was withdrawn and retained by three levels of province, county (city) and township (town) with the ratio of 8%, 85% and 7% respectively.

(2) Forest vegetation recovery charges

The tax collection methods of forest lands in Jiangxi Province completely refer to national regulations without provincial level adjustment. For the collected forest vegetation recovery fee, 20% is remained in provincial forestry department, and 80% is decentralized to counties.

7.2.3 Changes of forestry tax policies in Tonggu County

(1) Reform of forestry taxes

Before the forest tenure reform, the base prices of forest trees were as follows: the base price for fir was RMB 450/m³ with the tax rate of 20%; the base price of pine was RMB 550/ m³ with the tax rate of 20%; the base price of hardwood was RMB 650/m³ with the tax rate of 20%. After the forest tenure reform, from September 2004 to December 2009, all the base prices were adjusted to RMB 360 /m³ with the tax rate of 20%. The base price was raised to RMB 700/m³ in 2010, but the tax rate was cut to 10%.

Taking the fir wood as the example, the total of RMB 260.52 was collected on fir wood per m³ in Tonggu County in 2003, including RMB 36.12 of special agricultural product tax, RMB 12.9 of income tax, RMB 86 of afforestation fund, RMB 2 of quarantine charge, RMB 1.5 of wood transportation certificate charge, RMB 7 of calibration charge, RMB 60 of township overall planning charge, and RMB 55 of village reserve money. In 2005, the market price of fir logs was RMB 420/m³; among which RMB 74 of taxes and charges was collected, including RMB 72 of afforestation funds, RMB 2 of quarantine charge. In 2010, the base price was raised according to market prices, but the tax rates was decreased to RMB 72/m³; including RMB 70 of afforestation funds and RMB 2 of quarantine charge.

Table 7-2 Comparison between Forestry Taxes before and after Forest Tenure Reform

Types of Taxes and Charges	Average Base Prices for Collection (RMB/m ³)			Standards for Collection			
	After	2004	2010	Units	Before	2004	2010

		Forest Tenure Reform				Forest Tenure Reform		
Taxes	Special agricultural product tax	450	-	-	%	8.4	-	-
	Income tax	450	-	-	%	3	-	-
	Afforestation fund	450	360	700	%	20	20	10
Charges above Provincial Level	Quarantine charge	450	360	700	yuan/m ³	2	2	2
	Wood transportation certificate charge	450	-	-	yuan	1.5	-	-
Charges at County Level	Calibration charge for wood and bamboo	450	-	-	yuan/m ³	7	-	-
Charges at Township Level	Township overall planning charge	450	-	-	yuan/m ³	60	-	-
Charges at Village Level	Village reserve money	450	-	-	yuan/m ³	55	-	-

Before the forest tenure reform, the average tax of bamboo was RMB 1.6/bamboo, being brought down to RMB 1/bamboo. This is the average price of standard bamboo (a bamboo with the length of 1 foot). If the bamboo is 1 inch longer, the price would rise RMB 0.1. If 1 inch shorter, the price would fall RMB 0.1. But the size difference of bamboo cannot be easily determined by naked eyes, so RMB 1 /bamboo was collected in order to facilitate pricing.

(2) Forest land taxes - forest vegetation restoration charges

The collection methods of forest vegetation restoration charges are fully in accordance with national regulations. Before the forest tenure reform, there were no forest vegetation restoration charges. After the forest tenure reform, the transitions of woodlands and woods became frequent. A lot of large forest holders wanted to improve transportation conditions and save transportation costs. Therefore, the applications for forest road construction have been increased. Forestry Bureau of Tonggu County annually approves average of 20-30 cases of such applications.

7.3 Microfinance Policies

Aimed to address poverty, the microfinance policies are financial instrument to loan the credit funds to poor households, forest farmers and small enterprises. China has experienced the process from initial pilot phase of virtually no government funds to the development stage that the governments actively promote microfinance policies and rural formal financial institutions become fully involved in.

7.3.1 Forestry microfinance policies at national level

In line with the reform of collective forest tenure system, The *Guiding Opinions on Reform of Collective Forest Tenure System and Development of Financial Services* was issued by the State in 2009. The *Guiding Opinions* requires that: in areas where the reform of collective forest tenure system has been implemented, the banking financial institutions should actively provide services of forest tenure mortgage, micro credit loans and guaranteed loans for forest farmers. Meanwhile, the local government should promote the establishment of new-type rural financial institutions like rural banks, rural finance credit unions and loan companies in conditional forestry key counties, so as to promote the formation of lending market system which a variety of financial institutions get involved in. The forestry loan period should be reasonably determined and can be extended to 10 years. The real interest rate of microfinance should not exceed 1.3 times of benchmark rate. In addition, the credit services should be improved, the forestry credit authority should be reasonable expanded, the loan procedures should be optimized, and approval procedures should simplified, so as to promote the development of "one-stop" services of financial supermarket.

In order to make the realization of forest tenure mortgage, article 17 of *Guiding Opinions* also specifically provides that the financial institutions should develop credit products suitable to forestry development and broaden forestry financing channels. The forestry credits should be increased, the forestry loan financial discount policies should be improved, the security modes of forest credit should be developed, and the sound system of forest tenure mortgage should be perfected.

7.3.2 Forestry microfinance policies in Jiangxi Province at provincial level

In recent years, The Forestry Department of Jiangxi Province has promulgated a number of guiding opinions with financial sectors providing financial support for forestry reform and development: the *Guiding Opinions on Entirely Implementing Financing Support Services for Forest Tenure Reform in Jiangxi Province* with People's Bank of Jiangxi Province and Jiangxi Insurance Regulatory Commission, the *Guiding Opinions on Entirely Promoting Forestry Credit Work* with Jiangxi Agricultural Development Bank, the *Guiding Opinions on Entirely Developing Forest Tenure Mortgage Financing* with Rural Credit Cooperative of Jiangxi Province, the *Guiding Opinions on Actively Promoting Forest Tenure Mortgage Financing Services* with Jiangxi Agricultural Bank, the *Notices on Entirely Developing Forest Tenure Mortgage Financing* with Jiangxi Branch of Bank of China, the *Implementation Program of Policy Forestry Insurance Pilots in Jiangxi Province* with Provincial Financial Department of Jiangxi Province, Insurance Regulatory Bureau of Jiangxi Province, and Jiangxi Branch of PICC Property and Casualty. The

promulgation of these policy documents have effectively brought forwards policy safeguards for local financial institutions to successfully carry out financial services innovation of forest tenure mortgage.

From 2006 to the end of June 2009, the financial sectors of Jiangxi Province issued RMB 6.53 billion mortgage loans to forest farmers and forestry companies, which not only promoted the transfer of forest resources, but also solve the problems of capital shortage. It also fully reflected the value of forest tenure certificates, realizing changes from asset management of forest resources to capital operation of forest resources.

Beginning in 2007, Jiangxi Provincial Financing Department has annually arranged RMB 10 million of discount funds for the forest tenure mortgage, mainly for micro-mortgage loan interest subsidies. In 2008, Jiangxi Province was included in the list of micro-credit pilot provinces subsidized by the central government. RMB 726,224,400 of forestry small loans was issued in 2009, with RMB 21,649,200 of discount capital. As a measure to deepen the forest tenure reform, the small subsidized loans provide support for forest farmers and forestry workers in forest management activities, like construction and tending of fast growing forest, development and transformation of low-yield forests, effectively alleviating farmers' plight of insufficient funding, especially loan problems of low-income groups in rural areas.

In 2009, 510 million mu of province's ecological public welfare forests was insured against fire, and 60% of commercial forests' insurance expenses were subsidized (30% from central government subsidies, 25% from provincial subsidies, 5% from county subsidies).

7.3.3 Forestry Micro-financing policies of Tonggu County

Tonggu County was the first in Jiangxi Province to implement microfinance policy in 2005. At present, there are three forms of micro-financing including the forest tenure certificate mortgage loan, micro-credit loan, and mode of "financial institutions + bonding company + forest farmers". Tonggu Rural Credit Cooperative, Agricultural Development Bank, and Agricultural Bank can issue forest tenure certificate mortgage loans, according to the regulations being formulated together with forestry departments. Of all the loans, 70% was issued by rural credit cooperatives, 20% by Agricultural Bank, 10% by Agricultural Development Bank. The forest farmers mainly demand for loans between RMB 50,000 and RMB 100,000 with a period of 1-3 years. RMB 25 million of forestry loans was completed in 2010, and RMB 162 million has been accumulated since 2005.

7.3.4 Afforestation project in Jiangxi Province with Japanese Government loan

Jiangxi Afforestation Project funded by Japanese Government Loan is a foreign-funded project started in 2004. According to memorandum of the project, the total amount of the loan amounted to ¥7,507 million, equal to RMB 52.549 million. The annual interest rate of project loan is 0.75% with repayment period of 40 years and a grace period of 10 years. Japan Bank for International Cooperation (JBIC) charged one-time handling charges of 0.1%, and Export and Import Bank of China charged the on-lending charges of 0.25%. The project aimed to provide subsidies for afforestation of timber forests, protective forests and economic forests, bamboo forest transformation, tending of young and mid-aged forests, transformation of natural broad-leaved forests and low-yielding forests.

The contents of the project mainly include: the afforestation, transformation of low-yielding forests, bamboo forest transformation, as well as forest thinning and tending. The preconditions of the project were the clear forest tenure. The prerequisite of loan application was the forest tenure certificate with more than 30 years of forest tenure. Because the project's loan quotas were generally adequate in Tonggu County, so the applicants basically meeting the requirements of the project could get the loan. The project loan standard was RMB 80/ mu with the loan interest rate was 1%. According to the project's requirements, the loans had a 10-year grace period, when they just paid the interests. After 30 years, they had to pay off both principals and interests. During the 7-year project period, a total of RMB 10.6138 million was loaned out in Tonggu County. A total project area of 6,501 hectares had been afforested or transformed. The project covered 6 towns including Paibu Town, 3 townships including Gaoqiao and 4 forest farms including Chashan.

7.4 Compensation fund management system public welfare forests

The issuance of ecological public welfare forest benefit compensation was raised in China at late 1980s and early 1990s. The ecological compensation funds were established by the central government finance department in 2001. The pilot program of compensation fund was implemented in 11 provinces, 658 counties, and 24 national nature reserves with total investments of RMB 1 billion, involving a total of 0.2 billion mu of forests. After a 3-year pilot implementation, the formal establishment of central forest ecological benefit compensation funds was established in 2004, with RMB 2 billion of subsidies for every year, involving a total of 0.4 million mu of forests. The subsidies covered the whole country. In 2001, the forest ecological

compensation funds were officially incorporated into national public finance budget expenditures, indicating that China began a new stage of forest ecological service payment.

According to the *Forest Law* and *Forest Law Enforcement Regulations*, State Forestry Bureau and Ministry of Finance jointly issued the *Key Measures to Define and Demarcate Ecological Public Welfare Forests* to implement the central government's forest ecological benefit compensation. Meanwhile, the local ecological public welfare forests defined by local provinces were compensated by local finance, according to their demands for ecological protection.

7.4.1 Compensation policies of public welfare forests at state level

The national ecological public welfare forests is the key protective forests or forests for special use whose ecological niche is very important or extremely fragile, and has an important role to play in land ecological security, biodiversity conservation and sustainable development of economy and society, and whose objectives are to bring its ecological social services to full play.

In 2004, the Central Compensation Fund's average annual subsidy standard was RMB 5 per mu, of which RMB 4.5 was used for compensation expenses, RMB 0.5 million for other public expenditures like forest fire prevention.

In 2007, the annual average subsidy standard of central compensation fund was also RMB 5 per mu in accordance with compensation areas approved by the state. Among them, RMB 4.75 was used for management and protection of key ecological public welfare forests, RMB 0.25 for expenditure of provincial inspection on management and protection of key ecological public welfare forests, fire prevention work like the construction of fire barriers in inter-regional key ecological public welfare forests, and road maintenance in forest area.

In 2010, the annual average subsidy standard of the central compensation fund was RMB 5 per mu, too. The annual average subsidy standard of state-level ecological public welfare forests owned by collectives and individuals was RMB 10 per mu, of which RMB 9.75 was subsidized for management and protection expenditures, RMB 0.25 for public expenditures of management, protection, supervision, and inspection, monitoring that local authorities carried out on national-level ecological public welfare forests, forest fires prevention and fire-fighting, forest pest control and so on.

7.4.2 Compensation fund of ecological public welfare forests in

Jiangxi Province

Jiangxi Province is one of the key forestry provinces in south China. It has a total forested area of 10.72 million hectares, 10.5345 million hectares of forests, and a forest coverage rate of 63.1%, sharing the first place with Fujian Province. Jiangxi Province began the pilot program of central ecological benefit compensation funds in 2001. It was one of the first pilot provinces to implement

this program. The ecological public welfare forests in Jiangxi Province were classified into 4 categories including national ecological public welfare forests, provincial ecological public welfare forests, district ecological public welfare forests and county ecological public welfare forests.

The scope and criteria of forest ecological benefit compensation funds in Jiangxi Province were clearly defined in 2002. An ecological public welfare forest compensation mechanism was established in Jiangxi Province in 2005, whose financial budgets of compensation funds at all levels amounted to more than RMB 30 million. In 2006, the provincial-level ecological benefit compensation system was established and it arranged RMB 50 million for forest ecological benefit compensation, besides 30.62 million mu was subsidized by the central forest ecological benefit compensation funds. The area included in provincial financial compensation was 1,000 mu. The compensation standard was RMB 5/ mu.

In 2007, 5,100 mu of forests in Jiangxi Province was listed in the ecological public welfare forest compensation area, of which there was 3,062 mu of national key ecological public welfare forests, 2,038 mu of provincial ecological public welfare forests whose compensation standards were raised to RMB 6.5/mu. The national compensation standard was raised too subsidized by the provincial financial arrangements. The provincial compensation fund reached to RMB 1.78 billion, of which RMB 46 million was used to improve the state-level ecological public welfare forest compensation.

In 2008, the annual national compensation standard was further increased to RMB 8.5 / mu., which caused a total of RMB 280 million invested by the provincial finance department, RMB 107 million of which was used to improve state-level ecological public welfare forest compensation.

In 2009, the structure of ecological public welfare forest was adjusted. The state-level ecological public welfare forest area reached to 32.373 million mu, and the provincial ecological public welfare forest area to 18.627 mu. The annual compensation standard was raised to RMB 10.5 /mu. The province has invested the financial capital of RMB 374 million, of RMB 178 million was used to improve state-level ecological public welfare forest compensation. In September 2009, there was 5100 mu of forest ecological public welfare forests that were incorporated in the fire insurance system implemented across the province, costing a total of RMB 25.5 million invested by the central government and provincial finance departments together. The insurance standard was RMB 500 per mu with insurance rate of 1 ‰.

In 2010, the central and provincial standards of ecological benefit compensation fund were RMB 10.5/mu, of which the expenditure of management and protection was RMB 10/mu, the expenditures of government management was RMB 0.5 / mu. (The central compensation standard

for management and protection of state-level ecological public welfare forests owned by the state was RMB 5 /mu. The central compensation standard for management and protection of state-level ecological public welfare forest owned by the collective and individual was RMB 10/mu. The financial gap would be filled by the province finance department).

7.4.3 Compensation fund of ecological public welfare forests in Tonggu County

Tonggu County was one of the first places to implement the pilot programs of national ecological public welfare forests compensation policies in 2001-2003, when a total of 405,200 mu of forest in Tonggu County was designated as national ecological public welfare forests. The national compensation standard was RMB 5 /mu, RMB 0.5/mu of which was used for the provincial public expenditure of forest management and protection, RMB 1/mu for the wages of preventive patrolmen. Then RMB 3.5/mu was left to Tonggu County as the compensation standard, including RMB 0.5 /mu for county-level forest management and protection. Thus the forest farmers actually could get RMB 3/mu

The national compensation standard was RMB 5/mu in 2004-2006, RMB 0.5 /mu of which was used for the provincial public expenditure of forest management and protection. Then RMB 4.5 /mu was left to Tonggu County as the compensation standard,, including RMB 0.5 /mu for county-level forest management and protection. Thus the forest farmers actually could get RMB 4 /mu. The provincial ecological public welfare forests were marked out in 2006, whose compensation standard was the same with national ecological standard.

The national compensation standard was raised in 2007 due to provincial financial arrangements. Both the compensation standards of state-level and province-level ecological public welfare forests reached RMB 6 /mu, RMB 2 /mu of which was retained for public forest protection expenditure.

In 2008, the national and provincial ecological public welfare forests compensation standard reached RMB 8 /mu, including RMB 2/mu for public forest protection, and the remaining RMB 6 was assigned to forest farmers.

After 2009, the area of state-level ecological public welfare forest amounted to 430,200 mu, and the province-level ecological public welfare forests amounted to 188,000 mu. The both compensation standards were the same. Both were RMB 10 /mu, RMB 2 /mu of which was used for public forest management and protection, and the remaining RMB 8/mu was assigned to forest farmers.

Table 7-3 Areas of Ecological Public Welfare Forests over the Years

Unit: mu

	Area of National Ecological Public Welfare Forests in 2001	Area of National Ecological Public Welfare Forest in 2006	Area of Provincial Ecological Public Welfare Forest in 2006	Area of Provincial Ecological Public Welfare Forest in 2007	Area of Provincial Ecological Public Welfare Forest in 2008
Total	405200	25000	100000	50000	38000

7.5 Government's role in environmental service compensation market

The international "ecological compensation" usually means the "payment of ecological services" (PES) or "payment of ecological benefits" (PEB), mainly consisting of four types: First, the direct public compensation, that is, the direct compensation that government pays to rural land owners and others who provide ecosystem services. Second, the cap and trade program, such as EU's emissions trading scheme, that is, the government or regulatory agency first sets a limit ("cap" or "base") for ecosystem degradation within a certain allowable extent. Then, the market prices were accessed by creating a market of "credit" transactions of offsetting measures. So the ecological services were compensated. Third, the direct private compensation, often called "voluntary compensation" or "voluntary market" where transactions are made without any management motives. Fourth, the ecological product certification program, through which, consumers can provide compensation for eco-friendly products that have been certificated by an independent third party according to certain standards.

As early as in 1992, China made it clear that the "forest price system and ecological benefit compensation system shall be established, and forest resources shall be paid for use". The *Forest Law* that has been amended in 1998 explicitly stated that the "The State shall establish the forestry ecological efficiency compensation fund, which shall be used for the building, cultivation and management of protection forests with ecological efficiency and the forest resources and trees with special uses" 2001-2004 were the pilot phase of forest ecological benefit compensation funds. The central forest ecological benefit compensation fund was formally established in 2004, representing the beginning of implementation phase of China's forest ecological benefit compensation fund system. In addition, the natural forest protection project, project of converting cultivated land back into forest and so on have obvious ecological compensation significance, and hundreds of billions yuan had been invested in these projects.

The government and markets can play important roles in ecological compensation mechanism. Up to now, the ecological public welfare forest compensation mechanism in China mainly depends on government for fund. The government plays a leading role in ecological compensation while the market plays the bit part. But with the increasing demands for ecological compensation and the

maturing of market-oriented ecological compensation mechanism, the market will play a greater role in the future. The government plays a vital role in the market of ecological services compensation, for it can create conditions for market mechanism, which at least are reflected in current situation such as: the government is the creator of forest ecological services compensation system and relevant market. The government not only needs to compile ecological compensation policies, regulations, but also need to develop appropriate laws and regulations to clearly define property rights of ecosystem service products (such as forest tenure, carbon credits, etc.). Only in this way can the market mechanism play a role in the internalization of externalities of ecosystem services. The government can provide relevant information about market and develop rules to guide market. For example, the government can make clear identification of beneficiary and maleficiary as well as their rights and obligations through various regulations. The government can make trading rules, build the trading platform and develop methods, scope, standards for market ecological services compensation. The government shall also strengthen the people's awareness on forest ecological services through publicity, and timely deal with feedbacks on policies and constantly revise them.

7.6 Policies of non-wood forest products

In December 2005, the protection of forest resources and forestry ecological construction were strengthened in Jiangxi Province. The broad-leaved forests within ecological public welfare forest region that was designated according to national standards were prohibited against cutting. Then gradually the province's natural broad-leaved forests in other areas were prohibited against cutting. The natural secondary broad-leaved forests were enclosed to facilitate afforestation. This policy is still valid today.

The non-wood forest products in Tonggu County are mainly mushrooms and bamboo shoots, which have been forbidden from cultivating and digging in recent years.

The cultivation of mushrooms was first started in 2001, which was mainly exported to Japan. The mushroom production needed hardwood as raw material, so hardwood destruction was getting worse. In 2006, the broad-leaved forest cutting ban was started in Jiangxi Province. Since 2007, the successive relevant documents have been enacted to prohibit the cutting and use of natural hardwood for mushrooms production. At last, the mushroom production was decreased. Therefore, in general speaking, Tonggu County encouraged the mushroom production first but later prohibited it.

The bamboo shoots could be freely dug, which has become the tradition in Tonggu County. However, due to lack of responsibilities, the villagers often dig bamboos to death, affecting the growth of bamboos. Therefore, the digging ban policy was aimed at bamboo shoot nursing and

protection. The growth of bamboo shoots has strong seasonal characteristics. The digging ban time generally begins from December to May of next year. The bamboo shoots have alternate bearing every two years. In the year when there were more bamboo shoots, the shoot digging should be prohibited more strictly. The time of digging ban was brought more forward in recent years. In 2010, the ban time began on December 10.

7.7 Supporting policies of special industries

Tonggu special industries include bamboos, orchards, teas, medicines and domestic animals. After the forest tenure reform, Tonggu County mainly relies on the follow-up development project of “converting cultivated land back into forests”, project of special funds for forestry development in Jiangxi Province, and afforestation project of "one large and four smalls" to support the development of featured bamboo industries. Of these, forest farmers mainly participate in the project of low-yielding bamboo forest transformation.

In 2008, Tonggu County carried out the transformation of low-yielding bamboo forest based on the follow-up national project of “converting cultivated land back into forests”. 103 forest compartments with a total area of 10,990 mu were planned to be transformed. The project declaring bodies (mainly forest farmers) must have clear property rights and operational rights of more than 20 years with no forest disputes. The project declaring bodies should promise construction and operation in accordance with the requirements of project; they should have financing capability to raise funds to match the scale of project’s investment. Their bamboo forests should be contiguous with relatively convenient transportation, and good forest quality. The compensation standard is about RMB 150/mu, among which RMB 100 /mu is subsidized in cash, and the remaining RMB 50/mu is in the form of forest-specific fertilizer.

The investigation showed that, 60% of households had enjoyed the government's preferential policies. The follow-up project of “converting cultivated land back into forest” focused on transformation of bamboo forests. The compensation standard of bamboo transformation project was RMB 150 /mu, of which: RMB 100/mu was paid in cash, and RMB 50/mu in the form of fertilizers. All the compensation funds are distributed to farmers’ bankbooks by financial sectors. The forest farmers reflected that the current problems were, first, low compensation standards; and second, unclear forest ownership. The project of “converting cultivated land back into forest” requires the afforestation of broad-leaved forests, but forest farmers do not know whom the broad-leaved forests belong to after it gets mature.

Based on the afforestation project of "one large and four smalls", 61,000 mu of forests for featured industries were completed in 2009 and 2010. If the bamboo forest base implemented high-standard transformation, had contiguous area of more than 500 mu, it would be awarded

RMB 150/mu by the county financial department, RMB 100 /mu of which was used for seedling costs, and RMB 50 /mu for fertilizer costs. Besides, it could still get the provincial compensation.

8 Attitude and perception of stakeholders on forest management policies and systems

Because there is no forestry cooperative organization for the purpose of production and management in Dacao Village, in order to facilitate comparative analysis, the forest farmers' attitude and perception to forest management policies and systems are mainly based on questionnaires and interviews of FFC members and Non-FFC members from Sanxi Village, and forest farmers from Dacao Village. The attitude and perception of forestry departments at county and township level and other stakeholders (timber processing plants) are summarized and analyzed through interviews.

8.1 Cutting quotas Administration system

8.1.1 Attitude and perception of forest farmers and FFC members

The cutting index is equally allocated to each household by the village committee with the standard of 0.5-2 m³/year/household of fir and pine, 200-300 bamboos/year/household.

Table 8-1 Attitude and Perception of Forest farmers and FFC Members on Cutting quotas

Forest Farmers	Reasonability of the Policy				Influence on Forest Management			
	Very Reasonable	Reasonable	Unreasonable	Very Unreasonable	Tremendous Influence	Large Influence	Limited Influence	No Influence
FFC Members in Sanxi Village	/	30%	70%	/	10%	10%	70%	10%
Non-FFC members in Sanxi Village	/	60%	10%	30%	20%	10%	50%	20%
Forest Farmers in Dacao Village	/	47.40%	47.40%	5.30%	5.30%	10.50%	52.60%	31.60%

In the rationality evaluation of the cutting quota policy, most of FFC members in Sanxi Village consider the policy as unreasonable, accounting for 70%. But most of the Non-FFC members in Sanxi Village consider the policy as reasonable, accounting for 60%. 30% of the Non-FFC members in Sanxi Village consider the policy as very reasonable. Their attitudes are obviously different. The interviewed forest farmers from Dacao Village who consider the policy as

reasonable and unreasonable occupy almost the same proportion.

In the evaluation of its influence on the forest management, the investigation objects also showed different attitudes and perceptions. 70% of FFC members in Sanxi Village suppose the policy has limited or no influence on the forest management. But Non-FFC members in Sanxi Village have much different attitudes, who consider it has limited influence take up 50%. 84.2% of interviewed forest farmers from Dacao Village suppose the policy has limited or no influence on the forest management.

The investigation objects also evaluate the positive impact of forest cutting quotas policies and problems. The evaluations of different farmers have both similarities and different views:

In the evaluation of its influence on forest management, all the forest farmers believe that it has some positive influences on forest management. First, the policy plays an important role in protecting forest resources, avoiding the water and soil erosion and maintaining the ecological balance. Second, it can help the forest farmers to restrict and arrange exploitation of forest resources with reasonable cutting every year, thus avoiding cutting down all the trees in one time. Third, the policy can control the total volume of timber cutting balance timber supplies and demands, keep timber prices stable, and play a catalytic role in increasing farmers' income in forest management.

The interviewed forest farmers conclude that the problems of the cutting quotas lie in: First, the cutting quotas are not flexible enough, which is allocated equally to each household, even to those households that have no timbers to be cut. The farmers need to trade with each other and adjust cutting quotas in private due to inadequate quotas. Therefore, after the allocation, the forest farmers still need to exchange and make adjustments privately, which leads to illegal cutting or over-quota cutting, costing the farmers get penalties or even go. Second, the weed trees and hardwoods need proper cutting for growth. However, they cannot be cut because of limitation of rigid policies, which has a negative impact on growth of forests. Third, the cutting quotas are too limited which reduces the income of the forest farmers and hurt the forest management severely. In addition, FFC members in Sanxi Village reflect that the cutting quotas are too limited, especially the cutting quotas for pines and firs. Even the mature forests cannot be cut. The policy executive power is not enough. Some farmers also cut what should be cut. Some with higher demands can buy cutting quotas through the black-box operation.

The interviewed Non-FFC members in Sanxi Village conclude that the farmers' wishes are not taken into consideration. They cannot decide for themselves on cutting amount. There is a very big difference between planned cutting indexes and actual demands, bringing negative impacts on afforestation. The snow and ice disaster in 2008 is still fresh in Dacao villagers' memory that

resulted in the dried-up of bamboos and timbers; the trees could not be cut down due to cutting quotas, leading to a waste of resources.

To address the problems of policies, the forest farmers hope that the restrictions on cutting amount can be reduced with more flexibly allocated indexes to take care of farmers' actual cutting needs. The Non-FFC members in Sanxi Village in particular put forward that the cutting quotas are the best when reaching to 4-5m³ per household. In addition, most forest farmers suggest that the cutting quotas should not be simply allocated to households equally, but should be allocated according to forest resources and areas of forests. At last, the forest farmers suggest the weed trees can be cut based on cutting permits.

8.1.2 Attitude and perception of county-level administration departments

The interviewed staffs from Tonggu Forestry Bureau believe that the forest cutting quotas are significantly important seen from the view point of administration, because most forest farmers have no strong awareness to safeguard ecological safety. The forest farmers' income mainly comes from forestry. If the right of cutting is completely open to everyone, the management would probably be in disorder, generating threats to ecological safety. It is necessary to regulate forest management of forest farmers reasonably. Through protection measures like quota checking, certificate of transportation or cutting, etc. this policy allows forest farmers to cut within cutting quotas, which can help to protect forest resources and ecological safety to certain extent. Some other interviewees point out that this policy still plays a relatively positive role after the forest tenure reform, for relevant polices have not been put into practice or well-practiced.

Meanwhile, the interviewees presume that there have been some problems in both cutting quota policy itself and its enforcement, which can be seen as follows:

(1) The increase in furtive and unlawful cutting. Although the forest cutting quotas officially limit the cutting amount, the sales and circulation of woods are basically subject to the market. According to regulations, the woods can only be sold with exchange certificate. However, due to the difficulty in market exchange management, it is hard to control the unruly and unlawful behaviors. Besides, there is the phenomenon of "ant move", which means the cutting only a very small number of trees at a time. In such situation, only the executive punishment that is low in fine and weak in force can be used, but it is still unable to restrict the phenomenon, which is rendered worse by the underperformance of supervision. Sometimes, the violent fights against law executors might even occur.

(2) The Existence of furtive cutting in ecological public welfare forest and over-cutting in commercial forest. Due to high prices in wood market and low ecological public welfare forest subsidies (RMB 8-10/mu) and cutting indexes, the forest farmers are driven by interests to steal woods from ecological public welfare forests and over-cut trees in commercial forests, which reduces the effects of cutting quota policy on commercial forests and prohibition of cutting on ecological public welfare forests.

(3) The lack of relevant reform policies and psychological imbalance within forest farmers. After the forest tenure reform, the forest farmers are granted with rights, but the cutting quotas limits their cutting amount, which gives them a sense that they are not real owners of their belongings. However, the quota policy stays the same mainly for the pre-assumption that its termination will lead to destruction of forest resources. Most of the farmers have psychological imbalance. It is hard for them to support this policy.

(4) The contradiction between allocation of quotas and distribution of natural resources. The latter differs in various parts in Tonggu County. On east side of the river, the contradiction is subtle, because the resources are scarce and farmers are independent from forestry. However, the contradiction is much more obvious on the west side, for the resources are rich. There are fewer people and more mountains without industry, so the forest resources available for cutting are comparatively abundant. Besides, it is difficult to combine the forest management program with cutting quota policy in this area.

(5) The increased difficulty in management. After the forest tenure reform, the prices of woods have been increased rapidly, from RMB 300/m³ in 2009 to RMB 600 / m³ in 2010. Unlike forest farmers who only care for economic interests, the government needs to balance the ecological interests, social interests, and economic interests, which has led to the contradiction between forest conservation and production to certain extent, as well as conflicts between government and forest farmers, thereby making forest management even more difficult.

In terms of cutting quota policy, the suggestions of interviewed forestry departments are as follows:

(1) Implement the cutting indexes more flexibly. The forestry departments of Tonggu County think that the cutting indexes should be implemented more flexibly, for forestry industry is the source of forest farmers' livelihood. They have their own plans for the property, and will not cut all the trees down at one time. Therefore, the government can try to abolish the cutting quota policy or make the cutting indexes more flexible, urging farmers to reproduce after cutting on condition that the ecological public welfare forests are well protected. The suggestions may undergo experiments first within a small scope. Then the government is able to develop the policy through learning and conclusion of experiences.

(2) Strengthen the stability and continuity of government policies. It can be drawn from previous experiences that the discontinuity of government policies would result in low credit. Therefore, the forest farmers suggest that the government should perfect the system of policies and guarantee the continuity of its practice, so that they will have no extra worries and can fully devote themselves into forest management.

(3) Perfect relevant laws and regulations and severely punish those who violate laws and disciplines. The effective implementation of cutting quotas depends not only on the improvement of laws and regulations, but also on the implementation intensity of policies.

8.1.3 Attitude and perception of township-level administration departments

The township forestry station is the bridge of communication to link county forestry management departments and forest farmers. After the forest tenure reform, the ownership of the forest lands becomes clear, and forest farmers' decision-making power and their awareness in production and management has been improved. The activities in trees and forests transaction, forest management and afforestation became frequent, and more and more farmers transform their forests. Therefore, the forest departments seldom interfere with forest management. The function of local forestry management has significant changes to supervision, management and service. The cutting quotas are allocated by village committees, and supervised by the forestry workstations. The cutting quotas are allocated to every household by village committees and reported to forestry workstations of the town for allocation supervision.

As reflected by the workers of the forestry station of Paibu Town, at present, during the actual implementation of the policy, there exist two problems of over-cutting and the imbalances in distribution of cutting indexes. Sometimes, the forest farmers need to trade with each other and adjust cutting quotas in private due to inadequate quotas. Seen from the actual implementation of the policy and what is reflected by the forest farmers, it is necessary to further reform or improve the cutting quota policy.

The interviewed workers from Sandu Forestry Workstation believe that the cutting quota policy is very crucial in that it is harmful to the protection of resources and ecology once being abolished. However, the problems occur in execution of the policy. First, the forest farmers know little about the state policy and they don't understand its necessity. Second, the cutting indexes have own problem, as quotas for fir and pinewoods are far from enough, which can not satisfy forest farmers' needs. Therefore, they can only resort to inter-coordination.

8.1.4 Attitude and perception of wood-processing factories

The interviewed investigation objects from wood-processing factories believe that implementation

of forest cutting quota policy after the forest tenure reform leads to soaring prices of timber and bamboos. The factories' profit margins are compressed; in particular the profit margins of some raw materials decline. But farmers' income increase. For processing factories, as raw material prices increase, the way of profits earning will be changed in the future. Deep processed products will be developed, and raw materials will be made full use of.

8.2 Forestry taxes

8.2.1 Attitude and perception of forest farmers/FFC members

After the forest tenure reform, in Sanxi Village and Dacao Village, RMB 74 of taxes and charges was collected, including RMB 72 of afforestation fund, RMB 2 of quarantine charges. In 2010, the base price was raised according to market prices, but the tax rates was brought lower, to RMB 72/m³ including RMB 70 of afforestation funds, RMB 2 of quarantine charges. The land taxes must be paid when the timber or bamboo is to be sold out of the local area. But the three-prevention tax is not the same in two villages. Villagers in Sanxi Villagers have to pay RMB 50/m³ while the villagers of Dacao pay RMB 1 /mu/year.

Table 8-2 Attitude and Perception of Forest Farmers and FFC Members on Forestry Taxes

Forest Farmers	Policy Reasonability			Influence on Forest Management				
	Very Reasonable	Reasonable	Unreasonable	Very Unreasonable	Tremendous Influence	Large Influence	Limited Influence	No Influence
FFC Members in Sanxi Village	/	67%	22%	11%	/	33%	45%	22%
Non-FFC Members in Sanxi Village	/	80%	20%	/	/	22.2%	55.6%	22.2%
Forest Farmers in Dacao Village	18.75%	56.25%	25%	/	6.25%	18.75%	43.75%	31.25%

In the rationality evaluation of the imposing of forestry taxes, most of FFC members interviewed consider it as reasonable, accounting for 67 %. Meanwhile 22 % consider the policy as unreasonable, 11% consider it as very unreasonable. Most (80%) of interviewed Non-FFC members in Sanxi Village consider the policy as reasonable. Most of forest farmers in Dacao Village interviewed consider it as reasonable, accounting for 75 %.

In the evaluation of influence on forest management, almost all the interviewed forest farmers have the same attitude and perception. Most of them consider that the forest tax reform has limited or no influence on the forest management. 67 % of the FFC members in Sanxi Village consider so. 77.8% of Non-FFC members in Sanxi Village consider so. 75% of forest farmers in Dacao Village

consider so.

Almost all the interviewed forest farmers consider the forest taxes reform has generated certain positive influences, specifically as follows: First, the decline of the taxes and charges, which facilitates the increase of the forest farmers' income. Second, taxes and charges can be taken from the people and given back to people. The afforestation funds can be used for forest management and afforestation. The three-prevention charges collected and used for prevention activities against forest fire and disease. Third, the afforestation funds give favorable terms on seedling purchase. Fourth, in the long term, the tax burden of forest farmers can be alleviated, which facilitate their afforestation activities and the awareness of forest protection.

In the evaluation of existing problems in imposing forest taxes, the problems the forest farmers reflect are different. The FFC members and Non-FFC members in Sanxi Village think that the three-prevention charges are too high, accounting for 20% of the total forestry taxes, but farmers do not know using destination and actual use of it. The FFC members hold that the overall taxes and charges are still high. The Non-FFC members mainly have the opinion that the taxes and charges imposed on pine and fir is still high. The Non-FFC members also think that taxes collected on cutting are unreasonable and it is unreasonable to collect infrastructure construction charges in accordance with the forest area. While the forest farmers in Dacao Village hold opinions that the cost of recovery of forest vegetation is too high and brings down the forest farmers' income?

The farmers' suggestions to the reform are different due to their different problems. The FFC member and Non-FFC members in Sanxi Village hope that the tax standard of pine and fir can be reduced and three-prevention charges can be cancelled. FFC members hope the afforestation fund should be reduced to RMB 40-50/m³. The Non-FFC members in Sanxi Village hope that the infrastructure construction charges and the taxes collected on cutting should be cancelled. The forest farmers in Dacao Village hope that the tax standard can be reduced, equal with other counties.

8.2.2 Attitude and perception of county-level administration departments

Before the Reform, there were "two kinds of funds and three types of charges" (forest resources cultivation fund, adaptation fund, forestry official management charges, charges of fire prevention and forest conservation, and forestry construction charges). Now they have been reduced to two funds and the rate of charge has decreased.

The staffs of Tonggu Forestry Bureau give positive evaluation to the implementation effects of exemption of forestry taxes. They think that the exemption of forestry taxes is warmly supported

by forest farmers, which can help to increase their income and enthusiasm of forest management. However, it is not the same with forest management sectors on account that some forestry investments may not be completed by forest farmers themselves, for instance, the forest insurance, which can only be practiced by forestry bureaus. Without any forest taxes, the source of investment fund can hardly be guaranteed. Therefore, it is not beneficial for the development of forestry with all taxes being eliminated. In other words, the feasibility of the exemption depends on whether the central government will adopt certain approaches to support or solve the source of forestry investment relevant to forestry administrations.

A suggestion of Tonggu Forestry Bureau is that forestry counties and non-forestry counties should be treated differently in the reform of forest taxes due to their distinctive intensity of dependence on forestry. As non-forestry counties depend less on forestry, the ratio of taxes and charges would be larger for forestry counties.

8.2.3 Attitude and perception of township-level administration departments

The staffs of Paibu Forestry Station hold that the reduction of stimulates the farmers' enthusiasm in forest management and increases their incomes, but brings pressure and difficulty to the protection work at the township level. Now the responsibility system for forestry construction has been established at the village township level, through which the management and protection of the resources is linked to the performance evaluation of government officials, thus to effectively to carry out the work of resource conservation and management.

The interviewed staffs of Sandu Forestry Workstation mainly analyze the impact on the grass-roots management brought by the reduction of forestry tax and charges. In the respect of forest taxes, the tax reform has not only lowered the management cost, but also led to a decrease in the government income. For instance, before the Reform, village committee buys moso bamboos at the price of RMB 250,000 (RMB 1/bamboo) in addition with RMB 50,000 for pinewood (RMB 30/m³). The total revenue is no less than EMB 300,000. However, after the forest tenure reform, only RMB 45,000 is left as transfer payment, which is used as daily overheads and salaries for staffs.

8.3 Forestry microfinance policies

Currently there are three forms of Micro-financing in Tonggu County, i.e., forest tenure certificate mortgage loan, micro-credit loan, and yen loan.

8.3.1 Forest tenure certificate mortgage loan

8.3.1.1 Attitude and perceptions of forest farmers and FFC members

The forest tenure certificate mortgage loan has a relatively low prevalence rate. Only 10% of FFC members in Sanxi Village have forest tenure certificate mortgage loan, with the loan amount of RMB 50,000. The FFC members in Sanxi Village have mortgage loan on forest tenure certificate are relatively few, accounting for 30 %, with the loan amount of RMB 20,000-30,000. None of the villagers in Dacao Village have experiences in financing by mortgaging forest tenure certificate.

Table 8-3 Attitude and Perception of Forest Farmers and FFC Members on Forest Tenure Certificate Mortgage Loan

Forest Farmers	Policy Reasonability			Influence on Forest Management				
	Very Reasonable	Reasonable	Unreasonable	Very Unreasonable	Tremendous Influence	Large Influence	Limited Influence	No Influence
FFC members in Sanxi Village	50%	/	/	50%	50%	/	50%	/
Non-FFC members in Sanxi Village	33.3%	33.3%	33.3%	/	50%	/	/	50%
Forest Farmers from Dacao Village	/	/	/	/	/	/	/	/

In the rationality evaluation of the mortgage loan on forest tenure certificate, FFC members have significant difference in attitude. Half of the FFC members consider it reasonable while the remaining half does not. The Sanxi Non-FFC members who consider it as very reasonable or reasonable or unreasonable each occupy 33 %. The Dacao village farmers do not made any evaluation of this policy.

In the evaluation of the influence of this policy, the investigation objects hold opposing views. Half of the FFC members consider it has limited influence while the other half consider it has large influence. Half of the Non-FFC members consider it has large influence while the other half consider it has no influence. The Dacao village farmers do not made any evaluation of this policy.

To the evaluation of the policy's positive impact, the villagers suppose that the mortgage could help facilitate capital turnover as well as improve forest management. None of the villagers in Dacao Village have any experiences in financing by mortgaging forest tenure certificate, but they agree with the opinion above.

However, the interviewed forest farmers reflect that the policy has some problems: first, the procedures for the loan are complicated; second, the loan is small, only taking over 50% of the evaluated value of forest land. Third, it is said that if the loan is used for afforestation, there will be discount offers. But actually, as reflected by the FFC members in Sanxi Village, there is not

any. The Non-FFC members in Sanxi Village hold that its interest rate is too high; the farmers who have less forest cannot obtain the loan. The interviewed forest farmers in Dacao Village in particular point out that the cost of assessment is too high for micro-credit; the quota of loan is small, from which the credit loan needs to be deducted when the loan is offered.

To address these problems, the FFC members and Non-FFC members in Sanxi Village suggest: the loan amount should be increased, the loan period extended. The FFC members in Sanxi Village particularly suggest loan discount should be implemented. Non-FFC members in Sanxi Village suggest that the loan restrictions on forest land should be relaxed. For example, the farmers with forest land less than 10 mu can also obtain the loan. The interviewed forest farmers from Dacao Village suggest the procedures should be simplified and the cost of valuation reduced.

8.3.1.2 Attitude and perception of forestry departments at county level

Since 2006, the policy has been adopted by Tonggu County, which is the first case in Jiangxi Province. It provides forestry companies and farmers with a way to obtain capitals.

Forestry loan has its own characteristics, which needs the cooperation between forestry bureaus and banks. Firstly forestry bureaus need evaluate the forestlands that will be mortgaged, and then the forest tenure certificate can be used for the loan. Until now banks in Tonggu County that is able to implement the policy include rural credit cooperatives, agricultural bank of China and agricultural development bank. The credit loan amounts to about RMB 300 million till now. Most forest farmers get a loan of RMB 20,000-30,000 or RMB 50,000-60,000 and there is no phenomenon of inability to repay on the loan. Yet, whether the loans have all been used for forest management or not remains in question.

Forestry Bureau of Tonggu County believes that there are existing problems in the mortgage policy, as follows: (1) The inability to ensure the authenticity of property and evaluation. (2) The fact that loans are not completely used in Forestry. (3) The lack of professional assessment institution and appraisers as well as the uncertainty of loan proportion leading to the need of criterion in the amount of the loan. (4) The conflict between the significant demand of credit facility and the scale of the credit cooperatives in Tonggu County which could only offer limited bankrolls.

So major suggestions from the view of point of Forestry Bureau of Tonggu County include: (1) To regulate the ratio of bank loans, as well as that between the evaluated value and the loan credit. (2) To regularize the assessment with the concern that there is no professional assessment institution around the country and the standards of assessment are different across various counties. Moreover, there is no institution in the country that is able to investigate forestlands. (3) To lower

the price of assessment, as the cost is too high for micro-credit. (4) To allow cutting with the supervision from the bank in mortgage duration.

8.3.1.3 Attitude and perception of forestry departments at township level

The staffs of Paibu Workstation hold that the interest rate of mortgage loan on forest tenure certificate is the highest but it has the largest loan population. Its assessment cost is too much and its procedures are complicated.

The staffs of Sandu Workstation hold that With regard to the loan policy, the forest tenure certificate mortgage loan policy is a new effort. In the process of applying for mortgage loans, assessment of forestlands property must be made, but the charges are relatively high. In addition, 50% of the evaluated value is the largest quota of loan. From this point of view, the policy is suited to large loan.

8.3.2 Credit loan

8.3.2.1 Attitude and perception of forest farmers and FFC members

Compared with the mortgage loan on forest tenure certificate, forest farmers can obtain the loan without mortgage based on their credit,, but before it is offered, a credit union will evaluate the farmer’s family asset and determine the quota accordingly. More FFC members are applying for the credit loan, which reaches up to 60 %. Not many Non-FFC members in Sanxi Village are applying for the credit loan, which only reaches up to 30 %. Many villagers in Dacao Village are applying for the credit loan, which reaches up to 80 %.

Table 8-4 Attitude and Perception of Forest Farmers and FFC Members on Credit Loan

Forest Farmers	Policy Reasonability			Influence on Forest Management				
	Very Reasonable	Reasonable	Unreasonable	Very Unreasonable	Tremendous Influence	Large Influence	Limited Influence	No Influence
FFC Members in Sanxi Village	33%	67%	/	/	17%	/	66%	17%
Non-FFC Members in Sanxi Village	33%	67%	/	/	/	/	100%	/
Forest Farmers in Dacao Village	29.41%	70.59%	/	/	/	52.95%	35.29%	11.76%

In the rationality evaluation of the credit loan, the interviewed forest farmers offer a relatively high appreciation. 33 % of the FFC and Non-FFC members consider it as very reasonable and

67 % relatively reasonable. The interviewed forest farmers in Dacao Village offer a relatively high appreciation. 29.41 % consider it as very reasonable and 70.59 % relatively reasonable.

In the evaluation of its influence on the forest management, those FFC members of Sanxi who think that the credit loan has limited influence or no influence take up to 83 %, while all the non-FFC members of Sanxi believe it has no influence on their forest management. In Dacao Village, those who think that the credit loan plays a comparatively important role take up the largest proportion, i.e. up to 52.95 %; those who consider it has limited or no influence account for 35.29 % and 11.76 % respectively.

In the evaluation of its positive impact on the forest management, all the forest farmers believe that the loan application is simple and convenient, and readily available. In the long term, the loan can provide the farmers with funds, which can be used to purchase seedling or to invest in agriculture to make it develop. In addition, FFC members of Sanxi point out in particular that when farmers cannot repay the loan, they can only pay interest of the year. The loan period is postponed for a year.

However, the interviewed farmers hold that the loan quota is small and the interest rate is somewhat too high; the loan duration is comparatively short, which is limited in one year. In addition, FFC members of Sanxi also point out that bachelor farmers cannot apply for the credit loans. The farmers of Dacao think that the major problems of credit loan lie in the following points: the loan standard is not stable; the farmer having a good relation can accept more loans; the 10 % of money paid for shares is a little high (which was cancelled in the first half year of 2011); another loan can be possible only if the previous loan is repaid.

To these points of irrationality, all the farmers suggest that the quota of loan could be raised while its maturity extended and the procedures simplified. At the same time, its interest rate needs to be reduced, and some special consideration should be offered to the impoverished families.

8.3.2.2 Attitude and perception of forestry department at county level

The credit loan is mainly implemented by the financial institutions of Tonggu. Therefore, forest management departments of Tonggu do not evaluate the credit policy.

8.3.2.3 Attitude and perception of forestry department at township level

As reflected by the forestry workstation, the credit loan began in 2004. The rural credit cooperative and the villager committee together assess and grade the farmers' credit and issue out loan notes, which should be signed by at least 2 officials from the rural credit cooperative

and 3 from the villager committee. The farmers apply for the loans based on the loan notes. If they pay back the loan on time, their credit grades will be enhanced.

At present, loans for forest farmers can be conducted by rural credit cooperatives and Agricultural Bank of China. The highest loan credit of rural credit cooperatives is RMB 30,000 with a term of 1-2 years and an interest rate of 7.2%. Meanwhile the highest loan credit of Agricultural Bank of China is RMB 30,000 with a term of only 1 year and an interest rate of 6.4%.

As reflected by the staffs of Sandy Forestry Workstation, the proportion of the application of mortgage loans in Dacao Village is comparatively high on account that 60% of forest farmers have the experience of loan. Mortgage loans can be used in solving financial problems and in business management. Most of the forest farmers pay back the money in time with only four households failing to clear the loan in time. When a farmer is not able to repay the money within the year span, he/she can still transfer the loan on condition that they could pay back the interest first. So the policy obtains popularity among forest farmers. If the highest quota is raised and the procedures of mortgage loan are simplified in the future, it will benefit forest farmers more in terms of the turnover of capitals in production and management.

8.3.3 Yen loan

8.3.3.1 Attitude and perception of forest farmers/FFC members

Yen loan is mainly used for forest tending, forest quality transformation. The amount standard is RMB 80/mu, with low interest rate that is 30% of the domestic interest rate. The interest is paid in the first 10 years; the principal is paid in the last 20 years. Only a few (10%) of FFC members in Sanxi have yen loan. More Non-FFC members in Sanxi have obtained the Yen loan, which only reaches up to 20 %. None of the Dacao villagers have obtained the Yen loan.

The interviewed forest farmers believe that the positive impact of yen loan is that this loan has long repayment period and low interest rate. It can solve the problem of forest farmers' shortage of forestry investment capital. However, the coverage of the loan is small, few people can enjoy it. The implementation period of yen loan in Tonggu County is relatively short. Therefore, more similar projects should be introduced in the future.

8.3.3.2 Attitude and perception of forestry department at county and township level

During 7-year project period, a total of RMB 10.6138 million was loaned out in Tonggu County. A total project area of 6501 hectares had been afforested or transformed. The project covered 6

towns like Paibu, 3 townships like Gaoqiao and 4 forest farms like Chashan.

The interviewed administrative departments believe that the policy makes up the shortage of forestry funds and lack of sources. It plays a positive role in the improvement of forest quality and productivity.

8.4 Compensation fund of public welfare forests

8.4.1 Attitude and perception of forest farmers/FFC members

The interviewed forest farmers have no division of ecological public welfare forest in Sanxi Village, so the attitudes and perception of forest farmers are mainly based on Dacao Village. Up to 35 % of the interviewed in the village is allocated with ecological public welfare forests and the compensation standard is RMB 8-10 per mu.

Table 8-5 Attitude and Perception of Forest Farmers and FFC Members on Public Forest Compensation Fund

Forest Farmers	Policy Reasonability			Influence on Forest Management				
	Very Reasonable	Reasonable	Unreasonable	Very Unreasonable	Tremendous Influence	Large Influence	Limited Influence	No Influence
FFC Members in Sanxi Village	/	/	/	/	/	/	/	/
Non-FFC Members in Sanxi Village	/	/	/	/	/	/	/	/
Forest Farmers in Dacao Village	28.57%	42.86%	14.29%	14.29%	/	/	83.3%	16.7%

In the rationality evaluation of the ecological public welfare forests compensation fund, forest farmers in Dacao Village have different attitudes. 42.86 % of the interviewees, which takes up the largest proportion, consider it as reasonable, among which 28.57 % think it very reasonable. Those who deem it unreasonable or rather unreasonable are relatively few, accounting for 14.29 %.

In the evaluation of its influence on the forest management, 83.3 % supposes that the policy has limited influence and the remaining 16.7 % no influence. None supposes that the policy has large influence and tremendous influence.

Forest farmers of Dacao consider the ecological public welfare forests compensation fund has exerted following positive influences: First, it helps to protect the forest resources and avoid deforestation as well as over-cutting. Second, the ecological public welfare forests stands along the both sides of the road could beautify the environment. However, the forest farmers at the same time hold that the ecological public welfare forests compensation fund is too limited, i.e. the

compensation fund they get is remarkably low compared with the price of wood in commercial forest. All these contribute to forest farmers' psychological imbalance and resistance, which brings difficulty to the management and preservation of ecological public welfare forest. Therefore, the interviewed forest farmers suggest that the compensation standard should be raised. Then forest farmers' benefits are not hurt and their enthusiasm in managing and protecting ecological public welfare forest will be improved.

8.4.2 Attitude and perception of county-level administration departments

As one of the first national pilot units, Tonggu County practiced the ecological public welfare forest compensation fund policy in 2001. Owing to the low standard of compensation, there is no difference to the income of forest farmers. Nevertheless it played a positive role in ecological environment protection and forest resources preservation. Since the forest tenure reform in 2004, as with commercial forest, ecological public welfare forest tenure has been clarified. Forest farmers have been issued with forest tenure certificate and officially become protectors and managers of ecological public welfare forest. In recent years, the price of forest products has been increasing year by year, which brings huge pressure to ecological public welfare forest management, as can be seen in the following problems:

(1) Difficult to manage and preserve ecological public welfare forest. In Tonggu County forest farmers' income mainly comes from forestry. Despite of the fact that most of the farmers live on their forest, some their forest has all been claimed as ecological public welfare forest. The equality and shape of ecological public welfare forest are much better than those of commercial forest, but forest farmers are forbidden to cut trees in ecological public welfare forest according to laws and regulations. Moreover, the compensation fund they get is remarkably low compared with the price of wood in commercial forest. After the forest tenure reform, forest farmers have a better understanding of the policy of clearly forest property rights. Yet, to those who have rich forestlands, they are unwilling to accept protection contracts. Although powerfully publicized and forest farmers understand the important role ecological public welfare forest played in ecological safety, the contract will encounter difficulty on account that livelihood is the prior concern for individuals. All these contribute to forest farmers' psychological imbalance and resistance, which brings difficulty to the management and preservation of ecological public welfare forest.

(2) Phenomenon of stealing cutting in ecological public welfare forest. Due to the large gap between the compensation fund and the market price of timber, some forest farmers are unwilling to sacrifice their own interests to safeguard others. Meanwhile, because of the high quality of ecological public welfare forest, the phenomenon of theft remains a problem. Besides, due to the

deficiency of the government supervision on their purchase of timber, timber processing factories, driven by interests.

(3) Complex process of examination and approval of cutting during the tending of ecological public welfare forest. Cutting in ecological public welfare forest had been forbidden till 2008. After that the state allows the cutting during the period of tending. However, it is difficult to manage when it comes to practice, which needs the complex process of examination and approval from higher authorities at different levels.

Main suggestions of the forestry departments are as follows:

(1) Compensation standard should be raised. As forest farmers earn RMB 55-60/year/mu from commercial forest, it is highly suggested that the compensation fund should be raised to RMB 25-30/year/mu for ecological public welfare forest, which will increase their enthusiasm in managing and protecting ecological public welfare forest.

(2) Compensation standards should be set based on the practical situations in different provinces.

(3) The state buys out the forest tenure of the upstream region of the preserved districts all at once which is more advantageous in management. The state should practice the ecological migration policy and protect resources by sealing mountains.

(4) The upstream region of the preserved districts should get compensations from the downstream, which has enjoyed fruit of ecological conservation.

(5) More supporting policies should be issued by the government, such as the employment policy for migration and policy for caring the senior.

8.4.3 Attitude and perception of township-level administration departments

The interviewed staffs of Sandu Forestry Workstation mainly evaluated the forest size and compensation standard. Dacao Village possesses more than 1800 mu of ecological public welfare forest, whose main species include moso bamboo, fir and pine. Areas within 300 m on both sides of the road are claimed as ecological public welfare forest which enjoys a subsidy of RMB10 /mu. Currently, the subsidy is remarkably lower than the market price of timber and moso bamboo, which may result in a negative effect on ecological public welfare forest owners' enthusiasm in the protection and management of their forestlands. In addition, it also brings more pressure to the government's management of forestry.

8.5 Policies of non-wood forest products

8.5.1 Attitude and perception of forest farmers/FFC members

The content of the non-timber forest products policy in Tonggu County in the past two years includes the prohibition of the collection of winter bamboo shoots and planting mushroom, and the restriction on the collection of edible tree fungus.

Table 8-6 Attitudes and Perception of Forest Farmers and FFC Members on Public Forest Compensation Fund

Forest Farmers	Policy Reasonability			Influence on Forest Management				
	Very Reasonable	Reasonable	Unreasonable	Very Unreasonable	Tremendous Influence	Large Influence	Limited Influence	No Influence
FFC Members in Sanxi Village	33.3%	22.2%	33.3%	11.1%	50%	10%	20%	20%
Non-FFC Members in Sanxi Village	55.6%	33.3%	11.1%	/	50%	/	20%	30%
Forest Farmers in Dacao Village	25%	75%	/	/	10%	15%	40%	35%

In the policy rationality evaluation, 50% of FFC members in Sanxi Village consider the policy to be reasonable, while the other 50% consider it not. 88.9 % of Non-FFC members in Sanxi Village consider the policy to be reasonable or very reasonable which takes up the largest proportion.

When evaluating its influence on forest management, 50 % of FFC members in Sanxi Village, who take up the largest proportion, think the policy has large influence on forest management. Those who think it has limited or no influence account for 20% and 30% respectively. The Non-FFC members have the same opinion with FFC members, but the forest farmers of Dacao do not. Most of the forest farmers of Dacao think the policy has limited influence or no influence on forest management. Only 10% of the forest farmers of Dacao think the policy has large influence.

All the interviewees believe that the non-timber forest products policy on prohibiting collection has the following positive influences on forest management: First, it protects the resources as well as preventing the bamboo shoots from being stolen. Second, it improves the growth quality of the bamboo grove and broad-leaved forests. FFC members in Sanxi Village also believe that it protects the resources as well as preventing the bamboo shoots from being stolen.

However, the villagers also mention some negative influences of the policy at the same time, mainly represented by the reduction of the income, which is RMB 10,000 per year on average compared with the former years. It is reflected by the FFC members in Sanxi Village that Sanxi

Village is rich in hardwood resources. The prohibition of mushroom cultivation negatively impacts the farmers' income. With regard to the weaknesses of policy, the forest farmers of Dacao first think that the policy is too strict. For example, digging up bamboo shoots can loosen the soil while do nothing at all would goes against the growth of moso bamboo. The supervision of policy is not implemented to a sufficient degree in Dacao Village, resulting in the ineffective prohibition on winter bamboo shoots in Dacao village. With the existence of traders purchasing the winter bamboo shoots in the market, there would still remain some people digging them furtively.

Therefore, FFC members propose the following suggestions to the non-timber forest products policy: First, the government should keep long-term stability of this policy. Second, the policy could be more flexible. For example, appropriate amount of broad-leaved forest can be selectively cut for the mushroom cultivation. Third, fertilizer should be compensated for the farmers' loss due to this policy by the government. Fourth by drawing the experience and technology of Zhejiang province, the government should give financial support to the farmers, who will knock down the bamboo weeds, cultivate the land, cover the membrane above bamboo shoots, which facilitate bamboo shoots digging without affecting the growth of bamboos. The Non-FFC members and the forest farmers in Dacao Village hold opinions that the government should reinforce the implementation of this policy, prohibit the sale of bamboo shoots, thus furtive shoots digging can be eradicated. Besides, he forest farmers in Dacao Village suggest that technical instructions can be given to forest farmers to help them collect the non-timber forest products rationally and scientifically.

8.5.2 Attitude and perception of county-level administration department

The interviewed staffs of Tonggu Forestry Bureau hold opinions that the purpose of limitation on non-timber forest products is to protect resources; no matter they are broad-leaved trees or bamboos. The policy that forbids forest farmers to dig bamboo shoots gets only a few disapprovals from forest farmers who either do not have forestlands or live far away from their own forestlands, so can dig bamboo shoots from other people's forestlands customarily. However, to most forest farmers, they intend to protect bamboo shoots so that the shoots will grow to moso bamboos, for their price is soaring, much higher than that of bamboo shoots. From detailed contents of the policy, it can be drawn that the ban is aimed to protect bamboo shoots which may be stolen by others, as winter bamboo shoots will not grow to moso bamboos. Meanwhile, the spring shoots will grow into bamboos, so the policy is set to ensure their growth. Although this is a government policy, the main supervisors are forest farmers. On the one hand,

the policy functions as a way of macro regulation; on the other hand, it provides an executive basis for forest farmers to prevent theft.

Whether there is a necessity for the existence of policy mainly depends on forest farmers' awareness and condition of the market. In 1990s, the policy of banning shoots digging had been practiced. However, during that time, as the price of moso bamboos was lower than that of the bamboo shoots, forest farmer dug bamboo shoots for money which led to the serious damage of bamboos. Now it is just the other way around. With the uprising price of moso bamboos, forest farmers choose to protect bamboos rather than dig their shoots.

8.5.3 Attitude and perception of township-level administration departments

The staffs of Paibu Forestry Workstation think that part of the farmers' cutting need is restricted by the cutting ban of broad-leaved trees.

As to non-timber products, the staffs of Sandu Forestry Workstation believe that it is impossible to lay a ban on these products in Dacao Village, which is the home of moso bamboo and is famous for its bamboo shoots. Therefore a strict ban will not only be impossible, but may also not hurt the growth of moso bamboo. After collecting suggestions and heated discussions, an agreement is finally reached that only people within the village can dig bamboo shoots and that they cannot dig in other owners' forestlands. Basically, forest farmers abide by this agreement voluntarily, which shows a satisfying performance of the agreement.

8.6 Policies of supporting special industries

8.6.1 Attitude and perception of forest farmers/FFC members

The supporting policies of special industries in Sanxi Village and Dacao Village focus on the transformation of bamboo forests, but they are a bit different in policy beneficiaries. The FFC members in Sanxi Village who have applied for the transformational project are not many, only reaching up to 10 %. The Non-FFC members in Sanxi Village who have applied for the transformational project reach up to 40 %. The interviewed forest farmers of Dacao who have applied for the transformational project reach up to 50 %.

Table 8-7 Attitudes and Perception of Forest Farmers and FFC Members on Supporting Policies of Special Industries

Forest Farmers	Policy Reasonability			Influence on Forest Management				
	Very Reasonable	Reasonable	Unreasonable	Very Unreasonable	Tremendous Influence	Large Influence	Limited Influence	No Influence
FFC Members in Sanxi	/	100%	/	/	/	/	/	100%

Village									
Non-FFC									
Members in Sanxi Village	33%	67%	/	/	50%	50%	/	/	
Forest Farmers in Dacao Village	33.3%	44.4%	11.1%	11.1%	11.11%	22.22%	22.22%	44.44%	

In the rationality evaluation of moso bamboo forest transformational program, all the interviewed FFC members in Sanxi Village consider the policy to be reasonable, among which 33 % consider it very reasonable and 67 % relatively unreasonable. But in Dacao Village, 11.1 % of interviewed forest farmers think it unreasonable and 11.1 % think it very unreasonable.

When evaluating its influence on forest management, all the interviewed FFC members in Sanxi Village hold opinions that the policy has no influences. But the Non-FFC members in Sanxi Village think it has influences, among whom, those who believe the policies have tremendous or relatively large influence on their forest management each take over 50%. In Dacao Village, the farmers have different evaluations. The majority, i.e. 44.4 %, believe the policies have no influence on the forest management, and 22 % think that it has relatively large influence, and the same proportion is for limited influence. 11.1 % supposes the influence is tremendous.

The transformation program has brought some benefits to forest farmers, as it sets an example of driving them to transform moso bamboo forests with low yield and increasing the efficiency of management, boosting the forest farmers' enthusiasm of the transformation, reducing the forest farmers' breeding costs, and increasing the quantity and quality of moso bamboo output.

The forest farmers also evaluate the negative impacts and the existing problems. The FFC and Non-FFC members in Sanxi Village believe that the coverage of program is too small, and there are not enough indexes in this program. The Non-FFC members in Sanxi Village think that its subsidies period is too short. The interviewed forest farmers of Dacao Village think that the government only transform the moso bamboos along two sides of the roads, but do not transform moso bamboos in mountains. Moreover, only the bamboo forests over 200 mu have the qualification to apply for the project, so forest farmers who only have small areas have to unite for application. Therefore, the forest farmers with small-area forests are restricted.

Based on the perception and evaluation, all the forest farmers suggest that the government should issue more project indexes, benefiting more villagers with the policy. The Non-FFC members also hope that the government should prolong the transformation programs till bamboo forests get mature. In addition, the government can start from the pilot program, carrying out the concentrated tending of bamboo forests. The forest farmers of Dacao suggest that the policy should take forest farmers with small-area forest into consideration.

8.6.2 Attitude and perception of county-level administration departments

As reflected by the Forestry Bureau of Tonggu County, the special industries are influenced by following up the national project of “converting cultivated land back into forests”. Before the introduction of industrial policy, the government helped forest farmers solve the problems of industrial development and product outlet through main means of unified purchase of products. But this becomes a burden to the government, and easily leads to conflicts of executive orders. It is difficult for forest farmers to enjoy the benefits. The supporting policies of special industries through subsidies improve farmers’ enthusiasm in the transformation of low-yield bamboo forests, so as to increase productivity through wage subsidies and the provisions of seedlings.

But there are still some problems in the supporting problems of special industries. Currently only a few of the forest farmers in Dacao Village have enjoyed this policy. Besides, the forest farmers can only get the policy subsidy only in one year.

8.6.3 Attitude and perception of township-level administration departments

The interviewed staffs of forestry workstations at the township level pointed out that the supporting policies of special industries are designed by the county forestry management department. Then the lands that can enjoy the policy are demarcated by the township and village committee and are reported to the county. The forest farmers carry out the transformation of bamboo forests or economic fruit forests after approval. The forestry departments at county level issued out the subsidies after the transformation is inspected and accepted by them. The interviewed staffs of forestry workstations believe that the policy can save investment fund for forest farmers to some extent. But in general, the effectiveness of policy is only one year, and is difficult for forest farmers to achieve the desired effects since the life cycle of moso bamboo is generally 3-4 years. Therefore, the interviewed staffs of forestry workstations at township level point out that the subsidies for forest farmers should be extended to help farmers throughout the bamboo’s growing season to achieve farmers’ financial needs and to ensure benefits effect of the policy.

9 SWOT analysis on forest management policies and systems from forest farmers’ perspectives

After the forest tenure reform, the forest farmers are managers of forests in law as well as

executors of relevant forest management policies. Therefore, on the basis of forest farmers' attitudes and views on the policies, it is essential to further analyze and recognize the strengths, weaknesses, opportunities and challenges of all related policies and systems from the forest farmers' own perspectives on forest management. It is not only beneficial for the enhancement of their ability to participate in forest management, but also of vital importance to the future coordinated reform on forest management policies.

9.1 Policies of forest cutting quotas

Strengths

- Guarantee of ecological security and sustainable management

The forest farmers approve the role of policies in protecting ecological security. They think it is good for both the nation and society because it does help to control soil erosion and protect ecological security. The forest cutting quotas can effectively prevent some irrational forest farmers from cutting down all the trees in one time, thus avoiding the rapid depletion of forest resources and livelihood problem of farmers in the future.

- Stabilization of market prices of timber

Some of the forest farmers in Sanxi Village hold the view that current advantageous market prices of timber are guaranteed by policies of cutting quota. They argue that if the cutting amount is not under control, the market prices of timber would not remain so high but fall due to an oversupply.

Weaknesses

- Lack of cutting quotas

Most forest farmers presume that the biggest disadvantage of policies is that the quotas for trees, such as pine and fir, are too small, making it difficult to satisfy the cutting needs of some forest farmers, thereby indirectly leading to a decline in household income.

- Indistinctiveness of policies

Some forest farmers indicate that villagers in Sanxi Village highly depend on the forestry income, and that the amount of cutting directly determines how much of they earn, while farmers in some towns or regions are less dependent on forestry income, so the impact of cutting restrictions are different in different regions, but the policies do not take into account this distinction. The entire indistinctiveness of policies without discrimination is unreasonable.

- Lack of flexibility

It is reported by many forest farmers that the inflexibility in allocation of cutting quotas has caused many problems. For example, the specific quotas are allocated equally to each household, even to those who have no growing trees. Therefore, after the allocation, the forest farmers still need to exchange and make adjustments privately.

- Lack of implementation efforts of policies

During the implementation process of policies of cutting quotas, there still exist some violations of rules and regulations. It is reported by forest farmers that someone cut trees at will regardless of cutting indexes and then bought quotas through black case work, reflecting an obvious inadequacy of implementation.

Opportunities

- Rationality of farmers in forest management

Viewed from the rationality of forest farmers in forest management, the forest farmers in Sanxi Village assume that they cannot arrange forest management rationally. Some of them will cut over the forest in one time if there are no constraints and restrictions. Therefore, it is necessary for policies of cutting quotas to exist.

- Forest farmer's awareness of ecological security

The forest farmers in Sanxi Village think that before their living standards and cultural qualities reach a certain level, they will and must only pay attention to their own economic interest, without the time to consider ecological security and the ability to actively shoulder the responsibility of protecting it. Therefore, over a period of time, it is necessary to guarantee ecological security through policies.

Threats

- Timber market

First, in recent years, the market prices of timber in Tonggu County have always been on the significant increase, either for firs or bamboos. Driven by the advantageous market prices, the forest farmers have a stronger desire to harvest, adding to difficulties of implementing the policies of forest cutting quotas.

Second, the guiding functions of market also pose a threat to needs of policies. Some forest farmers argue that they will be more actively engaged in forest management and the management will probably develop in a rational way automatically based on the confidence brought by market prices and positive expectation of market prospect. Some even hold that in the future the rational

cutting which will indirectly contribute to ecological security could be realized even without such binding policies.

Third, the ineffective market supervision is an important factor which affects the results of policies. By rules, during the marketing process of timber, the cutting certificates are required. However, it was reported by some forest farmers that unlawfully cut timbers were still able to come into the market, reflecting the loopholes in the supervision.

- Forest farmers’ planned management

Most forest farmers in Sanxi Village believe that the forestry has been their main source of livelihood for generations. Generally they have certain plans for their own woodland management and arrangements for the cutting and planting of timber resources, and it is extremely rare for a forest farmer to cut down all the trees at one time. Therefore, it is not necessary to adopt the strict policies of forest cutting quotas.

- Forest farmers’ disapproval

Some of the farmers in Sanxi Village have unfavorable opinions about cutting quotas. The policy makes the management rights and cutting rights contradict with each other. It is a kind of distrust of forest farmers in forest management. They also believe the cutting quotas are too small, affecting the farmers’ income. So they disapprove of the policies.

Table 9-1 SWOT Analysis on Policies of Forest Cutting quotas

	Positive Effects	Negative Impacts
External Factors	Opportunities (O)	Threats (T)
	<ul style="list-style-type: none"> ● Rationality of farmers in forest management ● Forest farmer’s awareness of ecological security 	<ul style="list-style-type: none"> ● Timber market ● Forest farmers’ planned management ● Forest farmers’ disapproval
Internal Factors	Strengths (S)	Weaknesses (W)
	<ul style="list-style-type: none"> ● Guarantee of ecological security ● Avoiding cutting down all the trees in one time ● Stabilization of market prices of timber 	<ul style="list-style-type: none"> ● Lack of quotas ● Indistinctiveness of policies ● Lack of flexibility ● Lack of implementation efforts

9.2 Policies of forestry taxes

Strengths

- Increasing forest farmers’ income, and reducing farmers’ management costs

The reduction or exemption of forestry taxes has increased forest farmers' income indirectly and improved their living standards, which is the exact aim of policies. According to the policies, the current charging items mainly include afforestation fund, as well as quarantine and measurement charges. The former would be returned as the fund for raising forests in order to help forest farmers invest in forestry.

- Supporting preferential policies

As is reported by forest farmers in Sanxi Village, those who have paid afforestation fund can enjoy a preferential price when purchasing nursery stocks, which constitutes the practical policies favorable to farmers.

Weaknesses

- Charging standards and function of three-prevention charges

The forest farmers think that the three-prevention charges are collected much but not used to rightful place. They have an unfavorable opinion about the role of Three-Prevention Association, because on the one hand they see that the actual actions and results do not match the charges they hand in; on the other hand, the fires or diseases seldom happen in Sanxi Village, therefore, the forest farmers believe that the special protection is not necessary.

- Excessive land taxes

The forest farmers in Dacao Village said that though the forest taxes have been reduced, the land taxes must be paid when the timber is to be sold out of local area. As the land taxes are high, which has led timber processing factories offer low purchasing price, thereby lowering forest farmers' income indirectly.

Opportunities

- Attitudes of forest farmers

The forest farmers in Dacao Village appreciate the policy of reduction or exemption of forest taxes since it has reduced their woodland management costs directly and increased their income indirectly.

On the other hand, the forest farmers in Sanxi Village approve of the fact that after the reduction or exemption, the collected afforestation fund is used for woodland management and raising forest. This really corresponds to the government's principle of "from the people, for the people".

- Stimulating forest farmers to invest in forestry

After the forest tenure reform on forest taxes, with reduced tax items and tax rates, the forest farmers' enthusiasm for forest management has been greatly improved and they are more willing to make investments related to forestry.

Threats

- Different three-prevention charges in different villages

The Three-Prevention Association is a self-help organization, whose aim is to round up the strength of single farmer to jointly carry out the fire prevention, pest control and security operations. The forest farmers think the three prevention charges in Sanxi Village are RMB 50 mu/year, which is too much compared with the charging standards in other villages.

- Different standards of land taxes in different counties

Different counties have different charging standards. Compared with the neighboring Yifeng County, Tonggu County charges higher land taxes, resulting in lower purchasing prices of timber offered by timber processing factories.

Table 9-2 SWOT Analysis on policies of forestry taxes

	Positive Effects	Negative Impacts
External Factors	Opportunities (O)	Threats (T)
	<ul style="list-style-type: none"> ● Attitudes of forest farmers ● Stimulating forest farmers to invest in forestry 	<ul style="list-style-type: none"> ● Different three-prevention charges in different villages ● Different standards of land taxes in different counties
Internal Factors	Strengths (S)	Weaknesses (W)
	<ul style="list-style-type: none"> ● Increasing forest farmers' income, and reducing farmers' management costs ● Supporting preferential policies 	<ul style="list-style-type: none"> ● Charging standards and functions of three-prevention charges ● Excessive land taxes

9.3 Policies of microfinance

After the forest tenure reform, the policies related to forest farmers' microfinance in Sanxi Village are mortgage loan on of forest tenure certificate, credit loan, and yen loan.

9.3.1 Forest tenure certificate mortgage loan

Strengths

- Large loan amount

According to the policies of forest tenure certificate mortgage loan, the line of credit is in direct proportion to forest farmers' woodlands, namely 50% of evaluated value of their woodlands. As long as the forest farmers possess enough woodland, a large amount of credit loan is available to them. Especially for the FFC members in Sanxi Village, on behalf of Shuangxi Forestry Cooperative, the loan amount will be very substantial, sufficient to meet the forestry investment needs of FFC members.

Weaknesses

- Complicated application procedures

The interviewed forest farmers (both FFC and Non-FFC members) in Sanxi Village think the application procedures of this loan are far too complicated. Before the application, one needs to pay charges to evaluate the value of his/her woodland. Even if the charges are paid, then the loan is not necessarily available. All of this adds to the difficulties in the application.

- Small proportion of loan amount in relation to evaluated value

The available amount of loan only accounts for 50% of the evaluated value of woodland. Such amount cannot offset the evaluation cost in the earlier stage and the loss resulted from limited cutting or tending on the mortgaged woodlands. Therefore, the forest farmers consider this proportion lower than their expectations.

- Low encashment rate of preferential policies

As reflected by FFC members, they were promised before the application that they could enjoy some discount benefits if they applied for the mortgage loan with the name of FFC, but actually the process did not honor the promise of these discount benefits.

- High evaluation cost

The evaluation cost before application places a great obstacle to implementation and popularization of forest tenure certificate mortgage loan. The forest farmers apply for loan for short of capital, but even under such a circumstance, they still need to pay the evaluation charges, which are not a small amount for them and could hardly be acceptable.

- Excessive restrictions

The forest farmers think that the policies pose too many restrictions. For example, the cutting or tending is not allowed on mortgaged woodlands during the mortgage period of forest tenure certificate. For another example, the forest farmers with less woodlands are not allowed to enjoy

the policy.

Opportunities

- Increasing forest farmers' investment in forestry

After the forest tenure reform, the forest farmers in Sanxi Village obtain the right to manage the woodlands. With good prospects of timber market, the forest farmers show great enthusiasm in forestry investment. However, the forestry investment often demands a large amount of capital and requires a rather long cycle. Under such a circumstance, the forest farmers are expected to have an ever-increasing need for loan.

Threats

- Credit loan

At present, as an alternative to forest tenure certificate mortgage loan, the credit loan is preferred by forest farmers when dealing with the problem of fund shortage, for on the one hand, the credit loan policy has been implemented for a relatively long time; on the other hand, the application procedure of forest tenure certificate mortgage loan is more complicated and costly than those of credit loan. Therefore, credit loan has become a threat to the implementation and popularization of forest tenure certificate mortgage loan.

Table 9-3 SWOT Analysis on Policies of Forest Tenure Certificate Mortgage Loan

	Positive Effects	Negative Impacts
External Factors	Opportunities (O)	Threats (T)
	<ul style="list-style-type: none"> ● Increasing forest farmers' investment in forestry 	<ul style="list-style-type: none"> ● Credit loan
Internal Factors	Strengths (S)	Weaknesses (W)
	<ul style="list-style-type: none"> ● Large loan amount 	<ul style="list-style-type: none"> ● Complicated application procedures ● Small proportion of loan amount in relation to evaluated value ● Low encashment rate of preferential policies ● High evaluation cost ● Excessive restrictions

9.3.2 Credit loan

In Tonggu County, the credit loan is mainly provided by rural credit cooperatives and favorable card of Agricultural Bank of China.

Strengths

- Simple application procedures

It is reported by forest farmers that the simple application procedures of credit loan make it convenient for them to deal with temporary shortage of small amount of capital.

- Flexible policy

According to the regulations of credit loan policy, as long as a forest farmer can pay off the principals and interests within one year, he/she is allowed to borrow money every year. Even if he cannot pay off them within one year, as long as the interests are paid off, the payment of principals can be extended to the next year. In a word the credit loan policy is quite flexible.

- Solution to forest farmers' shortage of small amount of capital

Owing to the simple application procedures of credit loan, the forest farmers are able to apply for loans at any time to deal with their temporary shortage of small amount of fund.

Weaknesses

- Limited lending quotas

The forest farmers think currently lending quotas allowed by this credit loan policy are limited somewhat. Even the forest farmers with highest credit ratings are only allowed to borrow up to RMB 30, 000 which sometimes cannot satisfy their needs.

- Short turnover time

It is reported by forest farmers that the cycle of credit loan is too short. Within a period of one year, the loan is hard to yield profits equal to or higher than the interests, which is unfavorable to investment loans.

- Constraints

The interviewed bachelor forest farmers points out that one of the unreasonable rules of credit loan is that forest farmers like them are not allowed to apply for the credit loan, which limits their right to enjoy this policy.

Opportunities

- More flexibility compared with other policies of the same kind

Compared with the policy of forest tenure certificate mortgage loan, the credit loan policy is believed to be more flexible. The forest farmers can apply for the credit loan at any time, and as long as they do not have poor credit records, the loan is generally available.

- Large coverage

After the cooperation of rural credit cooperatives and the Committee in Sanxi Village to complete the credit rating of forest farmers, all of them are entitled to apply for a credit loan according to their own credit ratings, in which the only difference lies in the amount available to them. Therefore the coverage of this policy reaches almost 100%.

Threats

- Large amounts of required capital and long cycle of forestry investment

In the future, the shortage of capital for forest farmers will be mainly reflected in forestry investments, such as the afforestation, reconstruction of bamboo forests and road construction in woodlands. All of these need large amounts of capital and have a rather long cycle of investment return. However, the current credit loan requires forest farmers to pay off the principals and interests within one year and the maximum loan amount is RMB 30,000, which cannot meet the needs of forest farmers. With a narrow development space, it may be threatened by large loan policies such as forest tenure certificate mortgage loan.

Table 9-4 SWOT Analysis of Credit Loan Policy

	Positive Effects	Negative Impacts
External Factors	Opportunities (O)	Threats (T)
	<ul style="list-style-type: none"> • More flexibility compared with other policies of same kind • Large coverage 	<ul style="list-style-type: none"> • Large amount of required capital and long cycle of forestry investment
Internal Factors	Strengths (S)	Weaknesses (W)
	<ul style="list-style-type: none"> • Simple application procedure • Flexible policy • Solving forest farmers' shortage of small amount of capital 	<ul style="list-style-type: none"> • Limited lending quotas • Short turnaround time • Constraints

9.3.3 Jiangxi afforestation project based on Japanese government loan (Yen loan project for short)

Strengths

- Long repayment period

The Yen loan policy allows long repayment period of 40 years for forest farmers to pay back the

loan. The first 10 years is the grace period, when forest farmers only need to pay the interests of the loan. This benefits the farmers who make use of the loan to afforest or for other forestry investment.

- Solution to forest farmers’ shortage of forestry investment capital

The forest farmers claim that the yen loan is mainly used for forestry investment such as afforestation, transformation of bamboo forests, and tending. It can solve the problem of forest farmers’ shortage of forestry investment capital.

- Low interest rate

As reflected by forest farmers, the Yen loan requires low interest rate that is 30% of domestic interest rate, there reducing the their repayment pressure.

Weaknesses

- Small coverage of the loan

Few villagers have obtained the Yen loan. Only 10% of FFC members and 20 % of Non-FFC members have enjoyed this loan.

Opportunities

- Forest Tenure Reform

The prerequisite of loan application was the forest tenure certificate with more than 30 years of clear forest tenure. And the forest tenure reform makes the forest farmers have the opportunity to enjoy the loan policy.

Threats

- Short implementation period

The implementation period of yen loan in Tonggu County is relatively short. The loan ceased in the end of 2010. Few farmers have enjoyed the loan.

Table 9-5 SWOT Analysis on Yen Loan Policy

	Positive Effects	Negative Impacts
External Factors	Opportunities (O)	Threats (T)
	<ul style="list-style-type: none"> • Forest Tenure Reform 	<ul style="list-style-type: none"> • Short implementation period
Internal	Strengths (S)	Weaknesses (W)

Factors	<ul style="list-style-type: none"> ● Long repayment period ● Solution to forest farmers' shortage of forestry investment capital ● Low interest rate (30% of domestic interest rate, 10 years of grace period, and 20 years of principal repayment period) 	<ul style="list-style-type: none"> ● Small coverage of the loan
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9.4 SWOT analysis on policies of public welfare forest compensation fund

Strengths

- Improvement of ecological environment

The implementation of the policies has played an important role in improving ecological environment since it has ameliorated the quality of woodlands, as well as conditions of water resources and climate.

- Sound policy system

The systems, policies and regulations on ecological public welfare forest are fairly sound, either of Jiangxi Province or of the national level, facilitating the smooth implementation of policies.

- Gradual improvement of policies

The standard of commercial forest compensation fund is rising year by year. In 2008, the proper tending was permitted, not only facilitating the growth of trees but also increasing forest farmers' income in some degree.

Weaknesses

- Low standard of compensation fund

The compensation fund remains in a relatively low standard and is raised in a small degree with few frequencies, which makes its rising speed slower than that of the market prices of timber, leading to the dissatisfaction of forest farmers.

- Complicated examination and approval procedures of tending cutting

After being zoned into commercial forest, the forest farmers have to follow the complex procedures to conduct tending, including application, examination and approval level by level.

- Marking out commercial forest

Generally a large concentrated area of woodlands will be zoned into a commercial forest. Therefore, for forest farmers whose woodlands have been zoned into commercial forests, the impact is huge.

Opportunities

- Forest farmers’ conditional participation

Aiming to improve the quality of forest resources, the forest farmers are willing to see the woodlands with poor quality and output or woodlands where the cutting is prohibited (such as broad-leaved forests) being zoned into commercial forests. Thus the woodlands can get rehabilitation and the vegetation restoration, which is good for the cultivation of forests.

Weaknesses

- Forest farmers’ awareness of interest

The forest farmers are reluctant to see the woodlands with good quality and output being zoned into commercial forests. Meanwhile, though they are aware of significant role played by commercial forests in protecting ecological environment, it is difficult for them to voluntarily sacrifice their own economic interests to safeguard resources and ecological security of the whole society.

- Timber market

The ever-increasing market price of timber has generated an enlarging gap with the standard of compensation fund, which threatens the security of commercial forests.

- Forest farmers’ disapproval

As the further understanding of policies, the forest farmers are reluctant to renew the 5-year contract of forest management and protection.

- Illegal cutting

There exists the phenomenon of unruly and illegal cuttings in commercial forests with relatively high quality and this is further encouraged by local timber processing factories’ needs of raw materials.

Table 9-6 SWOT Analysis on Policies of Ecological Public Welfare Forest Compensation Fund

	Positive Effects	Negative Impacts
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External Factors	Opportunities (O)	Threats (T)
	<ul style="list-style-type: none"> ● Forest farmers' conditional participation 	<ul style="list-style-type: none"> ● Forest farmers' awareness of interest ● Timber market ● Forest farmers' disapproval ● Illegal cutting
Internal Factors	Strengths (S)	Weaknesses (W)
	<ul style="list-style-type: none"> ● Improvement of ecological environment ● Sound policy system ● Gradual improvement of policy 	<ul style="list-style-type: none"> ● Low standard of compensation fund ● Complicated examination and approval procedures of tending thinning ● Marking out commercial forest

9.5 SWOT analysis on policies of non-wood forest products

In Tonggu County, the main non-timber forest products include forest fruits, medicinal materials, tea, mushrooms and bamboo shoots. The relative policies on non-timber forest products put a “ban on mushrooms (or broad-leaved trees)” and “ban on bamboo shoots”, which mainly affect the collection of two objects.

Strengths

- Protection of resources

The interviewed forest farmers approve of the role played by the prohibition of digging bamboo shoots and mushrooms in protecting the broad-leaved trees and bamboo forests. They believe these two policies protect the resources. The ban on digging bamboo shoots not only protects bamboos, but also protects farmers' own bamboo shoots from being stolen, which indirectly protects the bamboo shoots.

- Improvement of quality of resources

Through the implementation of these two policies, the quality of resources in Sanxi Village, such as broad-leaved trees and bamboo forests, are improved in some degree.

- Increase in revenue from bamboos

At present, the market price of bamboos is higher than that of bamboo shoots, so the ban on digging bamboo shoots can boost the growth of bamboos and increase forest farmers' bamboo output and revenue.

Weaknesses

- Inflexibility of policies

It is reported by forest farmers that the policy of banning mushrooms is inflexible since it prohibits

cutting any broad-leaved trees. But in reality, the forest farmers need to make tending and cut undesirable broad-leaved trees; otherwise the quality of woodlands would be affected. If these operations are to be prohibited, it is unfavorable for forestry management.

- Reduction of revenue from bamboo shoots

Some of the forest farmers think that in the past, they could earn some money by selling bamboo shoots to support their family, but now due to the ban on digging bamboo shoots, they have to suffer losses of almost RMB 10,000 every year.

Opportunities

- Contrast between prices of bamboo and bamboo shoot

It is said by forest farmers that in the past, the bamboo is cheaper than bamboo shoots, so the forest farmers were more willing to earn money by digging bamboo shoots to support their family. However, nowadays the market price of bamboos is much higher than that of bamboo shoots, so prohibition on digging bamboo shoots corresponds with the current situation.

- Attitudes of forest farmers

Generally the forest farmers take a welcoming attitude towards the policy of banning digging bamboo shoots because they believe the policy can protect their bamboo forests and prevent their bamboo shoots from being stolen, which would increase the output of bamboo forests and income of forest farmers.

Threats

- Market needs for bamboo shoots

The interviewed forest farmers regard the current market needs for bamboo shoots as a huge obstacle to implement policies of banning digging bamboo shoots. As long as the needs exist in the market, the purchase will never cease, which makes it impossible to prohibit stealing bamboo shoots completely, thereby affecting the influence of policies.

- Technique of digging bamboo shoots

Some forest farmers in Dacao Village believe that as long as they grasp the technique of digging bamboo shoots, there is no need for policies, which is issued mainly for those who are poor at digging bamboo shoots, i.e. they will damage the bamboo roots in the process. However, with the help of the technique, it can help loosen the soil of bamboo forests and facilitate the growth of bamboos, instead of hurting the bamboo roots.

Table 9-7 SWOT Analysis on Policies of Non-timber Forest Products

	Positive Effects	Negative Impacts
External Factors	Opportunities (O)	Threats (T)
	<ul style="list-style-type: none"> ● Contrast between prices of bamboo and bamboo shoot ● Attitudes of forest farmers 	<ul style="list-style-type: none"> ● Technique of digging bamboo shoots ● Market needs for bamboo shoots
Internal Factors	Strengths (S)	Weaknesses (W)
	<ul style="list-style-type: none"> ● Protection of resources ● Improvement of the quality of resources ● Increase in revenue from bamboos 	<ul style="list-style-type: none"> ● Inflexibility of policies ● Reduction of revenue from bamboo shoots

9.6 SWOT analysis on supporting policies of special industries

With bamboos being the major industry in Dacao Village, the supporting program of special industries focuses on the project of bamboo forest transformation. Began in 2000, this program aimed at helping forest farmers with the afforestation in barren mountains. After the program completes planning, examination and acceptance, the forest farmers are given money by stages, including afforestation subsidy given after the examination and acceptance; nursery stock fund given in the first year; fertilizer subsidies given in the second year; and tending subsidies given in three years.

Strengths

- Save of investment fund for forest farmers

Through the policies, forest farmers get subsidies on capital and fertilizer, saving their investment fund.

- Improvement in quality of bamboo forests

The majority of the supporting funds for industries with local characteristics in Dacao village are used for the reconstruction of bamboo forests, which really improves the quality of bamboo forests.

Weaknesses

- Short period of subsidies

The interviewed forest farmers consider that the short period of subsidies is a problem. According to the policies, the applicants can enjoy the capital and fertilizer subsidies for only one year, which is hard to achieve the desired effects since life cycle of bamboo is generally four years or so.

- Constraints

First, the inconvenient traffic condition in mountains renders it difficult to conduct reconstruction. Second, only the forest farmers with more than 200 mu woodlands are allowed to apply for bamboo forest transformation, while those with small area of woodlands need to make joint application, and cannot enjoy government subsidies.

Opportunities

- Increase in forest farmers' needs for investment

After the forest tenure reform, forest farmers in Dacao Village show an increasing need for forestry investment. Therefore they also have a growing need for the policy of supporting special industries, hoping to save investment cost and develop their own forest management vigorously through the policy.

Threats

- Small coverage of policies

Currently only a few of the forest farmers in Dacao Village have enjoyed the policies. Even for group members in Dacao Village, only 60% of them have successfully applied for the program of bamboo forest reconstruction. As to the program of supporting afforestation in barren mountains, only 20% who are not the group members succeeded in application, which reflects that the supporting indexes issued by the government is still relatively small and the coverage of policies is insufficient.

Table 9-8 SWOT Analysis on Policies of Supporting Industries with Local Characteristics

	Positive Effects	Negative Impacts
External Factors	Opportunities (O)	Threats (T)
	<ul style="list-style-type: none"> • Increase in forest farmers' needs for investment 	<ul style="list-style-type: none"> • Small coverage of policies
Internal Factors	Strengths (S)	Weaknesses (W)
	<ul style="list-style-type: none"> • Save of investment fund for forest farmers • Improvement in the quality of bamboo forest 	<ul style="list-style-type: none"> • Short period of subsidy • Constraints

10 Problem analysis on policies and systems

After the forest tenure reform, there are still various problems in the implementation process of relevant policies and institutions on forest management, judging from the knowledge and attitudes

of stakeholders, as well as SWOT analysis of various policies from perspectives of forest farmers. This part will conduct a further analysis on these problems.

10.1 Policies of forest cutting quotas

(1) Contradiction between policies and market system

The introduction of forest cutting quotas policies is aimed at regulating forest farmers' behavior of cutting, promoting reasonable cutting, as well as ensuring the ecological security. However, after the forest tenure reform, with the continuous growth of economy, the wood and bamboo processing companies trigger substantial increase in the demands for raw materials. The market prices of woods and bamboos rise rapidly. In Tonggu County, the prices of pine, fir and moso bamboo are all soaring, driving up the forest farmers' strong will of cutting.

However, just like what the cutting quotas policies say, the forest farmers ought to obtain the cutting certificates before cutting and selling. Unruly and illegal cuttings spring up when forest farmers are faced with limited cutting indexes and needs for cutting, driven by market prices and profits. Furthermore, the market monitoring is not in place, increasing the difficulties of monitoring cutting and sales of cutting without certificates. With existence of market demands, the unruly and illegal cuttings cannot be controlled totally.

On the other hand, contradiction between cutting quotas policies and market system lies in that the market system is playing an increasingly significant role in inducing and regulating the cutting behavior of forest farmers, which is likely to trespass the mandatory role of policies. According to questionnaire and interviews, it can be found that the guiding role of the market is not totally negative. In recent years, under the guidance of the rising price of wood and bamboo, forest farmers present higher enthusiasm on investment to forest management. Most of them claim that they have made long-term plan for their own forest, and would cut it up for one time. Hence, forest management is developing towards reasonable management. In future, perhaps forest farmers can realize reasonable cutting without the constraints of policies.

(2) Contradiction between policies and status of forest farmers

After the forest tenure reform, the forest farmers become forest managers in law and have the rights of ownership, usage, usufruct and disposition of the forests. Meanwhile, the cutting is limited by cutting indexes and forest farmers cannot determine the cutting amount according to the situation of their own resources, actual demands, and market conditions. They report that to deal with their own things at will is impossible. Hence, there are some contradictions between the policies of forest cutting quotas and the status of forest farmers.

(3) Policies neglect the planning and awareness of forest farmers' management

The reason why the substantial supporting reforms are not performed corresponding to the system of cutting amount limitation is that it is presupposed that forest resources will be damaged after the abolition of policies. However, in fact, when the forest farmers possess the woodlands, the percentage of forest farmers who would cut up the forests for one time is very small, for forestry is the source of their livelihood. Especially now under the situation that property right is clear, and forest markets is prosperous in the future, more and more forest farmers are willing to take part in afforestation and forest management investment, and their managements will also be more reasonable. In the interview, the forest farmers and other stakeholders claim that the forest farmers treasure the forest, and they will not cut wood more than needed if there are no special demands from the family. They also point out that if they want to cut more wood, the effect of cutting indexes policies is limited.

(4) Contradiction between economic interest of forest farmers and ecological interest of whole society

The cutting quotas policies play an active role to ensure that the cutting amount is less than the growth amount, and maintain the sustainable management of forest resources. However, the cutting quotas policies limit forest farmers' capacity to deal with forest resources which belongs to them with personal preference and market information. Therefore, they might miss the best opportunity to obtain the maximum profits, or increase the cutting costs. As the cutting indexes are rare resource, on the one hand, it costs forest farmers a lot of time and efforts to get the cutting indexes; on the other hand, it will result in inequity during the distribution of cutting indexes, which will further suppress the enthusiasm of forest farmers engaged in forestry production. Hence, the forest farmers prefer to plant the forest trees with sufficient indexes, such as moso bamboos, with which they can attenuate the effects of cutting quotas policies in disguised forms. The ecological security is the common interest of whole society. In the interview, the forest farmers are also aware of the importance of ecological conservation. Yet, the fact that they should pay for other people's mistakes only generates their resistance to the policies. The cutting rights without freedom easily hurt the forest farmers' enthusiasm, especially when they have obtained the legal rights for management.

(5) Regional differences of distribution of cutting quotas

Theoretically, the distribution of cutting quotas is up to the situation of forest resources. However, either in the interviews of county level or village level, the forest farmers mentioned that the cutting quotas do not take the distinction between regions with low dependence on forestry and with high dependence into account. In regions with low dependence on forestry, the contradiction caused by cutting quotas is not obvious, and the effects of quotas on the income of villagers are small. But in places like Tonggu County or Sanxi Village, where

forestry is the main resource of livelihood, the impact of cutting quotas is quite serious, and so is the contradiction. As forestry is the main resource of livelihood for forest farmers there, the limited cutting indexes contradict with large population requiring the cutting or woodlands needing to be cut. In Tonggu County, the similar situation emerges. According to the response of interviewees in Forestry Bureau of Tonggu County, the forestry resources on east side of the river are rare; hence the dependence of forest farmers on forestry is low and contradiction is relatively small. However, on the west side the resources are rich, while there are fewer people and more mountains without industries, and a lot of forest resources available for cutting, thus causing more contradictions.

(6) Unreasonable index distribution

During the process of distribution of cutting indexes, the area of woodlands and forest quality are generally considered as the principles for distribution of cutting indexes in the level of county town. However, in the village, given the fairness, the cutting indexes can only be distributed averagely according to the unit of households. However, such distribution does not match the conditions of forest resources owned by forest farmers, as some get the cutting indexes without trees to cut, while some have a lot of trees without cutting indexes. Therefore, there are private regulations and trades of cutting quotas indexes among forest farmers.

(7) Inflexible policies and limited cutting indexes

Most forest farmers think that at present the index of moso bamboo is enough but the indexes of pine and fir are too limited which cannot meet the needs of cutting in some woodlands, and may hurt forest farmers' management as well as reduce the household income. It also causes continuous unruly and illegal cuttings, thus having wood without certificates circulating in the market. Meanwhile, the mixed trees and hardwoods need proper cutting for growth. However, they cannot be cut because of the limitation of rigid policies, having negative impacts on growth of forests.

(8) Inadequate implementation of policies

According to the interview, there are some unruly phenomena during the process of implementation of cutting quotas policies. In practice, some forest farmers cut trees at their own will regardless of cutting indexes, and then buying the cutting indexes secretly. Some processing factories purchase woods or logs having no certificates.

10.2 Policies of forestry taxes

Compared with the situation before the forest tenure reform, the forest taxes tend to decline. In addition to the exemption of taxes of agroforestry special products and various charges in villages, the proportion of charging fund for afforestation is also reduced. With the increasing

price of woods and bamboos, the reduction of forest taxes arouses the forest farmers' enthusiasm, and provides them with real profits. Jiangxi Province has provided certain amount of subsidies by transferring payments to address problems of decreased capitals in administrations of various levels (especially the key counties for forestry), which is brought by the decline of forest taxes.

The investigation indicates that from the perspectives of forest farmers the remarkable problems about policies on forest taxes is that the ratio of taxes is not clear, and there are doubts about standards of individual charges. Taking the interviewed forest farmers in Sanxi Village as example, many forest farmers only have an unfavorable idea of charging standards, usages, as well as effects of three-prevention charges. The Three-Prevention Association is a self-help organization, its charging standards are different in different villages. This indicates that the management and collection of forestry taxes lack of transparent procedures and farmers' participation.

In terms of other stakeholders, the main problem is that the decline of forest taxes has resulted in decrease of capital resources for administrations of various levels, causing certain difficulties for forest conservation and management. The reason is the lack of relevant supporting policies. Most forestry counties are underdeveloped, in which the lack of funds, on the one hand, would influence the forestry resource management; on the other hand, it would lead to the problems that taxes being charged in disguised forms.

10.3 Microfinance policies

10.3.1 Forest tenure certificate mortgage loan

(1) Complex procedure for the mortgage loan

Applicants for mortgage loan on forest tenure certificate should first undergo the evaluation of woodlands with the applied amount not exceeding 30% of evaluated value. However, the cost in early stage of evaluation is higher, especially when such evaluation is necessary but not sufficient to get finance, i.e. the applicants have chance failing to get loans even if they have paid the charges of evaluation, which would hurt the enthusiasm of forest farmers in the application.

(2) Numerous constraints

There are many constraints on mortgage loan. The forest users with less forests cannot enjoy the policies; moreover, according to the existing provisions, during the period that forest tenure certificate is mortgaged, the forest users are not allowed to cut trees on mortgaged woodlands. In addition, the constraints that forest farmers with less area cannot enjoy the policies are a serious problem that reduces the availability of policies to all the forest farmers.

(3) High cost of evaluation

In their report, the forest farmers in Sanxi Village regard the shortage of funds as the reason why they apply for finance. The current cost of evaluation is beyond their expectation, which affects the enthusiasm of forest farmers to apply for finance in forestry investment.

(4) Small ration of total evaluated value in the loan

According to the existing standard, the line of credit for the mortgage only accounts for 50% of evaluated value of woodlands. However, the forest farmers report that such amount cannot offset the evaluation costs in the earlier stage and losses resulted from limited cutting or tending on the mortgaged woodlands.

(5) Lack of supporting policies for mortgaging the forest tenure certificate

As a necessary link for the application of mortgage loan, the value evaluation on woodlands decides the amount the forest farmers can apply for. Nowadays, there are no professional institutions or appraisers that are able to carry out the evaluation on values of forestry, forest lands and forest resources not only in Tonggu County but also across the whole country. In addition, there is no unified evaluation standard, which brings difficulties for implementing policies.

In addition, the promised discount benefits before the application have not been fulfilled, therefore, the FFC members have discontented moods.

(6) Difficulties in controlling over the flow of finance funds

The initial intention of introduction of forest tenure certificate mortgage loan policy is to help the forest farmers solve difficulties brought by special features of forestry investment, which requires a large and long-term investment. However, nowadays, there is no relative monitoring system to supervise the flow of finance funds, which makes it difficult to ensure whether forest farmers have applied the loan to forestry management and investment or not, and achieve the objectives of policies.

10.3.2 Credit loan

(1) Difficulties in satisfying the needs of forest farmers for forestry investment

Generally, the characteristics of forestry investment are that they require the large and long-term investment. At present, the credit loan is required to pay off principals and interests within a year, and the forest farmers with the highest rank of credit can only get the maximum sum of loan of RMB 30,000. The low amount and short cycle make the credit loan difficult to meet the needs of forest farmers for forestry investment.

(2) Constraints of policy provisions

The credit loan is based on the evaluation of forest farmers' credit rank. According to the relationship between existing credit rank and enabling loan amount, the forest farmers with the

highest rank of credit can only get the maximum sum of RMB 30,000 per year. The standard is relatively low. In addition, every time forest farmers can only apply for a yearly loan, which they must pay off the principals and interests within one year, and then they can apply for a new loan. This does not match the general requirements of investment return cycle. Additionally, the policies decide that the bachelor forest farmers cannot enjoy the policy.

10.3.3 Jiangxi afforestation project based on Japanese Government loan

The implementation period of yen loan in Tonggu County is relatively short. The loan was ceased at the end of 2010. Few forest farmers could enjoy the loan.

10.4 Ecological public welfare forest compensation fund

(1) Low standard of compensation

Although the standard of ecological public welfare forest compensation is rising, its amplitude and frequency remains in a relatively lower level, which is much slower than the rising speed of market price. The gap between market price of woods and standard of compensation is increasing, which has a significant influence on forest farmers' income as well as their participatory enthusiasm. The conservation of ecological public welfare forest is also being threatened.

(2) Strict requirements for ecological public welfare forest cutting

After being zoned into commercial forests, the forest farmers have to follow the complex procedures to conduct tending, including application, examination and approval level by level.

(3) Requirements for ecological public welfare forest planning requirement

During the period of ecological public welfare forest planning, generally a large concentrated area of woodlands will be zoned into the commercial forest, which is easy to zone the whole or most part of forests belonging to certain or some forest farmers into ecological public welfare forests. Since the ecological public welfare forests are not allowed to be cut without permission, it will have serious influences on household income of these forest farmers. Under the existing standard of market price, their income gap with those whose forests aren't zoned into ecological public welfare forests will be increased.

(4) Reluctance of forest farmers

With further understanding of policies, the forest farmers are reluctant to renew the 5-year contracts for forest management and protection as their resentment for policy increases, making it difficult for forestry management sectors conduct their works.

(5) Stealing cutting and illegal cutting

After being zoned into commercial forests, the ecological public welfare forests are not allowed to be cut in principle. Therefore, the phenomenons of unruly and illegal cuttings occur in commercial forests with relatively high quality. It increases the difficulty in supervision, for with limited forest rangers the goal of complete elimination of unruly and unlawful cuttings are hard to achieve.

10.5 Non-timber Forest Products Policy

10.5.1 Policy limitation on “ban of mushroom cultivation”

It is reported by forest farmers in Sanxi Village that the policy of banning digging mushrooms is inflexible since it prohibits the cutting of any broad-leaved trees. But in reality, the forest farmers need to make tending and cut undesirable broad-leaved trees; otherwise the quality of woodlands would be affected. If these operations are prohibited, it is unfavorable for forestry management.

Besides, the mushroom cultivation is banned because it consumes large quantities of hardwoods. The implementation of this wide-ban policy will certainly damage the mushroom cultivation industry, and reduce the farmers' income, but the policy does not give much consideration to issues and not make a way out for these forest farmers.

10.5.2 Policy limitation on “ban of bamboo shoot cultivation”

(1) Problems brought by market needs of bamboo shoots

Some stakeholders think that “ban on bamboo shoots” is not strict enough. At present the problem is that there are needs for bamboo shoots in the market, so driven by the profit someone would purchase the shoots, which is sure to lead some forest farmers to dig for bamboo shoots or even steal bamboo shoots from other forest farmers' area.

(2) Impacts brought by ban of techniques of bamboo shoot digging

The ban on bamboo shoots is aimed to protect growth of moso bamboos; however. it neglects another method of realizing the goal, namely the publicity and population for techniques of digging bamboo shoots. According to the response from forest farmers, the proper digging can loosen the soil for moso bamboos, providing the growth of moso bamboos with benefits. Yet, the roots of bamboo shoots might still be hurt, for there are fewer people who have knowledge of techniques. Therefore, the publicity and popularization of techniques can help with solving the problems.

10.6 Supporting policies of special industries

The moso bamboo is the major industry in Dacao village, so the supporting program of special industries focuses on the project of bamboo forest transformation. The problems are:

(1) Small coverage of policy

At present, only a few of forest farmers in Dacao Village have enjoyed the policies. The farmers who have succeeded in the application of bamboo forest transformation project only account for 50 % of the population.

(2) Strict constrains of policy

Only forest farmers possessing more than 200 mu woodlands are allowed to apply for bamboo forest transformation project, while those with small area of woodlands need to make joint application. Meanwhile, the transformation is generally based on some special projects and programs, such as the project of “One Large Goal and Four Small Goals”, i.e. to green the government places of counties, towns and cities, the area of villages, the land of infrastructures, industrial park as well as the bare land of mines, so as to increase forestry coverage of the province. The forest farmers with bamboo forests along the roads can enjoy the supporting policies under certain conditions.

(3) Short period of subsidies

The custom of offering subsidies to special industries is to build first and then provide compensations, which is not good for forest farmers who are lack of funds. Besides, the effectiveness of policy is only one year, and is difficult for forest farmers to achieve desired effects since life cycle of moso bamboo is generally four years or so.

(4) Unstable sources of funds for special industries

At present, the main source of funds for special industries in Tonggu County is the capital generated from follow-up industries after returning farmlands to forests. In addition, the project of “One Large Goal and Four Small Goals” in Jiangxi Province also provides engineering funds for forestation and landscape engineering and greening. Therefore, the origin of source is not so stable, for once the programs above are completed, there might be no subsequent project to implement, thus reducing the capitals of supporting policies for characteristic industries, which would further render the subsidies unavailable.

11 Policy recommendations

11.1 Policies of forest cutting quotas

From the analysis above, the management system of cutting quotas is the central concern of forest farmers, and is considered as having the greatest impact on their forest management; besides, it is also one of the pilot reform policies supporting the coordinated reform of forestry. With the aforementioned analysis and suggestions given by different stakeholders in interviews,

suggestions concerned with the reform of cutting quotas management system are proposed as follows:

(1) Improve the flexibility of policies

On the one hand, when the cutting indexes are the inter-regionally allocated, it should favor the region that has higher dependence on the forestry, issuing more indexes to reduce the disputes concerning livelihood among forest farmers. For example, more cutting quotas should be allocated to villages and towns highly depending on forestry incomes and possessing high-quality forests, such as Sanxi Village.

On the other hand, during the allotment, the cutting indexes should be decided according to area and quality of forests, as well as volume of resources. The original approach based on equal division needs to be altered to meet cutting needs of forestry farmers by way of improving their participation and willingness in the planning and allocation of indexes, thus reducing the situation that some forestry farmers have been allocated indexes but have no trees to cut, and others have trees to cut but have no indexes.

(2) Enhance compensation standard of ecological public welfare forests and relax the quota policy for commercial forests

Due to the ecological public welfare forest cutting ban and commercial forest cutting quota policy, the economic interests of farmers have been sacrificed to some extent, so as to achieve ecological interests of the whole society. Especially as the current market price of woods and bamboos have threatened the implementation of cutting ban and cutting quota policy, the compensation standard of ecological public welfare forest should be increased, or together with other measures of compensation, some complementary measures also need to be adopted on helping forest farmers expand their sources of livelihood, reducing their dependence on forest products to protect the ecological public welfare forests; as for commercial forests, the restriction on quota should be relaxed to reduce the impact of timber market price on implementation of policies.

(3) Increase farmers' participation in the determination of forest cutting indexes

During the process of the determination and distribution of cutting quotas, the forest farmers' own wills need to be considered. Their reports should be audited by forest management to determine and distribute the cutting indexes, making the allocation more reasonable. On the one hand, the participation of forest farmers can make the cutting plan more acceptable to all parties, facilitating the implementation of the plan; on the other hand, it can play an effective supervisory role in cutting activities.

(4) Ensure the continuity and stability of policy

The forest is very difficult to regulate for vast area of forest production and management, as well as smaller scale of forest management after the forest tenure reform. In order to avoid illegal cutting and over-quota cutting effectively, it is necessary to enhance the compensation standard of ecological public welfare forest and relax the cutting quota policy for commercial forests. Besides, the continuity and stability of policies is also very important to assure forest farmers to trust forest management, promote their capacity to make rational planning for future use of resources and avoid short-term cutting behavior.

(5) Recommend abolition of pilots of commercial forest cutting quotas

Some interviewees consider that, theoretically, the abolition of cutting quotas has its rationality and feasibility, reflecting in two aspects: First, after the forest tenure reform, the forest farmers have acquired the ownership of trees, therefore, the disposal rights and income rights of trees should be possessed; second, the practices in recent years show that, with the rising price of timber and bamboo products, most farmers will reasonably arrange and plan the use of forest resources, and will not cut forests for one time because the forests are the source of their livelihood. Hence, there is no harm in opening the pilot of commercial forest cutting quotas. Under the premise of controlling, protecting the ecological public welfare forests and ensuring ecological security, the maximum benefits can be achieved by phasing out the cutting quotas gradually and cutting trees when they are most in need or stand mature. The small-scale pilot projects can be carried out first, and then experiences should be summed up to improve policies.

11.2 Policies of forestry taxes

According to the investigation, generally, various stakeholders think that the current taxes and charges are reasonable, which provide farmers with initiatives in forest management. To address the farmers' doubts about the charging standard and usage effects of the three-prevention charges in Sanxi Village, a consultative and transparent management system should be adopted, so that ordinary farmers can keep abreast of the usage of the charges. At the same time a consultative approach should be used to improve the ordinary farmers' participation in decision-making.

There is a problem that when the bamboos is sold outside farmers need to pay land tax whose standard is relatively high. It results in a lower purchasing price offered by processing factories, which reduce the income indirectly. Therefore, suggestion is that on the basis of the research and investigation, local land tax can be reduced to avoid market barriers which would affect the interests of farmers with reference to the tax standard of neighboring counties. As for forest farmers have no clear understanding of the ratio of a specific tax item, it is recommended that the relevant sectors explain it through advocacy, giving farmers an idea of the charges they have paid, as well as a better understanding of the relevant national policies and trends.

With the deepening of forest tenure reform and the Government's increased efforts to support forestry development, forestry tax reduction and exemption efforts should be continuously increased, until the abolition of the forestry taxation. Forestry production, especially forest cultivation and management should be subsidized.

The forestry tax reduction causes the dropping off of the funding sources of the forest management departments at all levels, and brings about some administration and management problems. For this, appropriate complementary policies are required from both national to provinces to make up for the needs for funds of administrations at and below the county level, thus avoiding taxes collected in disguise problems.

11.3 Suggestions of credit policies

11.3.1 Suggestions of forest tenure certificate mortgage loan

(1) Simplify application procedures and reduce application costs

The policy of forest tenure certificate mortgage loan is aimed at helping forest farmers solve the problems of shortage in forestry investment funds. However, for forestry farmers, the simple and convenient application procedures and lower application costs are the premise of enjoying the policies. Therefore, if the prerequisite of policy to benefit farmers is the simplified application procedures and reduced application costs, especially the cost of forest evaluation.

(2) Reduce constraints on policy

Most farmers own small area of forest lands. In order to enable farmers to enjoy the policies effectively, the requirements of forest land area for loaning should be relaxed, so that small forest land owner can also apply for mortgage loans.

Meanwhile, the regulation that the ratio of loan for forest farmers being 50% of evaluated value of forest lands could also be appropriately relaxed. Because the forest is the only asset for forest farmers to mortgage, if the proportion is too low, it is of little help for forest farmers to solve the funding problems.

(3) Speed up the establishment of complementary evaluation agencies and training of appraisers.

Because of special attributes, the valuation of wood lands and forests as different from common valuations, this imposes different requirements on appraisers. Therefore, it is necessary to speed up the establishment of professional evaluation agencies and dedicated training program for average appraisers, thus standardizing the evaluation of forest values, which truly reflects values of forest lands.

(4) Construct the regulatory mechanisms of capital flows

In order to ensure that the loan funds of forest farmers are used effectively as the forestry construction investment, the relevant regulatory mechanisms of capital flows should be

established through taking some measures, such as verifying and monitoring the forest farmers' annual use of funds through banks.

11.3.2 Credit Loan

(1) Appropriately loose policies and regulations

The “repayment period of one year” should be extended appropriately, for it is difficult for forest farmers to repay the principals and interests within one year.

In addition, the regulation that the bachelor forest farmers can not enjoy the credit loan should also be relaxed appropriately to help them apply for credit loans based on their credit evaluation.

(2) Appropriately enhance the credit loan

Through taking into account the high amount of capitals required for forestry investment, the credit policy, one of preferential agricultural policies, should appropriately enhance the credit loans to bring more benefits to forest farmers.

11.3.3 Suggestions of Jiangxi afforestation project based on Japanese government loan (yen loan project for short)

Yen loan ceased at the end of 2001. This loan has long repayment period and low interest rate. Its special features such as supporting forestry investment have been welcomed by farmers. Therefore, more similar projects should be introduced in the future.

11.4 Compensation policies of ecological public welfare forests

In order to strengthen the construction, protection and management of ecological public welfare forest, improve the ecological environment, promote sustainable economic and social development, and maintain the legitimate rights and interests of ecological public welfare forest owners, operators, managers and protectors, it is recommended that:

(1) The standard of the ecological public welfare forest compensation should be improved as soon as possible. After the forest tenure reform, the ownership of ecological public welfare forest and the compensation objects have been clearly identified. With the continuous improvement of laws and regulations, at present, what needs to be done is to compare the price of commercial forests, reasonably measure and increase the standard of ecological public welfare forests compensation, and adapt the standard to the change of the market price of timbers, so as to maintain the legitimate rights and interests of the ecological public welfare forest owners, operators, managers and protectors.

(2) The alternative channels should be established to solve problems on ecological compensation. Under the circumstances limited financial capacity at national or provincial level, the multi-channel and multi-method solutions should be adopted to solve the ecological compensation problems, such as the national one-time purchase, compensation flowing from downstream region enjoying the fruits of ecological protection to protected region of upper stream, the implementation of market-oriented ecological compensation mechanism. In addition, the government should introduce more complementary policies such as policies of immigration employment, and pension, etc.

11.5 Policies of non-wood forest products

(1) Proper relaxation of “ban on mushrooms”

Based on the actual situation, the “ban on mushrooms” should be relaxed and not be completely prohibited after forest farmers’ application for cutting down the tending broad-leaved trees and the verification of forestry management.

In addition, the guidance and compensation for new industry should be offered to forest farmers who had been occupied in cultivation of mushrooms, so as to reduce the losses of livelihood caused by ban.

(2) Strict control and administration over bamboo shoot market

The stealing and excessive digging of bamboo shoots can only be eliminated through strict control and administration over the sales and purchase of bamboo shoots, which would also to prevent moso bamboo forests from being damaged.

(3) Promotion and popularization of techniques of bamboo shoot digging

The proper digging is beneficial to the growth of moso bamboo. Therefore, together with the ban on bamboo shoot digging, the promotion and popularization of techniques of digging should be adopted as well to achieve the same purpose of ban.

11.6 Supporting policies of special industries

(1) Increase special funds for supporting special industries

At present, the development of Tonggu County’s special industries is of great help to improve the forest farmer’s income. However, the main sources of supporting funds of current special industries come from the follow-up industrial funds for returning farmland to forest, forestry special foundation of Jiangxi province, and the engineering funds of Jiangxi Province’s “to achieve one goal from four aspects” for forestation and landscape engineering and greening, whose origins are not stable enough. Therefore, the special foundations to support special

industries should be established, and the measures that favor the special industries should be normalized and stabilized, thus improving the farmers' initiatives.

(2) Optimize the policy

In the supporting policies of the special industries, the subsidy payment procedures of "subsidy after construction" should be improved. Bearing the exact aim of helping farmers in mind, the subsidies should be granted before or during the construction to solve the problems of fund shortage. The subsidy period should be extended appropriately to match the cycle of return of special industries, helping to realize the expectation of investment.

On the other hand, the standards of supporting policies should be clear and it requires special projects to be set up for implementation. Taking the improvement of bamboo as an example, all the moso bamboo forests should be objects of supporting policies whether it is located in mountainous areas, along the roads, or in the bamboo forests with easy transportation.

12 Experiences and lessons of guidance application

12.1 Capacity building

12.1.1 Experiences of the capacity building

(1) The feasible training program should be designed and developed before the training. The Project Team first collected and studied a great deal of information, trying to be familiar with a variety of participatory training methods. Then according to the requirements and training objectives of the project, they developed the detailed training program and work plan which were discussed repeatedly to refine training contents and training objectives. When they arrived at the project county, Tonggu County, they again discussed with the directors of PMO of Forestry Bureau and trainers about training objects according to the characteristics and needs of training objectives. Based on the actual situation, the training program was re-adjusted and well prepared, so the courses were well targeted and could ensure the combination of practical application and theoretical training.

(2) The trainers should use proper methods, materials, and easy language that forest farmers can understand. Viewed in the light of the text, the training contents seemed to be so professional that farmers were unfamiliar with, but some of the training contents were closely related to farmers' vital interests. The forest farmers have a wealth of local knowledge and practical experiences in forest management, so long as the trainer could use plain language and vivid examples, they could make training contents easier for forest farmers to accept. The exertion of participatory and interactive training methods was another key factor to smooth the process of training and application. The trainers not only delivered the training contents and knowledge associated with

compilation of FMP to farmers, but also emphasized interactive communication, equal interaction, and feedback of views. During this communication, the forest farmers felt valued and respected, and their sense of ownership was enhanced, playing a great role in compilation of participatory FMP.

(3) The trainers should focus on measures to effectively stimulate forest farmers to identify problems, analyze problems and draw methods to solve problems. The training materials were exhaustive, and the theoretical knowledge contained in training materials were very complete, but the training time was limited. In order to avoid inefficient training, the trainers needed to handle the allocation of time for "small courses", discussion and interaction. The theoretical knowledge should be highly summarized. More time should be allocated to the discussion and analysis by forest farmers.

(4) The time of courses with practicability could be appropriately prolonged. Such as the time of "Forest Management System of Evaluation" and "Forest Condition Evaluation" and other training contents may be extended, because these courses are cornerstone of FMP compilation; they are important contents the forest farmers should understand. During these courses, the forest farmers learnt to analyze the forest management situation, problems and affecting factors, and understand future management objectives by using participatory methods. Only did the forest farmers fully grasp the evaluation techniques and the evaluation system, they could compile a practical, feasible FMP. So the time of this section should be appropriately prolonged.

(5) The participatory training and participatory theory application should be combined together. The participatory training is the training method gradually developed from adult education. Because the training was targeted at farmers, which required that the trainers should not simply introduce the theory of participatory methods, and that they could not simply introduce participatory forest management evaluation and planning, that they should combine participatory training and participatory compilation of FMP together, guiding the farmers to integrate "listening", "seeing" and "doing", especially "learning by doing". Then the better training effects were achieved.

12.1.2 Lessons of capacity building

(1) No woman took part in participatory training and compilation activities. Due to local customs and habits, women rarely participated in any activities of forest management, so the forest farmers that village committees convened and organized for training did not include women. The lack of participation of women caused that their views and ideas could not reflect the forest management plan.

(2) The forest farmers had to take some time to get adapted to the participatory training. Maybe due to the non-technical nature of the training, and it was the first time for forest farmers to

participate in such training, they were only interested in some part of contents, such as forest management problems and forest management policies. The discussion and free speech were problematic, because the farmers considered the training as a channel to reflect the existing problems to authorities.

(3) There was no multi-media equipment in the training room, which was relatively simple, while the forest farmers did not have the habit of taking notes, so they easily forgot what they had heard.

(4) Because the majority of trainees had no opportunity to participate in compilation of FMP, the training courses remained at the theoretical level for them, thereby affecting the training effectiveness.

12.2 Experiences and lessons of policy evaluation

According to the contents and requirements of policy evaluation, as well as the actual situation and characteristics of different stakeholders, the project team adopted the investigating and analytical tools such as interviews of key stakeholders, questionnaires and semi-structured interviews to fully understand the attitudes and perception of different stakeholders on forest management policies.

(1) At the level of forest farmers, the statistical sampling methods were used. 20 FFC members and 20 Non-FFC farmers in each sample village were selected.

In addition, at the level of village, the project team focused on interviews with village heads and village secretaries of two project villages, so as to understand the basic human, natural conditions and forest management, as well as impact of implementation of forest policies after the forest tenure reform.

(2) At the level of township, county, and provincial forestry management departments, the investigating and analytical tools such as interviews of key stakeholders and semi-structured interviews were adopted, so as to understand the attitudes and perception of township, county, provincial forestry management departments on forest management policies. The interviews of key stakeholders in Forestry Bureau of Tonggu County involved the directors of Office of Forest Tenure Reform, Office of Forest Tenure Circulation, Headquarter of Bureau, Forest Administration Department, Forest Policy Department, and Finance Department. The interviews of key stakeholders at the provincial level involved the directors of Forestry Work Station, Key Project Auditing Office, Finance Department, Department of Forest Resources Protection and Management, and Forest Industry Bureau.

(3) For other stakeholders, the project team also actively held interviews with the directors or managers of local wood processing factories, from whose perspectives, the impacts of various forest policies before and after the forest tenure reform on timber processing factories were

evaluated.

After the project team arrived at the project county, the interview programs and questionnaires were checked one by one during the in-depth discussion with staffs of Tonggu Forestry Bureau, ensuring that the comprehensiveness and accuracy of interview outline and questionnaires, which would be adjusted and modified in actual practices.

The policy evaluation carried out by the project team in Tonggu County proved that the different investigation methods adopted according to different stakeholders could reflect the attitudes and perception of stakeholders at different levels on related policies and forest tenure reform. The issues that different groups concerned about were accurately grasped by the project team, and project objectives were achieved.

At the same time, the project team also found that some areas of policy evaluation work still need to be improved. First, as the project village--Dacao Village had no FFC for production purpose, the forest farmers could not be classified into FFC members and Non-FFC members in accordance with the requirements of project, making the proportion of FFC members relatively low, to some extent affecting the comprehensiveness of analysis of attitudes and perception on forest management polices at FFC Level. Second, the investigation and interviews mainly involved the male-headed farmers. The proportion of women participants was extremely low. The interviewed unmarried men and women farmers knew very little about forest management and policies, so the results of questionnaires and interviews were not effective. In the local tradition, the male-headed farmers carry out decision-making and forest management activities, while women do not participate in any of these.

13 Suggestions on implementation of participatory forest management at village/FFC level

The participatory forestry refers to the application of participatory development theory and methods to management of forest resources, forest producers' active participation in development and implementation of forest management, benefits distribution, as well as monitoring and evaluation of forest management. In short, the participatory forest management is a process where local forest farmers utilize and control forest resources, and improve their viability. At the same time, most forest farmers and forest farmer cooperatives (FFC) have legally become the true forest managers. The traditional "top down" method of forest management no longer keeps up with the development of situation. Thus, how to make farmers and FFCs improve their capacities to better participate in forest management and decision-making, and how to enhance their ability in application of forest management plan is significant to ensure the efficiency of forest management at levels of villages

and FFCs. According to the actual situation, the recommendations for participatory forest management at levels villages and FFCs are proposed as follows:

(1) Continue to strengthen capacity building, improve farmers' awareness and capacity of participation.

The participatory forest management requires that the forest farmers should have sense of ownership. It stresses that forest farmers should have a sense of ownership, actively participating in the whole process of forest management planning. The forest farmers participate in decision-making and make choices, and apply traditional knowledge in familiar environment. They have initiatives and sense of responsibilities in the planning and implementation process, and actively participate in the monitoring and evaluation. The capacity-building is critical to improve the participation ability of farmers. The project training is an important part of capacity building. Through capacity building, the forest farmers and FFCs can get fully aware of the needs for long-term planning and important role of participatory forest management plan. What is more, the lag of farmers' ideas in forest management can be changed.

In addition, the implementation of participatory forest management is also facing some challenges to influence farmers' participation in forest management, for example, they had had little schooling and knew little about some professional knowledge, which should be compensated through capacity-building. So the capacity-building should be continuous.

(2) Improve the working ideas and methods of government, and institutionalize participatory forest management

The core of participatory forest management is to return the rights to say, to analyze, to make decision back to local farmers. It is a "bottom-up" working and decision-making process where local farmers act as the mainstay, that gives full respect for indigenous knowledge and farmers' will and takes full account of their interests. It is not a working and decision-making process where the government departments play the leading role and the relevant technical departments develop forest management plans, that lacks of participation and supervision of farmers, and where farmers are only passive executors. Therefore, in order to effectively ensure participatory forest management at levels of villages and FFCs, the working ideas and methods as well as the role of government must be changed to carry out the institutionalization of participatory forest management.

14 Suggestions on improvement of training guidance

(1) The training guidance shall be appropriately compiled for forest farmers to take part in participatory forest management. It is wrong that some people may think that participatory training does not require much theories and case studies, and that the training shall focus on how to effectively stimulate the students to make use of their knowledge and potential to solve

problems. The training materials and training textbooks are the fundamental basis. But due to the special nature of participatory forest management training, there shall be training materials targeted on forest farmers, written in simple and popular language, with the text refined and materials for forest farmers easy to understand. On the one hand, this will make the training more targeted and the arbitrariness reduced; on the other, it will make farmers to combine listening, seeing, and doing together.

(2) The contents of training shall be appropriately expanded. After the forest tenure reform, the forest farmers have become the masters of forest management, but their forest management activities were also influenced and restricted by some policies and regulations. At the same time, the government has promulgated a number of preferential policies in order to encourage forest farmers actively carry out forest management. These policies not only affect the forest management of forest farmers, but also affect their future management planning. Therefore, the policies and regulations shall be appropriately added into course training. This not only will help farmers and members of FFC to better understand FMP and actively participate in its compilation, but also will contribute to the improvement of ability of forest management. In addition, some technical contents of forest management shall be appropriately added in the training, which not only will better encourage forest farmers to participate in compilation of FMP, but also will indirectly further improve their forest management capacities.

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List of the Project Publications
GCP/CPR/038/EC Working Paper

编号	标题
WP001C	安徽省林农合作组织研究报告
WP002C	福建省林农合作组织研究报告
WP003C	贵州省林农合作组织研究报告
WP004C	湖南省林农合作组织研究报告
WP005C	江西省林农合作组织研究报告
WP006C	浙江省林农合作组织研究报告
WP007E	Assessment of Forest Farmer Cooperatives in Anhui Province
WP008E	Assessment of Forest Farmer Cooperatives in Fujian Province
WP009E	Assessment of Forest Farmer Cooperatives in Guizhou Province
WP010E	Assessment of Forest Farmer Cooperatives in Hunan Province
WP011E	Assessment of Forest Farmer Cooperatives in Jiangxi Province
WP012E	Assessment of Forest Farmer Cooperatives in Zhejiang Province
WP013C	安徽省林权交易中心研究报告
WP014C	福建省林权交易中心研究报告
WP015C	贵州省林权交易中心研究报告
WP016C	湖南省林权交易中心研究报告
WP017C	江西省林权交易中心研究报告
WP018C	浙江省林权交易中心研究报告
WP019E	Assessment of Forest Tenure Trade Centers in Anhui Province
WP020E	Assessment of Forest Tenure Trade Centers in Fujian Province
WP021E	Assessment of Forest Tenure Trade Centers in Guizhou Province
WP022E	Assessment of Forest Tenure Trade Centers in Hunan Province
WP023E	Assessment of Forest Tenure Trade Centers in Jiangxi Province
WP024E	Assessment of Forest Tenure Trade Centers in Zhejiang Province
WP025C	安徽省参与式森林经营指南应用及政策评估报告
WP026C	福建省参与式森林经营指南应用及政策评估报告
WP027C	贵州省参与式森林经营指南应用及政策评估报告
WP028C	湖南省参与式森林经营指南应用及政策评估报告
WP029C	江西省参与式森林经营指南应用及政策评估报告
WP030C	浙江省参与式森林经营指南应用及政策评估报告
WP031E	Policy Assessment and Pilot Application of Participatory Forest Management in Anhui Province
WP032E	Policy Assessment and Pilot Application of Participatory Forest Management in Fujian Province
WP033E	Policy Assessment and Pilot Application of Participatory Forest Management in Guizhou Province
WP034E	Policy Assessment and Pilot Application of Participatory Forest Management in Hunan Province
WP035E	Policy Assessment and Pilot Application of Participatory Forest Management in Jiangxi Province

WP036E	Policy Assessment and Pilot Application of Participatory Forest Management in Zhejiang Province
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The project “Supporting policy, legal and institutional frameworks for the reform of forest tenure in China’s collective forests and promoting knowledge exchange” supports the reform of forest tenure in China’s collective forests through strengthening policies, laws and institutions responsible for the management of collective forests in six pilot provinces. Funded by the European Union (EU) and implemented by the State Forestry Administration of China (SFA) and the United Nations Food and Agriculture Organization (FAO), the project will also promote the exchange of knowledge and experiences on forest tenure reform both within China and with other countries.

Website: <http://www.fao.org/forestry/tenure/china-reform/en/>