



**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 – 011 - E

Assessment of Forest Farmer Cooperatives in Jiangxi Province



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Assessment of Forest Farmer Cooperatives in Jiangxi Province

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**State Forestry Administration of China
Food and Agriculture Organization of the United Nations**

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1. Introduction

1.1 Description of the Issue

In the end of the seventh decade of the 20th century, a rural reform was initiated, which was characterized by the household contract responsibility system in China. Due to constraints of management scale, capital, labor force, technology and other production factors, individual households became a disadvantageous group when participating in agricultural products marketing competition. In order to enhance the competitiveness of the households, many types of cooperative organizations emerged in the rural area during the last two decades in China. With the enactment of a new national law on farmer cooperatives in July in 2007, it is expected that the farmer cooperatives would play a more positive role for rural development in China.

Based on the *Decision of Accelerating Development of Forestry* issued by the government of China in 2003, the State Forestry Administration first made Jiangxi province and the other three provinces as pilot projects for the reforms of collective forest rights in 2004. By 2007, Jiangxi province had accomplished the main tasks of the reform, among which the primary tasks were: to make the property rights more clear, to alleviate the burden of the taxes, to make the management flexible, and to get the rights-transference processes well-regulated and streamlined. The property rights to 10.1 million ha of forest lands in the province were carefully examined, with 98.5% of them duly confirmed. Of the 8.7 million ha of collective forest lands whose usufructs have been clearly-established, 82.5% are owned by 6350 thousand farm households.

As a result, enthusiasm of the forest farmers (Forest farmers) to be involved in forest development and management has been greatly inspired. However, while the number of farmers involved in forest production and management increased greatly, the operation scale declined notably. How to make Forest farmers improve competitive capacity to gain higher benefits from forestry productions, and to optimize the allocation of collective forest, have become urgent issues needed to be solved by the forestry administration in China.

In the light of this, the research was set to analyze the status quo of and the problems existing within the FFCs, and then to explore corresponding countermeasures, which was meaningful for accelerating the development of the FFCs, enhancing the effectiveness of the reform and even advancing forestry development in China.

1.2 Literature Review

In order to summarize the actuality of the study about forestry cooperation organization systematically and comprehensively, and to establish a stable foundation for the following analysis, the research team referred to 200 academic papers, research reports and monographs in the field of farmer cooperative organization and forestry cooperative organization. Finally, the research team chose 40 that are directly related to the research. The summarized report of the literature below is formed as a result of the study angle, method and dimensions.

1.2.1 Qualitative Analysis of the Forestry Cooperative Organization

Qualitative analysis is the foundation of any scientific research. According to current studies, there are very few studies that make a clear definition of the forestry cooperative organization. For all that, some studies analyze the types of the forestry cooperative organization directly. Referring to the definition of agriculture cooperative organization, Shen (2008) defined forestry cooperative organization as “a new kind of farmer cooperative economic organization in mountainous areas that are based on management contracts between farm households engaged in similar businesses in forestry production or forest product circulation in order to achieve their common interests. Such organizations follow the principle of voluntary participation and mutual benefits, and therefore boast relatively greater autonomy in their business operations”. Kong (2009) argued that “the booming of forestry cooperative economic organizations which tie the Forest farmers together is a spontaneously ‘unifying’ initiative through which the Forest farmers adapt themselves to the demands of market competition and production”.

Many researchers conducted studies on forestry cooperative organization

categorization and reached roughly similar conclusions (Cheng et al., 2004; Shen et al., 2005; Wang et al., 2006; Kong and Chen, 2008; Kong et al., 2009; Hong et al., 2009; Ma, 2009). In terms of the nature of such organizations, forestry cooperative organizations in China can be categorized into professional associations and professional cooperatives. From the perspective of business operations, forestry cooperative organizations in China at present roughly cover all the links of forestry production, including forest management and protection, forest pests and diseases control forest roads maintenance, afforestation, forest establishment, seedling production, forest products processing and sale, material purchase, technique and information services etc. Among these forestry cooperative organizations, there are both professional cooperative organizations which are engaged in single operation such as technique service and sale service and comprehensive cooperative organizations which incorporate production, supply, sale and service as the whole. From the perspective of establishment mode, forestry cooperative organizations are established by farmers through voluntary negotiation, by village collectives, by enterprises as the leading force, by governments through giving supports and by international organizations through giving support etc.

1.2.2 Study of the Development Process of Forestry Cooperative Organization

About the development process of forestry cooperative organization, some research fellows divided it into three phases (Wang, 2006; Hong, 2009; Tang and Xu, 2009). The first phase was the self-determined cooperative movement at the beginning of the founding of new China. As early as the beginning of the founding of the new China, the state set out to embark on the hill, forest management system reform and the land reform simultaneously. From the year of 1952 on, mutual aid groups of agricultural producers have rapidly developed across the whole county, which were featured by labor mutual aid and cooperation for afforestation and harvesting operation. Since 1957, agricultural producers' mutual aid group further developed into elementary cooperatives (Li, 1985). The second phase was the high collectivization phase in the period of the People's Commune. Since 1956, elementary

cooperatives have upgraded into advanced cooperatives that were based on ownership of productive means and the principle of distribution according to one's performance. Advanced cooperatives required that all the land, stocks and large agricultural tools that had been privately owned by commune members be transferred to the collective and would be not distributed, and in turn, commune members would get remuneration according to their labor. Thirdly, after the successful convening of the Third Plenary Session of the Eleventh Central Committee of the CPC, along with the implementation of Household Responsibility System, the third and final phase of reform on collective forest management system was pursued. with the establishment and development of the socialist market economy system, the limitations of this family-centered management mode were increasingly highlighted. In the late 1980s, a new forestry cooperative management mode, which was initiated by some leading companies and characterized by "companies + farm households", mushroomed through China. Meanwhile, share-holding cooperative forest farms also came into being in the South Collective Forest Region. The 1990s witnessed the appearance of forestry cooperative organizations with Forest farmers as the main part, such as Forest farmers association, forestry cooperatives, etc.

1.2.3 Necessity Analysis of the Development of the Forestry Cooperative Organization

Cheng et al. (2004) suggested that, due to such limitations of un-clearly defined ownership rights, confusing borderline between ownership rights and using rights, poor organization and small scales, ill-regulated benefit distribution and so forth, the system of collective forest rights needed to be improved urgently. To optimize the allocation of production factors, we need to accelerate the establishment and development of forestry cooperative organization. In order to continuously improve operational efficiency and makes the Forest farmers get more interest, Gao and Wang (2007) proposed that we should actively develop the forestry economic cooperative organizations under the condition of decentralized operation of the forest, from the dispersive forest property rights, reducing the risk, and the characteristic of forest.

Kong and Chen (2008), in the book, “The Dialectic of Integration and Dispersion”, came up with three assumptions and then validated them: the establishment of cooperative forest farms was chiefly driven by the small-scale farm households’ demands for cooperation in terms of labor and other factors of production; the booming of stock-holding forestry cooperative organizations was driven by the large-scale farm households’ demands for cooperation in such terms as funds, managements and financing; when the costs of cooperations exceeded the yields from such endeavor, it is difficult to expect that forestry cooperative organizations shall come into being spontaneously, but if such cooperation has positive externalities, for instance, if it is conducive to the achievement of government goals, the government may take the lead in providing favorable conditions for the establishment of corresponding forestry cooperative economic organization.

1.2.4 Current Status and Problems of Forestry Cooperation Organization

Most of the previous studies concentrated either on analyzing the current situation or on identifying the major problems faced by forestry cooperative organizations. In other words, they focused either on the innate problems of forestry cooperative organization as a business form of cooperative efforts or on the ongoing problems that occurred during the process of development.

Zhang et al. (2007) proposed through case studies that the key factor for the success of forestry joint stock cooperative mode lies in a proper property rights structure that plays a constructive role in power-balancing and supervision. However, under the current system, the rights for management are assigned to the village council, the administrative authority of the village. The dual role of such council in both business management and administrative function will inevitably make the failure of such endeavor doomed. Wang et al. (2006), Tang et al. (2009) focused the external environment, highlighting such problems as insufficient laws, lack of supportive polices, ill-advised management system, as well as poorly-designed researches and education that prevent the healthy development of the forestry cooperative organizations. They also elaborated on the ill-conceived internal

operational mechanism, namely, disparity between the nature and the operation, unsound structural organization, as well as the difficulties in implementing democracy in business running and so on. Xu et al. (2007) suggested that forestry cooperative organizations are still in the immature stages. Thus, Forest farmers with low quality lacked collective consciousness and the will of work together, so it confirmed the fragility of the forestry cooperative organizations. Studies on the cases in Zhejiang province concluded that the forestry cooperative organizations have the following such problems: the unclear legal status; the hindered funding sources; the unduly governmental intervention; small scale; low innovative services; unstable and incomplete benefit-sharing mechanisms; the lack of internal management mechanism; the low level of information and so on (Shen et al., 2005). Similar case studies on Fujian province also revealed that the forestry cooperative organizations have the following such problems: First, the excessive intervention of administrative power resulted in a distortion of the guiding principle for the forestry cooperative organizations --- autonomy in both establishment and management, autonomy in benefit distribution; Second, the unsatisfactory supervisory and balancing system is unable to check the opportunistic mindset and unethical behavior of those in power and hence reduces the efficiency of these organizations; Third, it is hard for the forestry cooperative organizations to get the resources, especially the much-needed developmental capital; Fourth, the operational mode was not well streamlined (Hong et al., 2009).

In addition, from a microscopic point of view, Huang et al. (2008), taking into consideration the findings from a survey carried out in Fujian province, looked into the factors that affect the FF's willingness to participate in the cooperative economic organizations. The result showed that the forestry cooperative organizations in the villages that are near the cities and developed areas develop rapidly because the main income is not from the forest. On the contrary, in areas that is out of the way and where forestry constitutes the chief income-generator, household-cooperation and individual running are more popular.

1.2.5 Countermeasures of the Development of the Forestry Cooperative Organization

Wang et al. (2006) proposed the countermeasures of the development: firstly, it shall create the conditions to boost the development of forestry cooperative organizations in terms of external environment. Secondly, based on the current situation of Forest farmers and the characteristics of forestry cooperative organizations, it is urgent to reinforce the standardized management of forestry cooperative organizations and optimize the internal management system. Tang and Xu (2009) proposed the countermeasures of the development as below: first, we should develop a correct understanding of the nature and the role of forestry cooperative economic organizations; second, we should accelerate the legislative process to recognize the legal status of forestry cooperative organizations; third, we should increase the policy support; fourth, we should increase training and publicity and cultivate the people with more professional knowledge; fifth, we should enhance the supervision and guidance of the construction of the internal system and standardize the operating mechanism of the organization. Shen et al. (2005) made the following responses: first, we should create a favorable external environment, highlighting the central role of the local people in operations and restraining the unduly intervention of the government; second, we should establish demonstrative forestry cooperative economic organizations, whose operation and management shall be guided by authoritative and well-chartered standards; third, we should establish a sound internal management mechanism to regulate the financing management and create favorable conditions for informationization. In line with the circumstances of Fujian province, Hong et al. (2009) proposed replacing the previous “company + farmer” mode with a new “company + Forestry Cooperative Organization + farmer” mode. Kong et al. (2009) proposed that in order to promote the development of the forestry cooperative organizations, we can take the following measures: the government can provide favorable tax and credit policies; the forestry sector should designate special supportive funds; work out more conducive policies to facilitate forest land

transferring; and moreover, we should improve rules and regulations.

1.2.6 Literatures Review

In summary, forestry-based research literatures concerning farmer cooperative economic organizations are still insufficient, with most of which focusing either on the status of the development or on the cooperative modes. Be they of quantitative analysis or qualitative analysis, there has been no systematic theoretical framework available to guide them, nor has any up-to-date research methods been employed. It is worth to note that the qualitative research carried out so far lacked a theoretical framework for the classification of the forestry cooperative economic organizations and their modes. As for two researchers on the countermeasures, the results were often too general and repetitive, hence making them impractical and inapplicable. As a result, it is of great significance to, refer to the experiences of the research pattern and angle of the farmer specialized cooperative organizations, adopt an approach that integrates both qualitative and quantitative methods, together with representative case studies, in examining the inherent laws demonstrated in the formation and development of forest cooperative organizations, the changes in the macro-institutional policies, the internal property rights of the farmer professional cooperative organization, the mindsets and preferred behavior of the participants under given conditions.

2. Basic Information

2.1 General Information of Jiangxi Province and Tonggu County

Jiangxi province was made as one of the four pilot projects for the reforms of collective forest rights in 2004. By 2007, Jiangxi province has accomplished the main tasks of the reform ahead of the other three provinces. In order to achieve economies of scale, the government of Jiangxi province encouraged the forest farmers (FF) to adopt various forms of cooperation. As of December 2009, there are 14012 forestry cooperative organizations of various types. Among them are: 11004 ‘three-defense’ associations, involving 198.42 thousand Forest farmers, and covering 4.5 million ha

of collective forest lands; 1244 private-owned forestry farms, covering 0.47 million ha of forest lands and 23.75 million Renminbi (RMB) of non-public investments, with 6.13 million RMB actualized in 2008; 305 afforestation plants have established 1141.67 thousand ha of forests in accumulation; 507 associations for processing timber and bamboo; 952 professional cooperatives that involve 124.2 thousands forestry farmer households, and 0.23 million ha of lands. In order to promote the development of forestry cooperative organizations, the Provincial Forestry Department enacted the *Opinion of Accelerating Development of Individually-run Forestry Farm* and the *Cognizance Procedure of Provincial Individually-run Forestry Farm*, and gave the individually-run forestry centers subsidized loans, more logging quotas, more applications for projects and some other favorable policies¹. Currently, the Provincial Forestry Administration is making plans to set up 100 forestry cooperative organizations as pilot units, with those engaged in bamboo and oil tea industry prioritized for support.

As one of the pilot counties of forestry reform and an important forestry county, Tonggu county was the first one to have gone through the reform of collective forest property rights. As early as the mid-80s in the 20th century, named the period of the Three Decision of Forestry, this county had set up rural cooperative forest farms in each administrative village in accordance with the unified arrangement of the provincial government². However, due to incomplete manage mechanism,

¹ According to the *Opinion of Accelerating Development of Individually-run Forestry Farms*, any farmer, individuals, private corporation, foreign businessman from whom the non-governmental investment can apply to set up private forest centre to the forestry sector and then register in the local industrial and commercial administration department after approbation, as long as the forest area of their investment is above 2000, the property rights are clear, the term of the years that they managed the bamboo and economic forest is above 15, the term of the years that they managed the timber stand is above 30. Based on the *Cognizance Procedure of Provincial Individually-run Forestry Farms*, if you want to apply to be the provincial individually-run forestry centre, the area of your forest should be above 1.33 thousands ha.

² The *Three Decisions* originated from < the decision about some problems of the protection of forest development by the CPC Central Committee, the State Council > issued by the Chinese government in 1981 and the content is that “to stabilize the property right of the hill and forest, to fulfill the forestry responsibility system of the production” (that is “the three decisions of the forest”), which definitude the hills of themselves and responsible hills for the farmers and uncover the beginning of the reform of the collective forest property right. The reform ended at the time that <some regulations about strengthening the management of forest resources and deterring the deforestation abusively> issued (China [1987] No. 20) and there are a large number of activities to cut trees abusively in the southern collective forest due to the wrong awareness of farmers on the forest resources and the lack of guarantee of the related laws. During this period, there are 1.5 thousand village joint-stock cooperative forest centers which almost cover all the administrative villages and FF. FF make their forest as shares and the forest centers are managed by the village committee together.

unsatisfactory benefit distribution mechanism and some other problems; most of these forest farms went bankrupt. Since 2005, to address such problems as the small scale of production of Forest farmers, limited capacity of market competition, shortage of labors and so on, cooperative organizations were consecutively established, including 91 ‘three-defense’ associations, 27 privately-run forest farms, two co-afforestation companies, one bamboo and wood processing associations, two professional forest farmer cooperatives (FFC). These organizations provided a wide range of materials for the study on forestry cooperative organization.

2.2 Information of Villages

According to FAO's requests and with the new development trend of the local Forest farmers cooperative organization, this study discussed the situation with the project office of Jiangxi province and Tonggu county. On the base of the discussion, this study chose three kinds of cooperative organizations, out of the five kinds in existence, to make the case study, namely, one ‘three-defense’ association and two agroforest cooperative organizations. In addition, this study chose one camellia specialized cooperative to develop the case comparative analysis³. The locus of the case study included the Tonggu County Linke Afforestation Professional Cooperative, the Tonggu County Paibu Town Shuangxi Forestry Professional Cooperative, the Tonggu County Camellia Forest Plantation Professional Cooperative and the Tonggu County Sandu Town Dacao Village ‘three-defense’ Association. The general information is detailed in the Table 2-1 below.

Table 2-1 General Information of the Villages Concerned

Village	Gaopi	Sanxi	Yongqing	Dacao
Groups (Unit)	15	14	12	8
Household (H.H.)	242	256	272	177

³ According to contract made by the FAO and the project team of School of Economics and Management of the Beijing Forestry University, this study should make two case studies on the Dacao Village and Huashan Village of Tonggu County. But with the status quo of the Dacao Village and Huashan Village, where each village only has one “Three-Defense” association, the situation could not meet the needs of the project implements. So, based on the discussion with the project office of Jiangxi Province and Tonggu County, the project team chose the above four cooperative organizations as the new study points.

Population	1020	1136	1039	746
Labor Forces	700	450	672	450
Lands Area (1/15 ha)	20000	30000	10000	36000
Agricultural Lands (1/15 ha)	1150	1490	1235	560
Forest Lands (1/15 ha)	18400	28000	8507	29800
Distance to the County (k.m.)	10	13	16	5
Net Income Per Caput (yuan)	5000	3200	5000	9000

3. Forestry Status

3.1 Forest Tenure

Through the reform, majority of the collectively owned forest is distributed to the Forest farmers in Tonggu county. In other words, the Forest farmers acquire usufruct of forest lands and ownership of stumpages to a large extent of the whole forests⁴. In the process of making the distribution, the village group was treated as an integral unit. The total forest of the village group were graded firstly, and then distributed to the group members according to different level. If the forest lands are categorized into three grades, the distributions will be started from the first grade to the Forest farmers equally among the population, and so on. Therefore, nearly all Forest farmers achieve more than one plot of forestland. The forest tenures of the four villages are detailed in Table 3-1.

Table 3-1 Forest Tenures of the Four Villages Concerned

Village	the number of certificates of forest ownership	the number of forest plots (block)
Gaopi	390	1219
Sanxi	408	1119
Yongqing	207	654
Dacao	198	573

⁴ Of the forestlands owned by the Dacao village, 180 ha are not assigned to individual households but entrusted under the custody of the village committee. The main reason is that these forestlands do not belong to any village groups whereas the ongoing reform is based on the groups. Consequently, the village congress voted to keep them under the custody of the village as a whole.

There are great discrepancies between the sizes of the forestlands owned by the concerned farmers in the four villages. In Gaopi villages, the Forest farmers' forestlands range from over 6.67 ha to less than 0.67 ha. Take the Gaopi peasants group as an example, the entire group boasts a total 61.9 ha of forestlands, averaging into 2.58 ha for each of the 24 households, with the largest size standing at 6.3 ha, and the smallest at a mere 0.32 ha. Eleven households possess forestlands larger than the average size, with that of the rest 13 households less than the average. And, 6 households have forestlands larger than the 4 ha, and 3 others have forestlands smaller than 0.67 ha. Generally speaking, the forestlands owned by the forestry peasants are separated into some small pieces. So far as the households involved in the current study are concerned, the average number of forestland patches is 6 per capita, each covering an average 0.67 ha in size. Only 1 household owns forestland patches that are larger than 2.67 ha for each.

3.2 Types

The forest types are mainly featured by Chinese fir and bamboo forest. Besides, there are a small amount of Chinese oak and other broad-leaved forests. Most of the mature forest resources in existence, originate from natural regeneration, and only a small number of artificial cultivations exist. There are slight differences in the four villages in term of the types. (1) Of all of the collective forestlands in Gaopi village, there were 843.8 ha of the bamboo forest, 241.1 ha of the Chinese fir forest, 120.6 ha of the pine forest. Among them, 53.3 ha of the forestlands were reafforested from low-yield forests in 2009. (2) Of all of the collective forestlands in Sanxi village, there are 646 ha of bamboo forests, and the rest are of Chinese fir or pine forests. Since 2004, more than 66.7 ha of lands owned by the village have been afforested. (3) In terms of the tree species in Yongqing village, there are 113.3 ha of bamboo forests, 200 ha of Chinese fir forests, 80 ha of such economic forests as myrica rubra, camellia and citrus stnads, with the rest being of mixed forests. (4) Of all the collective forests in Dacao village, 1390.67 ha are bamboo forest, the others are forests of Chinese firs,

pinus and bamboo/tree mixed stands.

3.3 Forest Products

As an important forestry county, Tonggu county's forestry industry is relatively developed, which cause a large demand on raw timber and original bamboo. Under the influence of the specific circumstances, the main forest products are raw timber and original bamboo in the four case villages. Besides, there are a small amount of Forest farmers selling bamboo shoot for cash income. In comparison, Dacao village makes original bamboo as dominant forest products; Gaopi and Sanxi villages produce both raw timber and original bamboo; and Yongqing village emphasis on planting fruit, but Chinese fir and Bamboo, though without sales of fruit for in the initial stage. Due to differences of amount of forest products produced and sold and some other issues, forestry benefits account for varying proportions of family incomes in the villages. The proportions are 90 percent, 70 percent, 60 percent and 30 percent corresponding to Dacao, Gaopi, Sanxi and Yongqing villages respectively.

3.4 Management and Institution

Forest production activities consist of afforestation, silviculture, logging, and many other links. In the current reform of the collective forest rights system, the forestry system has been optimized accordingly. Governances on afforestation and silvicultural have been released to a small extent, and foresters are free to decide whether to carry out reforestation, how much to invest on silviculture and reforestation, and what type of trees species and forest types to use for afforestation.

Although foresters have been given free use of their forestlands, they can not freely treat the stumpages, for the limit of the Logging Quota System. According to the system, once the Forest farmers plan to harvest and sell timber, they must achieve the logging quota. Through the reform, Jiangxi provincial forestry administration made revisions on the system by implementation of a new approval principle of "approval in ahead, bi-directional operation, twice publicity".

The "bi-directional operation" is, after the provincial forestry administration department issues a notice of the application of logging quota in October of each year,

the village committees organize the Forest farmers to make declarations, and form the villages' harvesting applications which will be sent to the forestry workstation to verify the correspondingly mature forest resources; and then the villages' applications will be sent to the county forestry administration through the township government, and then aggregated to the provincial forestry administration, which is one direction of a "bottom-up" declaration path. In addition, the provincial forestry administration examines and approves the amount of logging quotas for each county based on the provincial application of the quotas and the province's annual quotas approved by the State Department, and then issues the approvals the county, the township and the village which is another direction of a "top-down" approval path.

Due to the processing of applications ahead of the production year and at the end of the previous year, namely "approval in ahead", the Forest farmers who gain the quotas can be flexible to develop harvesting and sales programs for the coming year, which in one way to eliminate the hysteresis of the old approval system, and in another way create more favorable business environment for production and operation.

It requires making publicity on the amount of the quotas applied and approved together in the village to ensure the examining and approval process be just, open and fair, which is named as "twice publicity".

Through promulgating regulations, introducing management practices, a building circulation platform, standardizing transferring programs, and other institutional measures, transfers of the collective forestlands and stumpages are placed in a relatively perfect system framework. Jiangxi provincial government enacted the Act on Transfer of Forest Resources in Jiangxi Province in 2004. Tonggu county published the Regulations on Staforest farmers of Office of the Institutional Reform of Collectively Owned Forest and Responsibility of Professional Groups in Tonggu County in 2005. The fifth section of the Regulations makes provisions on responsibilities of the group in charge of transfer. The upper institutional measures play normative roles and incentive ones together on the transfer.

4. The Status of the FFCs

4.1 Basic Information of the FFCs

As the subjects of study, the four FFCs differ from each other in their respective founding, operations, the driving forces of establishment as well as in the influences from Government. Linke afforestation professional cooperative, Shuangxi forestry professional cooperative and Tonggu camellia oleifera planting specialized cooperative were set up on the foresters' own initiatives, rather than by governmental directives or administrative orders. However, the establishment of cooperatives was induced by the preferential policies granted by Chinese Government to encourage the healthy growth of rural cooperative organizations. The establishment of 'three-defense' Association in Dacao village was affected by the reform of the collective forest property rights system, which the local government energetically implemented so as to improve the public service system of forestry. Overall, the co-operatives have some differences in respect of their corresponding registration place, membership and composition, woodland area, business lines, supportive policies and so on. The above information is detailed in Table 4-1 below.

Table 4-1 Overall Features of Foresters Cooperation Organization,

Item	Linke afforestation professional cooperative in Tonggu county	Shuangxi forestry professional cooperative in Paibu town, Tonggu County	Tonggu camellia oleifera planting professional cooperative	'three-defense' Association in Dacao village, Sandu town, Tonggu County
Registration place	The No.198 Liuning street of the county	The location of committee office of Sanxi village	Xia street in Yongqing village	The location of committee office of Dacao village
Registration time	March 2009	March 2009	August 2008	June 2006
Registration department	The industrial and commercial bureau of the county	The industrial and commercial bureau of the county	The industrial and commercial bureau of the county	The civil affairs bureau in the county

The Nature of Cooperatives	Enterprise legal person	Enterprise legal person	Enterprise legal person	social groups legal person
The source of office house	The owner-occupied house provided by the chairman	Provided freely by Village committee	The owner-occupied house provided by council member	Provided freely by Village committee
Registered capital	300 thousand	300 thousand	673.75 thousand	3 thousand
The number of sponsors	10	11	6	6
The number of members	960	11	15	177
Status of sponsors	Foresters, laid-off workers and self-employed in Gaopi village	FF in Sanxi village	Farmers in Yongqing village	Representatives of the villagers in Dacao village
The location of forest land	The jurisdiction areas of Gaopi village	The jurisdiction areas of Sanxi village	The jurisdiction areas of Yongqing village	The jurisdiction areas of Dacao village
Woodland area	1205.5 ha	190.5 ha	26.7 ha	1986.7 ha
The source of forest land	The forest land owned by farmers in Gaopi village who will soon join into the cooperative.	66.7 ha injected by the sponsors when the cooperative was established, more than 120 ha flowed in after it was established.	9.4 ha provided by Sponsors when they establish the cooperative, others are injected by newly members or flowed in.	Forest land owned by all the village foresters.
Support	Demonstrative Project for CFA-supported Forestry Development Programs	Harvesting quota, loans with discount interest rate.	Has been listed in the camellia oleifera industrial development plan by the provincial administrative	Technical training, funding

			departments of forestry.	
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The operational sphere of the Linke afforestation professional cooperative includes five aspects: afforestation and silviculture, seedling cultivation, landscaping, bamboo-forest upgrading, bamboo-forest harvesting and so on. In the afforestation programs, the cooperative undertakes scale-afforestation projects in this county and adjacent counties (cities) as an independent legal entity. For instance, in 2009, the cooperative undertook the 53.3 ha afforestation project of Duchang County Road landscaping, generating over 500,000 RMB in revenues. Commissioned by Tonggu County Forestry Bureau, the cooperative also carried out the Demonstrative Project for CFA-supported Forestry Development Programs, a 400,000 RMB initiative to develop 13.3 ha high-yield Chenshan red core Chinese fir forests in Yongan and Bafu villages. In addition, the cooperatives carried out modification activities⁵ in 53.3 ha of low-yielding bamboo forests in Gaopi village, which are funded by the MOF-budgeted Farmland Reforestation Program.

The operation sphere of Shuangxi forestry professional cooperative includes management of forest, afforestation, forest seedling planting. All its business activities are internal-oriented, that is, its operations are only carried out on their own forestlands, with no outsourced contracts for silvicultural operations. The cooperative forestland are composed of two parts: first, the members' self-owned forests that were put into the cooperatives upon the establishment of the organization, about 66.67 ha; second, forestlands later acquired from non-membership households, about 120 ha. At present, the cooperative have been supported somehow by the local government and the local Forestry Bureau, by logging quotas and financial credit. For the purpose of afforestation, the cooperative was granted a 300,000 RMB loan in April 2009, with its 66.7 ha woodland as collateral, enjoying a preferential 3% interest-discount.

The operational sphere of Tonggu camellia oleifera planting specialized

⁵ The transformation of per 0.067 ha of low-yield forest required a total of around 220 yuan, of which 100 yuan was given as subsidy. The insufficient part was incurred as expenses by the farmers themselves.

cooperative includes amellia oleifera forests, organic vegetables, portabella, fruit, medicinal plants cultivation, processing and marketing, storage and transportation and so forth. Its business operations are primarily membership-oriented. Now that co-existing land consists of two parts: first, the members' self-owned agricultural and forestlands that were put into the cooperative upon the establishment of the organization; second, the agriculture and forestlands that were put into the cooperative by membership households who joined the organization later. So far, the cooperative does not yet have direct businesses with the local administrative departments of forestry, but it has been listed in the camellia oleifera industrial development plan initiated by the provincial forestry department.

The operation sphere of 'three-defense' Association in Dacao village includes effective fighting of forest fires, pest and disease monitoring and prevention and prohibition illegal logging and poaching, and so on. As implied by its name, the primary task of the cooperative is to defend the forests against fire, theft, as well as pests and diseases.

4.2 Organizations and Management of the FFCs

As far as their operations are concerned, the four cases of Forest farmers cooperative organizations have both similarities and differences. The shared characters lie in that all of them have formulated relatively sophisticated rules and regulations. What differs is that each of them has their peculiar patterns for structural organization.

4.2.1 Organizations and Management of the Linke Afforestation Professional Cooperative

As the leading cooperative among its counterparts in Tonggu County, this organization has formulated a complete set of rules and regulations, including its "Cooperative Charter" and "Regulations for Cooperative Operation". The "Cooperative Charter" laid down clear stipulations concerning the business scope, total investments, membership rights and duties, voting system, power



allocation and so on. “Regulations for Cooperative Operation” mainly concerns staff work routine, attendance checking system, financial management system and the project management system and so on.

Presently, the cooperative society management structure is special. It includes two departments that are mutually independent, yet closely connected. So far as the afforestation activities are concerned, the responsibilities are clearly defined between the board-director, the general manager, the deputy general manager, the accountant, the cashier and the office clerk. Given his high prestige among the local foresters, the board-director is responsible for technology development; The General manager is mainly responsible for contracting afforestation projects, particularly those away from the village; where as the deputy general manager is responsible to project management, including project logistic management. Take the low-yield forest transformation project in Gaopi village and the demonstrative project for afforestation in Yongan village for an example, the cooperative society mainly employs villagers of Gaopi, with the deputy general manager shouldering major responsibilities for project management. In relation to the afforestation projects carried out in Duchang County and other places, they mainly employ local farmers. In addition, when all villagers of Gaopi village have signed contracts to join the cooperative, another governing body shall come into being, consisting of a council director, council members, and supervisors. For details see Figure 4-1.

Under the existing governing framework of the cooperative, two mutually independent composing parts can be identified – the one responsible for outsourced afforestation projects and the one responsible for the self-initiated afforestation projects of Gaopi village. Although the two parts are relatively independent from each other, close business ties exist between them, because the former, though outside-oriented, often has to employ labors from villagers of Gaopi for its projects.

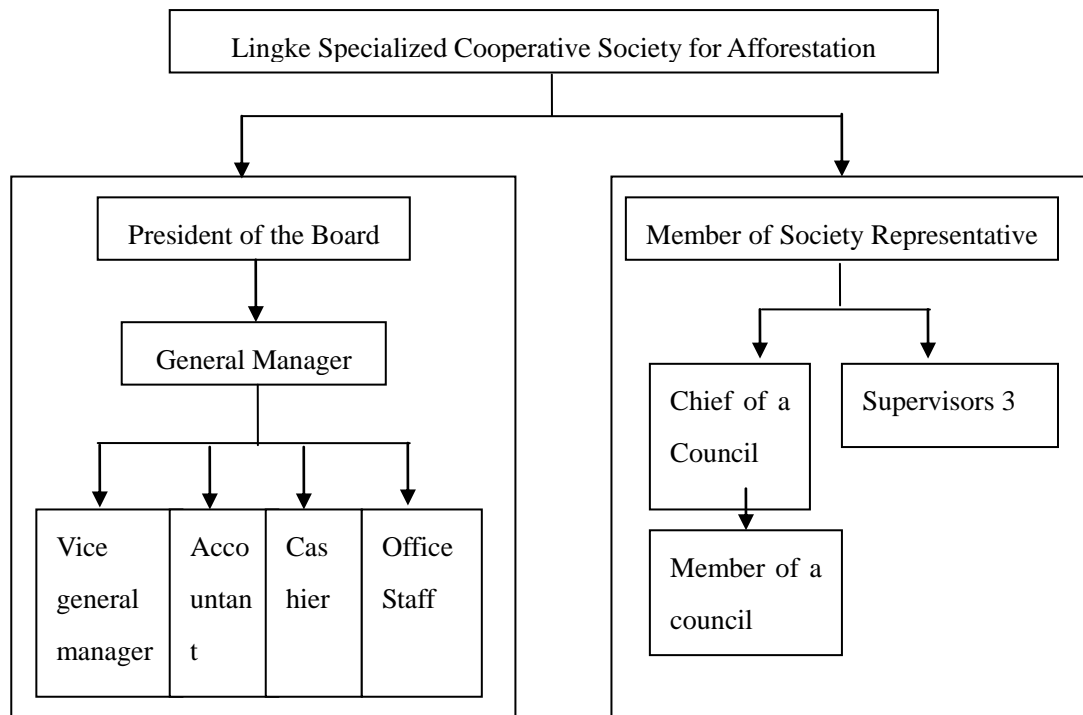
4.2.2 Organizations and Management of the Shuangxi Professional Forestry Cooperative

Shuangxi forestry professional cooperative has compiled “Cooperative Charter”

and “Cooperative Financial Management System”. The “Cooperative Charter” laid down clear stipulations concerning the business scope, total investments, membership rights and duties, voting system, power allocation, withdrawal procedure and so on. “Cooperative Financial Management System” is mainly concerned with personnel job description and its internal control mechanism.

Presently, the governing structure of the cooperative is clear. The Member Congress, is the highest power entity, and is composed of a council and a board of supervisors. As stipulated by “*Cooperative Charter*”, the Member Congress has authority over such matters as “elaborating on and modifying the Charter; selecting and impeaching board-director, council member and supervisory member; reviewing and authorizing its annual report; elaborating on and authorizing the disposal of annual surplus and losses”. The congress convenes no less than once every year. In the process of cooperative running, the function of the member congress can be effectively implemented.





Afforestation part of the external

The part of the Gaopi village forest worker cooperation

Figure 4-1 Governance Structure of Lingke Professional Forestry Cooperative

The Council, consisting of one director of another three members, forms the core governing body of the organization. Correspondingly, the council members also make up for the core governing body. According to members that are interviewed for this study, the council members often meet to elaborate on matters pertaining to the running of the cooperative. As the principal governing body, the Council, in compliance with the “*Cooperative Charter*”, assumes responsibilities for its daily operation and implements the decisions reached by the Congress for surplus/loss disposal. Refer to Figure 4-2 for further details about its structure.

When asked about whether the members can withdraw freely from the cooperative, the core governing member gave positive answers. Nevertheless, they adhere to a principle that “only the financial investments and forestlands are refundable, whereas the forests grown thereof are non-refundable”. Specifically speaking, members who applied to withdraw may get back the financial and land capital they put into the cooperative, but the forests thereafter developed remain in the

possession of the cooperative. In other words, if the lands of a certain member contributed to the cooperative are afforested by the cooperative society, they will remain in the control of the cooperative until the woods there have been harvested, even though the lands in name can be withdrawn. Moreover, once a member withdraws from the cooperative, he also gives up his rights to earnings derived from the forests grown thereof. However, the members who plan to withdraw may choose to transfer his shares internally.

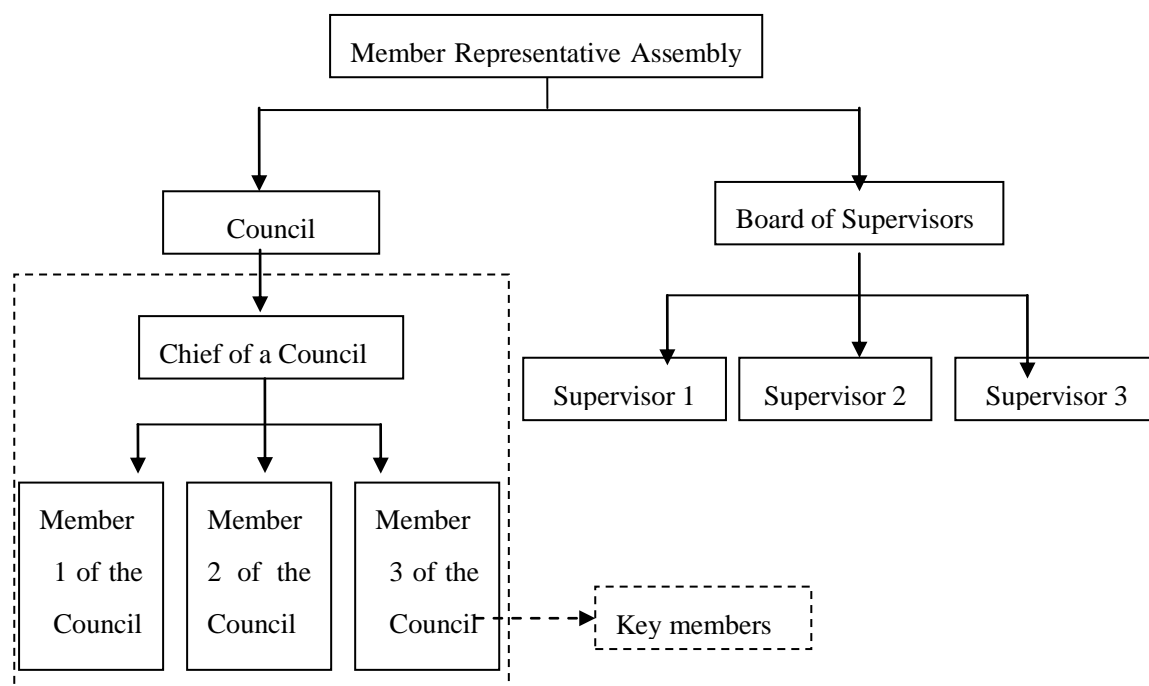


Figure 4-2 Shuangxi Forestry Specialized Cooperative Society Governments Structure

As the core members, the board-director and the three council members each has clearly stipulated responsibilities. Being the legal representative of the cooperative, the board-director is mainly responsible for silviculture and timber sales. One of the council members is responsible for forest road construction and financial matters of the cooperative, while another member is responsible for mediating disputes between the cooperative and other surrounding organizations. And lastly, another member is responsible for organizing afforestation and harvesting operations.

4.2.3 Organizations and Management of Camellia Oleifera Planting Professional Cooperative

As the leading cooperative among its counterparts in Tonggu county, this organization has formulated a complete set of rules and regulations, including its “*Cooperative Charter*” and “*Cooperative Financial Management System*”. The “*Cooperative Charter*” laid down clear stipulations concerning the business scope, total investments, membership rights and duties, voting system, power allocation, withdrawal procedure and so forth. The “*Cooperative Financial Management System*” is mainly concerned with personnel job description and its internal control mechanism.

Presently, the governing structure of the cooperative is clear. Member Congress, the highest power entity, is composed of a council and a board of supervisors. As stipulated by “*Cooperative Charter*”, the member congress has authority over such matters as “elaborating on and modifying the



Charter; selecting and impeaching board-director, council member and supervisory member; reviewing and authorizing its annual report; elaborating on and authorizing the disposal of annual surplus and losses”. The congress convenes no less than once every year. In 2009, the congress convened four times, each with about ten participants. The council composed of one board-director and five council members, functions as the core body of the cooperative. The management consists of three people, namely, one board-director, one vice board-director and one accountant. Refer to Figure 4-3 for further details.

Conditions for non-membership households to join the cooperative are set as follows: First, the single household planter's oil tea field area must be above 10 Chinese acres. Second, it must be a leading enterprise or be capable of representing the Processing industry. Third, it must contribute a certain amount of shares. The reason for setting such a high threshold for membership access is that, on one hand it

will encourage more households to be engaged in camellia oleifera tree planting, on the other hand it will attract more optimal enterprises to join the cooperative, thus expanding its business scale gradually. In terms of share contribution, each of the applying households are expected to pay in at least one 10,000 RMB worth share, which can either be fulfilled in form of cash or be in-kind goods, such as technology, land and other factors of production . When asked about whether the members can withdraw freely from the cooperative, the core governing member gave positive answers, and moreover, the shares that the would-be quitter contributed are also refundable. One issue that stands undecided is about how to deal with the oleifera forests covered under the “low-yield camellia-forest upgrading program”, primarily because the program is still ongoing.

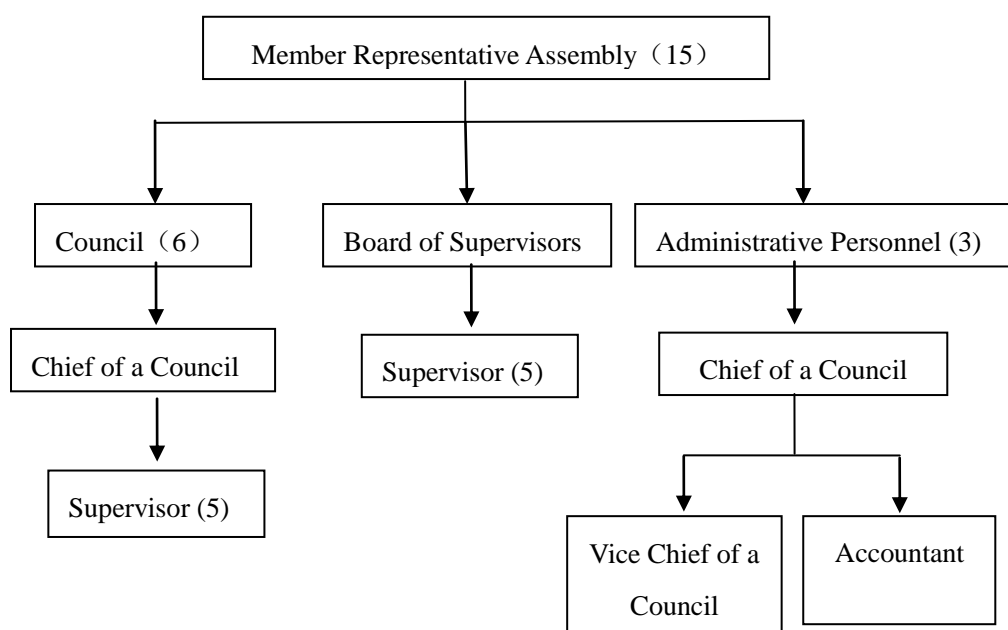


Figure 4-3 Governance Structure of the Camellia Oleifera Planting Professional Cooperative in Tonggu county

Responsibilities are clearly defined among the three people in management, namely, the council chief and the two council members (one being vice council chief and the other accountant). As legal representative of the cooperative, the chief is mainly responsible for camellia oleifera sales. The vice chief primarily take

responsibilities in forest management, including technical improvement; The accountant is responsible for financial matters of the cooperative, for instance, keeping accounts of investments put in to the technological improvement programs and etc.

4.2.4 Organization and Management of the ‘Three-Defense’ Association in Dacao Village

As one of the first ‘three-defense’ associations set up in Tonggu county, this organization has drawn up a full set of rules and regulations, such as “Job Descriptions”, “Forest Patrolling Code”, “Events Reporting System”, “Financial Supervision System” and “Regulations on Attendance Checking”. Take for instance, the “Regulations on Attendance Checking” covers such cases as: “business trips, training programs, duty patrolling, firefighting activities, pest/disease control programs that the members undertake for the sake of the Association”.

In firefighting, the past three years of 2007, 2008 and 2009, the committee of Dacao village has consecutively given its full pledge to Sandu Town government over the last three years (2007—2009) for fire-prevention. According to Pledge, “the village committee secretary, director of the various villages are the directly responsible person for forest fire prevention. The tier-structured responsibility system is put in place to ensure that the stakeholders and all concerned people are fully aware of their due responsibilities for this purpose. Detailed technical codes are also made available to ensure effective checking; reporting activities are done as stipulated once emergency cases are detected. In addition, a penalty system has also been developed. A 1000 RMB worth warranty shall be taken out from the transferred payments to the villages and entrusted to the town government as a penalty fund. If no violation against the fire codes occurs through the concerned year, the warranty fund shall be returned in full amount to the village. Otherwise, increasingly severe penalties shall be imposed until all the deposited warranty has been used up. Moreover, additional penalties shall also be levied on the people directly responsible for the violation.

Presently, the cooperative society management structure tallies highly with its business scope. The association currently consists of twenty-five key members, including: one president, three vice presidents, one secretary general, one chief ranger, one chief firefighter, one chief pest/disease-control expert, and seventeen other members. The president also serves as the head of Dacao village committee, and all the other members also have their corresponding responsibilities in the village committee or villager congress. All issues concerning the running of the association, (for instance, the financial statement, the annual plan and work report), shall be made available for scrutiny of the villager congress. See Figure 4-4 for more details concerning its structural and management organization.

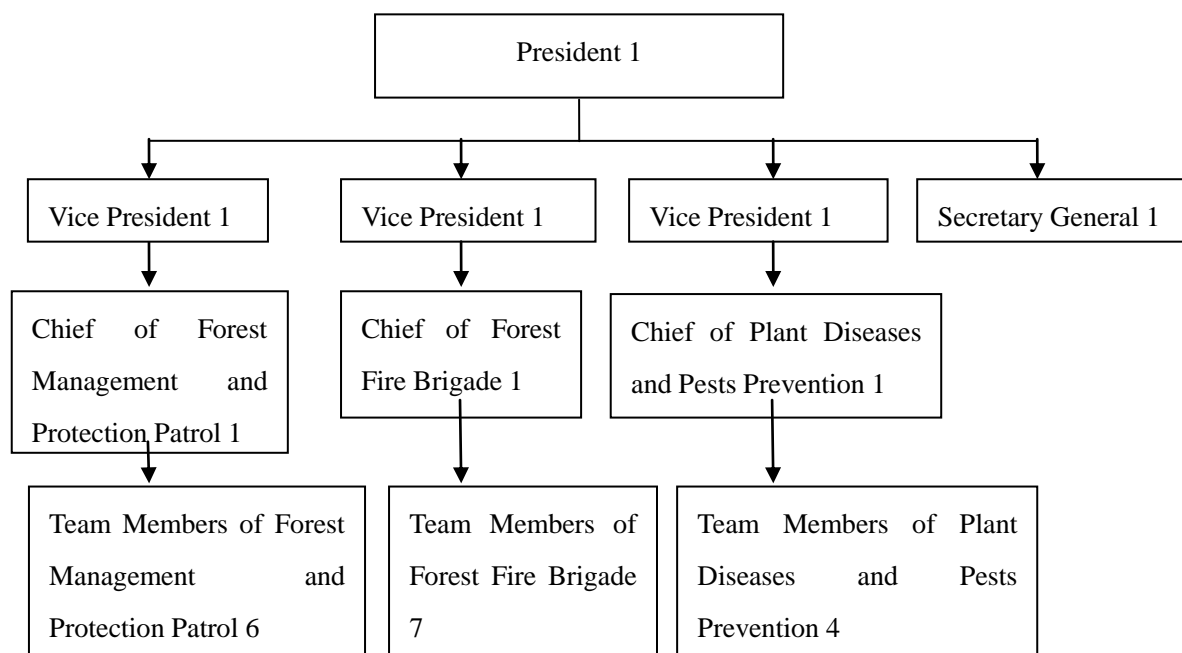


Figure 4-4 Governance Structure of the ‘Three-Defense’ Association in Dacao Village

For optimizing the efficiency of the association, some of the members have dual responsibilities. For example, one vice president also functions as the accountant,

whereas the secretary general also serves as the cashier.

4.3 Operation and Practice

As far as their operations are concerned, the four cases of Forest farmers cooperative organizations have both similarities and differences. The shared characters lie in that all of them have formulated relatively sophisticated rules and regulations. What differs is that each of them has their peculiar patterns for structural organization.

4.3.1 Operation and Practice of the Linke Afforestation Professional Cooperative

The establishment of Linke afforestation professional cooperative can be traced to May 2008, sponsored by five Forest farmers in Gaopi village, originally as an afforestation project-oriented construction team. Under the influence of multiple factors such as rapid development of agriculture cooperative organizations, supportive policies offered by the government to farmers cooperatives, Linke afforestation professional cooperative registered with the industrial and commercial bureau of the county in March 2009, and formally went into business operation in December of the same year, with its office situated in Liuning Street in the county. The cooperative has a 300 thousand yuan registered capital, which breaks down into 30,000 RMB from each of its ten sponsors. The cooperative now has one council chairman, six council members and three supervisory board members, all being investors and the council chairman were elected by all of the members. The sponsors also invest in the cooperative in the form of trees. Among the total 630 shares, the council chairman holds 130 shares and the other council members jointly hold 500 shares. On basis of the cooperative, a special afforestation operation department was set up, composed of six persons, namely the board-director, the manager, the vice manager, the cashier, the accountant, and an office clerk. The Board-director, Mr. Xie Zhongren, is the honorary title winner of the National Green Medal, two times provincial model worker, large private afforestation farmer at the province level.

At present, the General Assembly of Gaopi village has voted that all the households shall join the cooperative. The cooperative has finished compiling

‘Membership Contract’ and ‘Forestry Resources Inventory of Gaopi Village (by Groups)’, which will soon be signed with the households. Once this is completed, the size of the forests covered by the cooperative shall sharply increase, with its members increased to 960. After that, the business scope of the cooperative will also be expanded into much broader fields: in addition to undertaking afforestation projects, producing and marketing of nursery stock, it will also participate in the management of member-owned forests, implement forestry or agricultural projects on contract basis and so forth. Through joint-operation with future members, the cooperative will take advantage of better planting techniques to promote local foresters planted capabilities. The development history is detailed in the Table 4-2 below.

Table 4-2 Development History of Linke Afforestation Professional Cooperative

Stage	Number of members	Main activities
Embryonic stage (2008-2009)	5	Undertaking afforestation projects
Establishment stage (2009)	10	Afforestation, nursery stock, landscaping, transformation of low-yield forest, bamboo and wood harvesting, forestry projects
Development stage (2010-)	960	Afforestation, nursery stock, landscaping, transformation of low-yield forest, bamboo and wood harvesting, forestry projects, joint forest management

4.3.2 Operation and Practice of the Shuangxi Professional Forestry Cooperative

The establishment of Shuangxi forestry professional cooperative can be traced back to May 2008, when eight Forest farmers in Sanxi village set out to work together as shareholders in afforestation programs. Four shareholders from the eleven had previously been bamboo/logs dealers in the local area. Under the influence of multiple factors such as rapid development of agriculture cooperative organizations, supportive policies offered by the government to farmers cooperatives, Shuangxi forestry professional cooperative registered with the industrial and commercial bureau of the

county in March 2009. The 300,000 RMB worth registered capital were paid in by eleven of the initiators, 30,000 RMB by each of nine people and 15,000 RMB by each of the rest two. In addition to financial investments, the shareholders also contributed 190.48 ha of their self-owned forests. Overall, the cooperative forestlands are made up of four large patches situated around the office of the village council, measuring at 80 ha, 13.3ha, 26.7ha and 46.7ha respectively; 70% of them are Chinese firs, and the other 30% is bamboo.

The cooperative currently consists of one board-director, three council members and three supervisory board members, all being investors. The board-director was elected by all of the members. One of the council members is head of village council. All highly competent businesspersons each with a strong sense of entrepreneurship, the board members worked out clear a development plan for the cooperative. Since 2008, the cooperative has undergone a series of milestones, including embryonic stage, registration and formal launching, large-scale afforestation, extensive logging (twice), forestland transference, loan application, general assembly and so forth. The cooperative development events are detailed in Table4-3 below.

Table 4-3 Development Memorabilia of Shuangxi Forestry Professional Cooperative

Stage	Memorabilia
Embryonic stage (2008-2009)	8 foresters became joint operation of forest and wood business; 126.7 ha forest mountain was transferred in
Winter in 2008	53.3 ha afforestation, in which 33.3 ha was included in returning farmland to forest project; harvest 200 m ³ Chinese fir logs.
Establishment stage (March 2009)	11 sponsors injected 300 thousand yuan to establish the cooperative and registered in the commercial and industrial bureau
April 2009	Get a 300,000 yuan, one year mortgage from ABC; the interest rate is 6.9%, which 3% will be discounted by government as preferential treatment.
September 2009	General Assembly, discuss the annual harvesting and afforestation plan in 2010 and so on.
During 2009	Afforestation 38.7 ha, harvesting Chinese fir logs 33.3 ha, repair forest

road 2000 m, 20 ha forest mountain flowed in

According to the plan of cooperative, the entire afforestation program will be completed by 2011. After that, no more investments will be put in for afforestation endeavor; instead, financial inputs shall mainly be used for forest tending. By the end of 2015, the cooperatives will have completed forest tending, and entered a new, relatively less costing stage – forest stewarding. It's expected that most of the Chinese fir forests will reach maturity phase 15 years later, with large-diameter logs as the main output. By then, the expected output per ha will be more than 150,000 yuan, translating into a 30 million RMB worth asset for the cooperative.

4.3.3 Operation and Practice of Camellia Oleifera Planting Professional Cooperative

Tonggu County has a long history of cultivation of camellia oleifera. In Yongqing village, it can be traced back to more than 40 years ago, the collective era. As early as the mid-90s in the 20th century, the villager Wang Xiaoming upon learning about the availability of some high-yielding oil tea tree seedlings in Hunan Province, went there and bought a batch of high-yield seedlings at a high price. After five years of growing, the camellia oleifera started bearing fruit. But it proved that these seedlings were not high-yield, inflicting severe economic losses to the farmer. To make matters worse, an extreme winter hit the southern part of China in early 2008, causing heavy losses to local farmers.

In August 2008, Tonggu camellia oleifera planting professional cooperative was established and registered as an enterprise legal person with the industrial and commercial bureau of the county. The main purpose of establishing cooperative is to gain access to governmental support, to reduce operating costs, to achieve a unified operation and enhance competitiveness, to solve production and services problems, to establish their own brands and achieve scale of economies. The cooperative was established by six major camellia oleifera growers of the local area. The investment mainly included agaricus bisporus, peach, chestnut, pear, strawberry, red bayberry,

pepper, eggplant, camellia oleifera, land and other economic forests or agriculture resources owned by sponsors; Only one sponsor invested 100,000 RMB in cash. The cooperative has a registered capital of 673,750 RMB. The respective contribution of the six participants converts into 409,350 RMB⁶, 154,250 RMB, 44,400 RMB, RMB 36.1 thousand, 2,280 RMB and 14,250 RMB, accounting respectively for 60.0%, 22.9%, 6.6%, 5.4%, 3.4% and 2.1% of the total. Calculated by the various categories of assets, camellia oleifera makes up the greatest share, 31.3%, or 210,760 RMB in value; the second largest portion is of agaricus bisporus, 14.8%, or 100,000 RMB in value; the smallest portion is of pear tree, accounting for 1.1%, or 7,700 RMB in value. See Table 4-4 below for details.

Injection assets		Agaricus bisporus	Peach	Chestnut	Pear	Strawberry	Red bayberry	Pepper	Eggplant	Camellia oleifera	Lagerstroemia indica seedings	Total
Conversion standard		333.3 yuan/ha	60yuan/tree	200yuan/tree	50 yuan/tree	133.3 yuan/ha	55 yuan/tree	133.3 yuan/ha	133.3 yuan/ha	100yuan/ha	66.67 yuan/ha	
P1	Q	1.33	500	200	50	0.67	100	0.67	0.34	3.29	0	-
	M	10	3	4	0.25	2	0.55	2	1	7.395	0	40.395 ⁷
P2	Q	0	80	50	104	0	0	0.67	0.34	2.63	3	-
	M	0	0.48	1	0.52	0	0	2	1	5.925	4.5	15.425
P3	Q	0	0	0	0	0	0	0.67	0.34	0.64	0	-
	M	0	0	0	0	0	0	2	1	1.44	0	4.44
P4	Q	0	0	0	0	0	0	0.2	0.167	1.16	0	-

⁶ He also invested 100,000 RMB in cash, as the only member who invest cash in the cooperative.

⁷ 100,000 RMB is included.

	M	0	0	0	0	0	0	0.6	0.4	2.61	0	3.61
P5	Q	0	0	0	0	0	0	0	0	1.17	0	-
	M	0	0	0	0	0	0	0	0	2.28	0	2.28
P6	Q	0	0	0	0	0	0	0	0	0.63	0	-
	M	0	0	0	0	0	0	0	0	1.425	0	1.425
Total	Q	1.67	580	250	154	0.67	100	2.2	1.13	9.37	3	-
	M	10	3.48	5	0.77	2	0.55	6.6	3.4	21.075	4.5	67.375

Table 5-4 Injection Assets List of the Tonggu Camellia Oleifera Planting Specialized Cooperative
unit: ha, tree, 10 thousand yuan
(P=person; Q=quantity; M=money)

The cooperative has one council chairman, five council members. The council chairman was elected by all the members. Both the chairman and co-chairman have a strong business sense and business capacity, they have made a clear development plan for the cooperative. It is worth mentioning that the cooperative supervisory board is composed of the council members⁸. From 2008, the co-operative experienced a series of events, such as the embryonic stage, registration and formal operation, membership expansion, species improvement plan, and so forth. As a result, the scale of it was quickly enlarged. See Table 4-5 below for more details about the cooperative's major milestones in development.

Table 4-5 Development Memorabilia of Camellia Oleifera Planting Professional Cooperative

stage	memorabilia
Embryonic stage (before August, 2008)	Experienced fake high-yield seedlings events, serious snow disaster, trees were broken and other economic losses. The decentralized management system of the camellia oleifera faces severe challenges.
Establishment (August, 2008)	Six sponsors injected forest production resources and cash, which converted 677,350 RMB total assets. The cooperative was established and registered as an enterprise legal person in the industrial and commercial bureau.

⁸ The 26th article of the "Act of Professional Cooperatives of PRC," stipulates that 'the chairman, directors, managers, financial and accounting officers shall not act as supervisors.'

2008	Achieve an 80,000 RMB operation income, members conduct their own tea oil sales; organize the technical training of cultivation in the year.
Development (August, 2009)	The members increased from 6 to 15, each new member has camellia oleifera trees more than 6.67 ha, and the cooperative owned more than 16 ha camellia oleifera trees.
September, 2009	Camellia oleifera trees of the cooperative was involved in improvement programming by forest department in Jiangxi province, but have not yet carried out a material activities.
December, 2009	Own 13.3 ha of camellia oleifera trees, and rent 13.3 ha of none-stock forest land and prepare to cultivate camellia oleifera trees, have an oil press.

According to plan, from 2010 onwards, the cooperative will focus on upgrading the low-yield camellia oleifera forests. First of all, the cooperative shall turn to the provincial forestry department for financial as well as technology support so that the planned restructuring project can be carried out as scheduled; Also, the cooperative shall aim to stabilize the size of the camellia oleifera forests to around 30 ha, with no further expansion in size until the low-yield forest upgrading project has been accomplished. In the meantime, attentions shall also be paid to the gradual improvement in the quality of tea oil output.

4.3.4 Operation and Practice of the ‘Three-Defense’ Association in Dacao Village

The ‘three-defense’ Association in Dacao village, Sandu town, Tonggu county, was founded in June 2006, and registered with the civil affairs departments of the county as a corporate social group. This association was among the first ones of its type that were founded during the reform of the collective forest property rights system. The purpose of founding it was to ensure sustained supply of public goods from collective forests, and at the same time, to create innovative approaches for fighting against fire, theft, as well as pest/disease. To promote the establishment such Associations, the local government, in the very year of their establishment, provided a 3,000 RMB subsidy for each of the associations so that necessary fire-fighting equipment and facilities can be made available. As a special type of cooperative

organizations, these organizations differ tremendously from other types of professional cooperatives in the governance structure. There is no council or board of supervisors in such organizations, nor do they engage in productive activities. Since its inception, the cooperative has primarily been responsible for preventing fire, theft, and outbreaks of pest/disease. Members of the Association regularly patrolled their fixed routes and reported their findings. In addition, the 'three-defense' association in Dacao village has also been invited to the neighboring village or county to put out fires. Up to now, the 'three-defense' association has played an active role in keeping Dacao village free from major fire outbreaks over the years. With the increasing outbreak of forest pest/diseases in the last few years, the 'three-defense' Association in Dacao village has sent its members to receive relevant technical training programs. Overall, the composition of the association conforms well to the will of the local villagers as expressed in the General Assembly. In the past three years, the association has enjoyed quite effective and well-streamlined operations.

4.4 Effectiveness of Current Policies

The current policies adopted have had significantly positive influences on the establishment and development of the FFCs. The functions of the policies show up through out the process of setting up, developing and operating the FFCs. Concretely, there are four aspects of effectiveness.

(1) The policies implemented by the government to promote development of farmers cooperative have influences on the establishments and the development s of the FFCs, such as the Shuangxi forestry professional cooperative, and the Linke afforestation professional cooperative. The promotions consist of capital investment to and technical support on the agricultural cooperative from the government. For example, both the bee-breeding and the rex-breeding cooperatives are funded by the government in 2009.

(2) The establishment and the development of the FFCs are favored by the government and its functional departments. Tonggu county Forestry Bureau participates in the construction and listed company for the Linke afforestation

cooperative. So does Shanggao county Forestry Bureau to the forestry economy cooperative in Shanggao county. The Shuangxi forestry cooperative won mortgage loans with a discounted interest rate. Besides, the afforestation cooperative has been involved to join in undertaking “one big, four small” project for more significant profits. To this point, the establishment and the development of the FFCs are also induced by the forestry projects responsible by the forestry administration.

(3) The further developments of the FFCs have dependences on the continued increase of forestry benefit achieved by the FFC. In the reform, the Forest farmers’ forestry benefits increase a large degree for the policy of reduction of forestry taxation and fee. The Forest farmers are activated to engage in forestry production, which lays foundation for jointly cooperation. The growth of income results from the forestry institutional reform. The development of the cooperatives has been influenced by the previous reform and will be sequentially influenced by the further one.

(4) The implementation of related policy will affect the development of the FFCs. The professional cooperatives should be functional to offer technical supervisions, and services on forest products sales. However, the cooperatives do not play the upper roles in the forestry practices. From this point, the administration department in charge of implementing policy should not only look through application material, but also look into the physical state of the FFCs by visiting the Forest farmers frequently.

4.5 Main Problems and Difficulties

The main problems exist in the FFCs are how to involve more Forest farmers in to extend the operation scale and enhance economic benefit. Concretely, the limitations on the FFC can be concluded in the following nine aspects: (1) shortage of funds for effective operation; (2) inadequate understanding on policy, marketing information and techniques; (3) the Forest farmers’ labor forces are dispersed and hard to organized for joint management; (4) the Forest farmers lack of equipment for forestry production which hampers joint management; (5) improper operational and economic surplus distribution mechanisms; (6) absence of a scientific development strategy; (7) lack of legal protection; (8) few types of services; (9) inadequate supports

from the government to make the existing difficulties faced by the FFCs be solved.

5. The Attitude, Behavior and Views from Different Stakeholders

5.1 Government in Different Levels and the Functional Department

5.1.1 Tonggu County Government

The representative from Tonggu county government makes a simple comparative analysis on conditions of forest resources and social economy before and after the reform. After the reform, local forest resources growths are obvious, the Forest farmers' economic situations are



improved and the forestry industry develops rapidly. In the process of forestry development, the FFCs play a positive role. In order to accelerate further development of local forestry, and enhance the Forest farmers incomes, it is needed to enhance the degree of organization of the FFCs. Hereon, the report is expected to discuss the successful experiences and failures,, and to identify the direction of development of the FFCs to dedicate in the perfection of the FFCs which can contribute towards multiple benefits of the process.

5.1.2 Governments in Town Level

Over the last decade, Paibu Town, where the Forestry afforestation professional cooperatives, Shuangxi forestry professional cooperatives, and camellia oleifera-planting professional cooperatives are situated, went through a boom of mushroom cultivation cooperatives, setting examples for the



farmers to work together. However, in the wake of the provincial regulation to enhance the protection of the natural broad-leaved forests, Tonggu county ban on the felling of broad-leaved forest for mushroom cultivation resulted in making the mushroom cultivation industry gradually shrink and eventually disintegrated one after

another. About the viability of the three cooperatives mentioned above, the town government official who was interviewed had the following observations: first, the development of FFCs should mainly be based on Forest farmers' own initiatives, whereas the government should only serve as a secondary guide; second, whether the FFC is an effective model or not, still remains to be observed, given the dynamic features of forest resources and income of Forest farmers. At present, the town government has not yet come up with any policies, institution or financial support for the forest farmer professional cooperatives, primarily because of, on one hand, the limited township revenues, and on the other hand, the unestablished legal nature of the cooperatives. As mentioned above, the 'three-defense' association, as a special type of cooperative organizations, assumed the responsibilities for providing public goods such as firefighting and pest/disease control and so on. Therefore, it is the only one that has won the recognition of the township government and was somewhat supported.

5.1.3 Tonggu Science and Technology Bureau

The representative from Tonggu Science and Technology Bureau presents his opinions from aspects of how to drive the developments of the FFCs by extending the application of science and technology. It should be noticed that the FFCs are a special type of farmers' cooperative for forestry



productions being featured with long rotation and full of uncertain risks. It is also expected that the FFCs can be functional to reach purposes of “two reduction, one growth”, *visa vie.* reductions of forest property rights conflicts and forestry production cost, and growth of forest stock volume. There badly needs all-round policy support to eliminate bottlenecks of funding and techniques application, and set up plant disease and insect pests prevention systems, to promote the FFCs advance in a healthy way.

5.2 Forestry Administration Departments

5.2.1 Jiangxi Provincial Administration Department of Forestry

The representative from project office of Jiangxi Provincial Forestry Bureau presents that the new phase of institutional reform of collectively owned forest has been basically completed, which is featured by distribution of usufruct of forest lands and ownership of stumpages to Forest farmers. The



reform, mainly concerning equity, can be regarded as the first-time distribution of collective forest. Nowadays, their initiates supporting reform which aims to maximize allocative efficiency of the forest, and can be looked as the second-time distribution.

The FFCs have multiple effects to reach the second-time reforms' destination. First, the FFCs will place emphasis on solving a series of problems which can not be resolved by the government, based on their self-organized development pattern. Second, that the FFCs aiming to pattern-rate scale management will enhance output of forest lands by making Forest farmers' joint forestry production activities become more industrialized, and utilize more information-technology on a large-scale. Third, the FFCs will facilitate Forest farmers to ensure their own rights and interests, reduce production cost, increase revenue, and improve the negotiating position in the market. Fourth, the FFCs can organize the Forest farmers to purchase production means and equipments together with remunerative price.

In the recent two years, the FFCs developed rapidly provincial wide. As of December 2009, there are 14012 forestry cooperative organizations of various types, such as 'three-defense' associations, private-owned forestry farms, afforestation plants, professional cooperatives and so on. The developments of the FFCs are reinforced by corresponding laws and documents. First, there enacted a new national law, named as the Law of the Peoples Republic of China on Farmers Professional Cooperatives, which makes sure that the development of the FFCs is in validity and supported by the government. Second, the No. 10 document, issued by China's central government in 2008, clearly defined to support the development of cooperative organizations. Third,

the document of the Opinion of Deepening the Institutional Reform of the Collectively Owned Forest in 2009 makes detailed provision on setting up and developing the FFCs.

To date, there still exists many of the following problems in the development of the FFCs: (1) majority of the Forest farmers are characterized by small-peasant mentality, lack of understanding on the FFCs, and then have intention to maintain individually independent management; (2) there is a lack of perfect internal operation and democratic management mechanisms; (3) the FFCs' operation are short of a long-term development strategy, and efficient management. (4) due to a shortage of funds, the FFCs develop slowly; (5) weak policy supports to the FFCs.

In order to promote the rapid development of FFCs, it needs to set up a long term effective mechanism and offer full supports. According to funds, the provincial forestry administration will invest 20 millions RMB to support 100 FFCs as pilot units, and fund them to tend young-middle aged forest, transform low-yield forest and gain subsidized loans. It is also looks forward that the FFCs can attract more talented managers, and strength management and technical training. Besides, the Forest farmers could try an application of internet to enhance the ability of acquiring marketing information. As an administrative sector, the forestry department should reinforce cooperation with other governmental departments, as well as make good use of its own resources, to provide all-round support to the development of the FFCs.

5.2.2 Tonggu County Forestry Bureau

A representative from the Tonggu County Forestry Bureau points out that the whole county's forestry has largely improved since the reform, and the Forest farmers' forestry benefits increase significantly. According to the operation of the FFCs, the forestry administration at county level



adheres to the following three principles: (1) the government advocates to develop FFCs; (2) the Forest farmers are free to join or not; (3) the cooperatives should be

managed and the operational risk should be born by all members jointly. Therefore, the forestry administrative department guides, but interferes with the establishment and development of the FFCs.

There are two patterns to set up the FFCs in Tonggu county. The first pattern is self-organized by the Forest farmers. The second one is organized by some organization under direction of the government, such as the “three-defense” association. And there are three types of cooperations. First, the Forest farmers join the cooperative in cash which is converted into shares. Second, the forests contributed by the Forest farmers are converted into shares. Third, the Forest farmers’ labor forces are converted into shares. Generally, the FFCs have relatively complete regulations and institutions, and insist on the principle of “one person, one vote” regardless of the size of shares.

For the members of council in charge of daily management, it should take into account to accelerate development of the stock cooperative, and endow greater decision-making power to those who have greater shares in the cooperative. The FFCs in existence have a series of problems, such as inadequate investment after the establishment, weak management capacity, low quality of the members, and lagging forestry-related supporting policy.

The forestry administration will reinforce technical support, such as offering assistance to compile the forest management scheme, involve the FFCs into participating in the “one big, four small” project, and do favors to form cooperative pattern of “enterprise + Forest farmers” to promote development of the FFCs in Tonggu county. In this process, the previous lessons should be carefully noted, and the favorable supports offered by central and provincial governments are badly needed. Especially, it is urgent to issue guidance document for the standardized development of the FFCs.

5.2.3 Yifeng County Forestry Bureau

The representative from Yifeng County Forestry Bureau points out that it is inevitable to



promote the development of the FFCs to deepen the institutional reform of the collectively owned forest. Through the reform, the number of farmers involved in forest production and management increased greatly, while the operation scale declined notably. It is significantly important to



bring the Forest farmers together by the development of the FFCs. Once participating in the FFCs, the Forest farmers can improve the ability to prevent plant diseases and insect pests, such as seracris. The government should offer supporting policy to promote development of the FFCs. Hereinto, earmarking of funds for forestry production should be made a priority. Besides, the Forest farmers' traditionally disapproval opinions on the cooperation should be refreshed.

5.3 Village Committees

Overall, the village committees are fairly supportive of the cooperatives, although they differ from each other in the specific favorable measures. Gaopi Village Committee strongly endorses the development pattern of forestry professional cooperatives and believe that the further development of the cooperative, especially after all the villagers joining in, the cooperatives, will be beneficial to forest resource management, saving afforestation costs, and increasing farmers' silvicultural income. Therefore, the village committee gave some help for the forestry cooperatives. Because of its support, the cooperative's "all-participating" proposal was approved by the Villager Congress.

Sanxi village committee gave some supports to Shuangxi professional cooperatives, as listed below: first, it provided a free office for the cooperative, with free water/electricity supply, temporarily set for three years; second, it helped in solving any disputes occurred during transference/circulation of the forestlands; third, the afforestation projects carried out by the cooperative are taken as composing sub-projects under the "returning farmland for forest projects", which entitles the cooperative to obtain supporting funds; fourth, it helps the cooperatives to maintain

forestry production order; fifth, it helps the cooperatives to carry out the task of fire prevention, pest control, security and so on. The Village Committee Secretary believes that the cooperative is better prepared for evading risks resistance and enjoys better I/O ratio in its productive operations. Compared with its precedent, the village joint-stock cooperative forest centers founded in the late 80's and disintegrated in 1995; the present mode of cooperation is much more advantageous. Although the director of the village committee is a member of the cooperative, the supports provided by the village committee to the cooperative have won the general endorsement of the Villager Congress.

At the end of 2009, four cooperatives were established in Yongqing village, namely the "three anti-associations", the Water Using Associations, the Waxberry Professional Cooperative and the Camellia Oleifera Professional Cooperative. Comparatively speaking, the establishment and



operations of the Camellia Oleifera Professional Cooperative enjoyed more independence and less support/intervention from the village committees. In its early developmental phase, the Camellia Oleifera Professional Cooperative received a one-time aid for tending the concerned forests. However, as the reforms of rural tax system and the collective forest property rights system progressed, revenues of the village declined sharply, and at present, the running of the village committee depends entirely on the budgeted transferred payments. As a result, even if the village committee is willing to support the Camellia Oleifera Professional Cooperative, it will not be capable of doing so. In addition, the area of the camellia oleifera forests in the village is relatively smaller, and the government has identified waxberry planting as the leading industry, which makes the village eligible for the 2,550 RMB/ ha aid from the county government.

Although the Village Committee does not acknowledge the association as a composing part of itself, the 'three-defense' association is actually assuming some of

the responsibilities that should have been taken by the village committee. For example, according to the town government regulations on forest fire prevention, this job should be carried out by the village committees, but it is actually fulfilled by the association. Moreover, the association also plays active roles in helping the local government and relevant departments in maintaining social security. In light of this situation, it is inevitable that the village committee would give full support to the development of the Association. The village committee members pledged to strengthen their support to the association's future development. Through its accumulated annual budget surplus and aids from relevant agencies, the committee is planning to equip the association with motor vehicles, so as to improve its capacity for fire prevention, theft-control and anti-pests and diseases campaigns.

5.4 Forestry Farmers

Most of the FFCs in Tonggu are based on the jointed activities of the Forest farmers in the village. So the varied relationships between the Forest farmers and FFCs shall shed some light on the Forest farmers' attitudes towards these organizations.

5.4.1 Attitudes and Behaviors to the Linke Afforestation Professional Cooperative

- **Farmers who are FFC members**

Some members of the cooperatives of the Gaopi village are quite optimistic about the future of the cooperatives, reasoning that the cooperatives are new modes of joint cooperation among the Forest farmers that are encouraged by the government, and have partially won supportive



measures from the government, and will surely be given more favorable policies in the future. Cooperative members generally agreed that silvicultural activities need to have scale efficiency, and pooling the scattered woodlands for intensive management constitutes the very solution to this need. Key members of the cooperatives also

suggested that joining in the association is a natural choice of the Forest farmers, because, only by this way can they gain access to such advantages as larger harvesting quotas, low-yield forest upgrading subsidies and so on. In other words, the foresters who do not join the association will not be able to access such advantages. At the same time, key members of the cooperatives are all quite supportive to all affairs related with the organization. Take the present study for example, the members have all been of great help. The cooperatives also, applied as a whole to the county forestry department for harvesting quotas on behalf of the villagers in Gaopi village, playing a leading role in highlighting the functions of forestry in promoting rural development. The cooperative members formulated the corresponding developmental plans, which, in addition to the above-mentioned five main businesses, gave more focus to capacity-building and technical training. In September 2009, it sent technical personnel to participate in the training courses for afforestation organized by the provincial Forestry Department.

On the part of the managing staff of the external afforestation section, they believe that the establishment of cooperatives has two meanings: first, the contracted afforestation projects undertaken by the cooperative can be sub-contracted to competent Forest farmers in Gaopi Village, which shall contribute to raise income for the farmers; second, it is helpful for them to access government-funded forestry projects. Also, they do not think that the membership households in the village should be entitled to sharing the earnings derived from external afforestation projects.

- **Quasi-members of the FFCs**

In this report, the quasi cooperative members refer to those households that have signed contracts to join the association but have not yet become formal members. These Forest farmers differ greatly in the sizes of their forestlands, but have all pledged to join the organization. The quasi cooperative members shall not be entitled to earnings that the cooperative derived



from previous afforestation projects or other business transactions. Although the quasi-members are the would-be full members of the cooperative, they are quite different from the existing core members in their corresponding rights and obligations.

Survey among the quasi-members showed that less than 35% of the Forest farmers believe that it is difficult or quite difficult to obtain bank loans, whereas over 65% of them think that it is easy to get bank loans. Follow-up investigation showed that the bank loans that the Forest farmers consider easily-obtainable are the small loans provided by the rural credit cooperatives of Paibu town, normally no larger than 30,000 RMB in total. As to other commercial loans, the Forest farmers shall have to undergo very complicated procedures and are by no means easily-obtainable. Take the forest mortgage loan for example, applicants for loans from the county agricultural bank must first of all turn to authoritative agencies for forest-asset evaluation, which will be used by the bank as a reference to decide on the sum of loans to be granted (typically 50-50% of the evaluated value). Meanwhile, the mortgaged trees shall also be “frozen”, that is, no permits for harvesting or utilizing shall be granted, until the loans have been repaid in full sum. More than 80% of those surveyed farmers admitted to have fairly low technological levels for forestry activities, as against 20% who claimed to be highly competent foresters. Correspondingly, all households surveyed indicated that their costs of production are at low level. But, less than 20% of the Forest farmers showed interests in gaining technical training from cooperatives, though all of them wanted to get favorable agricultural funds; 50% of the Forest farmers wanted to have stable channels to get their products sold. The reasons might be analyzed as follows: most Forest farmers have mastered the transformation technology of low-yield forest, so they are more concerned about the availability of the necessary materials such as agricultural fertilizers in the process of transformation. In addition, because of the economic fluctuations, sales of the Forest farmers’ bamboo/wood products also suffer from occasional setbacks, so they hope to have stable channels for getting them sold out.

Although not yet full members of the cooperatives, the quasi members have quite clear knowledge about the function of the cooperatives. All Forest farmers surveyed doubt that the cooperatives will play greater constructive roles in forest products circulation in the short term, so they believe that the existing Forest farmers-initiated selling model, which has no negative impacts on the Forest farmers' earnings, shall still be applicable in the near future. They also hope that the cooperatives can play an important role in promoting standardized production, quality control, operations and so on. Democratic governance of the cooperatives on basis of "equal voting" is also an expected goal of the Forest farmers. However, the quasi-members are not quite clear about the functions of the forestlands they contributed to the cooperatives.

5.4.2 Attitudes and Behaviors to Shuangxi Forestry Professional Cooperative

- **Farmers who are FFC members**

Members of Shuangxi forestry professional cooperative are quite optimistic about the future of the cooperatives, reasoning that the cooperatives are new modes of joint cooperation among the Forest farmers that are encouraged by the government, and have partially won supportive



measures from the government, and will surely be given more favorable policies in the relatively near future. Cooperative members generally agreed that silvicultural activities need to have scale efficiency, and pooling the scattered woodlands for intensive management constitutes the very solution to this need. Sketch maps provided by the core members of the cooperative show that most of the forestlands contributed by the participating members' link up together to form large stretches of lands suitable for scaled operations. In fact, one critical reason for the eight initiating Forest farmers to launch cooperated operations is that their forestlands are adjacent to each other geographically.

Interviews among the cooperative members shows some common characteristics in its forestry production and management, as listed below: First, it is easy to get bank

loans, especially when they are applying for mortgage loans through the cooperative; Second, they use relatively more advanced silviculture and afforestation techniques offered by professional organizations to create high-yielding forest; Third, the costs of silviculture, reforestation and harvesting are lower, mainly because of the economies of scale. Cooperative members believe that, by drawing on collective wisdom of the cooperative, they will be able to improve their own silviculture and reforestation techniques, have access to advanced forestry production materials, and to sell their products at higher prices, and in turn increase their own revenues. Among the eleven members, the four Council members have greater impacts on the business strategy for the cooperative, whereas the other seven members have a relatively less impact. As to the performance of the cooperative, all members believe that it is steadily improving, and that higher economic returns can be anticipated than they had originally expected. When asked about their willingness to put in more investments, all the key members showed interests to do so in accordance with their actual situation. Overall, if the matured stands owned by the cooperative can be harvested and sold in 2010, the cooperative will not have to raise extra funds for fostering and reforestation programs. However, more investment shall be needed if the cooperative plans to acquire more forestlands for afforestation. Although the cooperative itself did not offer any training for the members, they have all participated in the training activities organized by the county forestry administration in 2009 for afforestation, silviculture, pest control and firefighting.

As to the development of cooperative, the members felt that there are still many problems to be resolved. First of all, there are still challenges to achieve business growth, revenue increases, and increased inputs to technology and capital investments; more fair and reasonable benefit-distributing mechanism based on the shares held by each member needs to be established. Secondly, mechanism for standardized operation and democratic governance of the cooperative is needed. No dispute exists concerning whether the cooperative should be open to more members. So long as the targeted goal can be achieved, it is reasonable to absorb more Forest farmers to join so

as to expand the scale of the cooperative.

- **Farmers who are not FFC members**

In Sanxi village, except for the eleven members, no other households have joined the cooperative. The participants are all primarily engaged in forest-centered activities and generate major parts of their income from forestlands. All the Forest farmers that we surveyed acknowledged about having heard about Shuangxi village cooperatives, but their viewpoints concerning the cooperative vary greatly, as do their reasons for not joining in.

Survey among the non-cooperative members indicated that, in terms of forestland resource endowment, 25% of the Forest farmers acknowledged of having very limited forestlands, another 37.5% of having limited lands, and the remaining 37.5% of reaching the mean level in



their forestland sizes. In terms of access to credit funds, 87.5% of the Forest farmers said it is very easy, and the other 12.5% said it is neither too easy nor too difficult. As to the proportion of non-forest-derived incomes in the total household earnings, 25% of the Forest farmers put it at the minus 20% range, 25% at the 20-40% range, 12.5% at the 40-60% range, 25% at the 60-80% range, and the remaining 12.5% put it at plus 80% range. In technological aspects, 75% of the Forest farmers indicated that their own technology is of low level, as against the other 25% who claimed to have high level techniques. Correspondingly, 75% complained about higher cost of production, as against the other 25% who felt their costs were relatively lower.

Among the non-cooperative members surveyed, 75% gave positive remarks to this model of cooperation. However, the high threshold for access, particularly the 30,000 RMB financial inputs that are demanded, makes it impossible for them to join such organizations. One of the Forest farmers, who currently have his savings invested in animal husbandry industry, indicated that he might think of joining if his financial situation permits. Another 25% of the Forest farmers said that they would

rather wait and see how well the cooperative performs before joining in. One of them, who is also on the village committee, said that the failed joint-stock cooperative forest centers previously caused widespread dissatisfaction among the villagers, so they need more time to observe before judging the success or failure of the cooperative.

5.4.3 Attitudes and Behaviors to the Camellia Oleifera Planting Professional Cooperative

- **Farmers who are FFC members**

The members of the Camellia Oleifera Planting Professional Cooperative in Tonggu County have great confidence for the development of cooperatives and believe that they will get greater policy support in the future, in particular, supports from the provincial forestry department.



The members generally agreed that the cultivation of camellia oleifera planting need higher managerial and technical capacity, and that the establishment of such cooperatives will play significantly positive roles in these aspects. As the cooperative has not yet carried out any centralized management activities on the camellia oleifera forests owned by the member households, in particular, in carrying out concerted operations for the production and sale of oil together, it is more reasonable to take the cooperatives as a kind of professional and technical association among the Forest farmers, in which the techniques needed for camellia oleifera tree planting serve as the binding link.

Interviews with cooperative members show common characteristics in forestry production and management activities of the cooperatives, as listed below: First, it is still not easy to get bank loans. The cooperative's intention to apply for mortgage loans has not been successful so far, which has produced some negative impacts on the progress of the low-yielding forest upgrading program, as well as on development of the cooperative itself; second, the technologies and managerial expertise received from training courses offered by the cooperative in camellia oleifera afforestation

programs are fairly advanced. As a result, the marketing skills of the members have been greatly improved; third, the cooperative members can share some production factors. Take for instance, the oil mill of the cooperative offers preferential rates to its members. Though quite a few sessions of general meetings have been called for, few members thought they have made much of a difference. The key members of cooperative felt that many problems have been addressed in the meetings, but the other members do not think so. And the majority of the members do not think that the General Assembly has been doing a good job in solving the problems they are faced with. Nevertheless, the majority of the members agree that, if they chose to quit, their own interests would be negatively affected, chiefly because of the missed opportunities for technical trainings.

As to the development of the cooperative, the members felt that the current policy support that they received now is too little, particularly in such aspects as capital input, technology and production scale. The per-unit output of camellia oleifera forests is dependent on both capital inputs and technologies. Specifically speaking, when sufficient funds are available, barriers to technology-acquisition shall be removed; and when the needed technologies are in place, more funds shall be needed for carrying out further afforestation and forest-fostering operations; In short, insufficient capital and technology availability forms the chief blocking barrier for the healthy development of the cooperative. The oil supplies are often less than the market demands on the local markets. According to the members surveyed, clients in the city often come up to their doors for purchase immediately when the oil is produced. The urgent task faced by the camellia oleifera tree growers and the cooperative is to expand their production scales. Except for renting more forests for business operations, appealing to more farmers to join the cooperative is also an effective way for scale expansion.

- **Farmers who are not FFC members**

In Yongqing Village, only less than 10% of the households have joined the cooperatives. Surveys showed that not all the farmers are aware of the existence of

such cooperatives, and great differences can be found in their viewpoints about such organizations and their reasons for not taking part in.

Concerning the reasons for not joining the cooperatives, the survey indicated that 22% of the households were not aware of the existence of such cooperatives. As to the remaining 78% who knew about them, 22% said that it would make no differences to them, another 22% said that they



lacked necessary labors, yet another 22% stated that they do not have any camellia oleifera forests, so it makes no sense for them to join, and the rest 12% said they are not aware of how to join. According to the statistics provided by the village committee, about 70 households own a total 700mu of camellia oleifera forests. Overall, the proportion of households that do not have camellia oleifera forest is fairly large, thus somehow limits the development of the cooperatives. When asked about their future intention to join the camellia oleifera cooperatives, only 11% of the farmers showed interest in doing so on conditions that they develop camellia oleifera forests, and the rest said that they would wait and see.

5.4.4 Attitude and Behaviors to ‘Three-Defense’ Association in Dacao village

- **Farmers who are key members**

The key members of the Association consist of 25 foresters whose responsibilities are clearly defined, eight of whom make up the core management. Because the composition of the Association overlaps with that of the Village Committee, their corresponding views about the Association also show great consensus, generally optimistic and positive about the association’s role in forestry productive activities of the Forest farmers. As for the daily running of the Association, all the key members surveyed thought that the Villager Assembly can efficiently solve numerous problems, but they did not think that their personal influence



on the association was great, because of the relatively sound democratic decision-making mechanisms of the association. However, some key members also pointed out that the function of the association is too monotonous and that it should play a better role in the farmers' productive activities, such as technique improvement and capacity building.

- **Farmers who are general members**

Survey among the association's general member showed that Forest farmers have relatively high recognition of the roles played by the association in fire-prevention, citing the frequent publicity campaigns organized by the association as proofs. Most foresters do not think the Association has been doing well enough in pest/disease control programs. As for the organization's role in theft-prevention, some interviewees reported that the association is doing well in protecting private-owned bamboo/woods, but is relatively poor in protecting the collectively-run forests against illegal logging. There are often cases when certain local farmers illegally harvested bamboos/trees and smuggled them to neighboring counties and cities for sale. Most foresters have expressed their willingness to keep their membership to the Association, only a few households said otherwise.

5.5 Other Stakeholders such as Consumers of Environmental Service

Forestry administrative departments have the duty to ensure that both physical outputs of forests and environmental services are fully realized. Since "the Forum about the investment in forest environmental services and economic policy and financial innovation policy-makers" was held in Bangkok, Thailand in 2007, the global forest environment service has developed accordingly. In China, supplies of forest environmental services are mainly realized through government-initiated projects. On basis of diversified forest management, the Central Budget allocated special forest ecological benefit compensation funds. In light of this situation, the government is often deemed as a major supplier of environmental services, which is particularly the case in Tonggu county. Research has shown that, the consumers of the forest environmental services, such as the agriculture, water conservation, electricity

and other departments, typically only regard themselves as functional government departments, and that if payments need to be paid for the environmental services provided by forests, it should be on the Government's account. As far as the FFCs are concerned, these departments do not think that it should be their concerns. Moreover, the stakeholders believe that the development of FFC is the duty of the forestry sector, an area in which they have little function to play.

6. Problems Analysis

6.1 Experiences and Lessons: Comparison of Different FFCs

On a basis of analysis about the development of the FFCs, we can easily draw some implications in such aspects as the governance structure, member participation, development models and so forth.

6.1.1 Linke Afforestation Professional Cooperative

Firstly, the governance structure of cooperative falls into two mutually independent yet closely linked departments. The mutual independence of the two departments makes it hard to realize, on the cooperative level, absolute democracy as proposed by the principle of "one person, one vote". If we take the two composing departments as a whole, the cooperative does not conform to regulations in "Peasant professional association law" in terms of its setting-up, running and profit distribution. Furthermore, the association does not even conform to Article 15 of the same law, which states that "farmers should take up no less than 80% of the total membership". So, the governance structure of a cooperative is not only a concern at the time of registration, but also one that deserves close attention throughout its developmental process.

Secondly, the governance structure of a cooperative has direct impacts on members' participation in decision-making concerning its running. Judging from the features of cooperatives, we notice that most members have no saying over profit allocate, even no right to take part in the decision-making process.⁹. Under the

⁹ Gaopo village have ten sponsors, only one is the key in external afforestation, only he can take part in the

existing structure, the “quasi–members” of the cooperative will also have limited participatory rights. In other words, when they join the cooperative as quasi-members, their membership status is more like “contracted employee”. Although such structure has a positive function in increasing the number of the Forest farmers, it reduces the cooperative into a hollow structure. In light of the particular characteristics of forestry production activities, Forest farmers’ participation under specific situations should be paid more attention.

Thirdly, the central goal of the cooperative is to improve the efficiencies of resources allocation through pooling scattered forestry factors of production, and in the process, to improve the Forest farmers’ capacities for utilizing these factors, thus increasing their economic returns. Is this model applicable to all the forest production activities? Is this model sustainable? Is this model the optimal choice? All these questions seem to have been answered by the present development of Linke Afforestation Professional Cooperative. But as the cooperative develops further, especially when all the households in Gaopi village join the cooperative, the answers to these questions may become more clear and explicit.

6.1.2 Shuangxi Forestry Professional Cooperative

The central goal of Shuangxi cooperative is to improve the efficiencies of resources allocation through pooling scattered forestry factors of production, and in the process, to improve the Forest farmers’ capacities for utilizing these factors, thus increasing their economic returns. Experience has proven that such model is both feasible and necessary throughout the whole process of forestry silviculture. Concretely, the joint forest management can be achieved by pooling up the scattered forestlands owned by the farmers for scaled operations in such aspects of tree planting, tending, management, protection and harvesting. It is also conducive to apply uniformed technical codes so as ensure top quality products, better forest productivity, and reduced costs. In the trading phase, higher market prices, and in turn higher sales

allocation of afforestation surplus.

revenues, can be achieved through tapping the marketing expertise of experienced members. In short, taken as an integrated whole, the cooperative is helpful to improve forest resource benefit and reduce cultivating costs, which in combination translates into better efficiency in resources allocation.

As for the formation of cooperative, it is still chiefly driven by capable members of the organization, supplemented by the active participation of certain Forest farmers. In other words, the Forest farmers generally are not quite clear of the government's favorable policies for cooperative development, nor do they have much understanding about rules and regulations guiding the establishment and running of the cooperatives. With such knowledge, it will be difficult for the cooperative to run joint operations for better economic returns. Therefore, the more capable members' leading role should be highlighted in promoting the development of FFCs. On the part of the capable members, they should be made fully aware of the advantage of FFCs so that they can become the organizers and initiators for such organizations of joint production model and be the leader in the cooperative.

Most committee members we interviewed think that the Forest farmers have good economic sense and base their decisions on whether to join the cooperative purely on their judgment of corresponding economic returns. Given that Shuangxi forestry professional cooperative is still in its early stage of development, as characterized by high inputs in forest planting and tending, there is currently little returns realized yet, so many non-membership Forest farmers adopt wait-and-see attitudes. It remains a tremendous challenge for the cooperative, under the present non-surplus situation, to attract more households to join and thus expand in scales. As to the high threshold some non-membership households complained about, one possible reason is that they are not quite clear about the business model of the cooperative. About the issue of share-distribution among the land-contributing members, the key members vary from each other in their answers. But one thing is certain: the cooperative needs to be further strengthened in capacities for making long-term plans and streamlining its business operations.

6.1.3 Camellia Oleifera Planting Professional Cooperative

The central goal of Tonggu county Camellia Oleifera Planting Professional Cooperative is to improve the efficiencies of resources allocation through pooling scattered forestry factors of production, and in the process, to improve the Forest farmers' capacities for utilizing these factors, thus increasing their economic returns. Experience has proven that such a model is both feasible and necessary throughout the whole process of forestry silviculture. Joint forest management, by pooling up the scattered forestlands owned by the farmers for scaled operations in such aspects of tree planting, tending, management, harvesting and in oil production. It is also conducive to apply uniformed technical codes so as ensure top quality products, better forest productivity, and reduced costs. In the trading phase, no jointed selling was organized, which was quite reasonable given that the market at that time was to the sellers' favor. But for higher market prices and in turn higher sales revenues, it is worth trying to, through joint operation in marketing, develop its own market-recognized brand and uniformed quality standards. Presently, market demands for oil produced by the cooperative exceed the cooperative's outputs, chiefly because of its high p/p ratio. Judging from the perspective of marketing, the cooperative should have adjusted its prices to a level higher than the market average. But unfortunately, perhaps because the members themselves have not realized the peculiarity that their products have, the prices they are now charging do not differ much from the market average, nor have they realized the fixed market-rule that "prices tend to raise when market demands for the product exceed its supplies". Therefore, it can be concluded that of the cooperative has not fulfilled its function in further increasing the economic returns of its membership households.

6.1.4 Dacao Village 'Three-Defense' Association

The effective operation of the 'Three-Defense' Association relies on farmers' forestry income status and financial supporting by government.

To make sure that the 'Three-Defense' Association can operate effectively, great attentions should be paid to the forestry productive operations of the local Forest

farmers. It is worth debating whether it is an effective and viable approach to shift the government's responsibility for providing public goods to the Forest farmers through such an organization as the "Three-defense" Association. Sure, according to "Peasant professional association law", the association does not qualify for being FFC by definition. Given the particular context under which it was set up and the special duties it was assigned, it is worth exploring how to develop it into a full FFC. Especially deserving of our attention is to explore the ways to make the farmers the true leading roles in the association and make sure that the services they receive match their membership fee contributions. Now, key members of the association act as rangers to protect forests. According to one research on the rangers system that we carried out in 2009, most of the farmers thought the rangers system has many drawbacks. Because the number of rangers is not enough, and the majority of them work on a part-time basis, it is difficult to expect them to play leading roles in forest resources management and protection, but they are given wages that they do not actually deserve. In other words, the local Forest farmers are the key players in forest resources management and protection, so payments given to the rangers should be paid to them instead. Moreover, because of the limited number of people in Dacao village's 'Three-Defense' Association, the effectiveness of their roles in theft control remains questionable. In contrast, if the whole village is involved in this aspect, it will surely turn out to be more effective. Not only that, by mobilizing the entire village to be involved in fire prevention and pest/disease control, better results can be expected. In conclusion, we will have to raise a question as to whether the 'Three-Defense' Association is just a kind of transitional organization that will in the end abandoned by the Forest farmers. If so, it is necessary to work out proper withdrawal mechanism for the 'Three-Defense' Association, or to seek more viable models to replace it.

Anyway, we have enough reason to believe that enhancing Forest farmers' fire protection, security, preventing disease insect pest ability and consciousness, comprehensively has a profound significance and positive function to play in the increase of the Forest farmers' incomes derived from forestry production operations

and improved efficiencies in the allocation of collective forest resources.

6.2 Incentives and Disincentives for Forest Management by FFCs

It is natural for Forest farmers to be engaged in forest management in traditional forest regions, but the jointed production and business operation activities that Shuangxi forest professional cooperative is engaged are brought about by relevant national policies. The Cooperative, in carrying out large-scale forestry production and management, has had some active exploration, but it is also faced with certain restraints for its development, such as an undesirable forestry system, access to factors of production and the likes.

6.2.1 Incentives and Disincentives for Linke Afforestation Professional Cooperative

- **Incentives and disincentives for the external afforestation section**

Linke afforestation professional cooperative's external part takes contracted external afforestation projects, such as the ongoing forestry demonstration projects, transformation of low-yield forest and so forth. These programs are purely profit-motivated economic activities. The main restraints it is faced with typically lie in not having sufficient factors of production put into the afforestation programs.

The main persons in the external afforestation department are all experts in the field. For instance, the Board-Chairman is an established expert in afforestation known throughout the province, the general manager is a laid-off silviculture worker of the county's state-owned forest farm, and the cashier is also a laid-off seedling nursing worker from the same place. Thanks to their long experiences in the field, they have accumulated rich experience in afforestation and take these activities as the main source of incomes. After the innovation of forest property rights system in Jiangxi province, the provincial government further promotes "one big, four small" project¹⁰, through which all the roads linking up the 99 counties (cities) in the

¹⁰ "one big four small" project is the afforestation project which has been Implementing in 2008 by Jiangxi province. "one big" ensure that the province's forest coverage rate reached 63% in 2010, "four small" is mean to the four aspects greening works, including cities, towns, villages, and infrastructure, industrial parks.

province shall be afforested. In addition, “taxes reduction” initiated in the forest property rights system reform also sharply increased the comparative returns from forestry investments, thus huge sums of social capitals were attracted to fund a large number of afforestation projects. Through investment-bidding, a large group of big and medium-scaled wood/bamboo processing enterprises are attracted to set up their plants in Jiangxi province. These enterprises are also encouraged to establish their own raw material bases so as to realize more vigorous growth of reforestation activities. For Tonggu county and the surrounding regions, engaging in reforestation activities has become an industry that yields relatively better economic benefits.

The major restraints faced by the cooperative lie in their inability to put in sufficient investments of factors of production and its less-than-desired qualification. Firstly, in terms of production factors, the cooperative does not have a solid fund-basis and lacks advanced reforestation equipment. Under the current practices in undertaking afforestation programs, the contractors are typically expected to self-fund the preparative works, which often turn out to be a huge challenge to the capital scale of the contractor. Take the 53.3 ha afforestation project undertaken by the cooperative for an example, it demands over 100,000 RMB for land preparation. Now, the external afforestation department owns a total cash account of a mere 300,000 RMB¹¹, which makes it almost impossible for the cooperative to undertake large-scale afforestation projects. Meanwhile, the insufficient capital also makes it difficult for the cooperative to buy into more sophisticated forestry machines needed for such large-scale afforestation programs as the road greening project. In fact, because of the steep geographical feature of Tonggu county and intertwining roots underground, the available machines like hole-driller and mower often turn out to be inapplicable. Secondly, the next restraint is that of qualification-certification. In line with the spirits of “Construction and Development Program Bidding Code” (Gan province [2004] No.10) promulgated by Jiangxi province in 2004, all 500,000 RMB infrastructural

¹¹Two parts: Four key personnel per 50,000 funded jointly contribute 200,000, and the 2009 annual implementation projects revenue of approximately 100,000.

projects must be subject to bidding. As far as qualifications for afforestation programs are concerned, there is not yet any authoritative certifying system available in this respect. The certification system applied in the road greening project was the Urban Greening Certificate. For the 8.9 km-road greening project that is about to be launched in Tonggu county, tenders are required to bear Urban Greening Certificate (Grade III and above). That mean, the cooperative, in spite of their rich experiences in this respect, will not have access to such programs because of the absence of due certificates.

- **Incentives and disincentives for the Gaopi village section**

At present, the incentives for the Gaopi village forest management by farmers' cooperative is clear, namely, to maximize economic returns through the production and sales of timber/bamboo, and through winning access to aiding-funds for forestry projects. Traditionally engaged in forest management, villagers in Gaopi have a high degree of dependence on forestry for incomes. About the proportion of earnings from forestry activities in the household's total income, 32% of households put it at 1/3, 50% put it at 1/2, while 18% put it even higher than 2/3. At the beginning of the innovation of forest property right system, during 2004-2007, Gaopi villagers' forestry revenues went through a rapid increase in the proportion of total income. In 2008, the proportion of revenue decreased slightly because of fluctuations in bamboo price. In 2009, the proportion rose steadily. All surveyed foresters thought that, the risk of engaging in silvicultural activities is low, capital and labor inputs and other costs will be able to translate into revenue. As for the bamboo forest, the inputs can be changed into income within just 4-5 years. For fir forest, depending on the fertility situation of specific sites, the time span of these forest falls somewhere between 18-25 years. What is worth noticing is that villagers in Gaopi are typically engaged in bamboo growing, hence long-term and high-risk associated with forestry production are greatly reduced. Foresters engaged in transforming low-yield forest are basically in line with the principle of maximizing their own interests. As a whole, the incentives for Gaopi village FFC are to gain access to project financial support and preferential

policies such as logging targets.

The disincentives for Gaopi village FFC is obvious. In specific, they include: relatively small scale, limited preferential policies to support. In Tonggu county, only cooperatives whose business scale reach 133.3 ha or larger can be registered as private forest farms to enjoy such favorable policies as discount loans, priority in applying for forestry projects, special harvesting quotas and so on. At present, the FFC has not yet linked up all the lands owned by its membership households for joint business operation, so it is not eligible for the preferential rights of private forest farms. In fact, even when joint operation is realized, it is uncertain whether the cooperative will be entitled to the same preferential treatment as private forest farms. While foresters generally have difficulties in winning bank loans larger than 30,000 most out of them still manages to carry out afforestation and production activities in accordance with their own financial capacity. As the upgraded low-yield forests bring in greater economic returns, foresters will be more enthusiastic in seeking funds to carry out more activities in this respect, making the shortage of funds even greater. At present, the reason for the foresters to be engaged in the low-yield forest upgrading programs lies in the aiding funds for such forestry project funding support, rather than the farmers' innate drive for more advanced modern forestry technologies.

6.2.2 Incentives and Disincentives for Shuangxi Forestry Professional Cooperative

- **Incentives for forest management**

At present, the incentives of the Shuangxi forestry professional cooperative is clear, namely, to maximize economic returns through the production and sales of timber/bamboo, and through winning access to aiding-funds for forestry projects. Traditionally engaged in forest management, villagers in Shuangxi have a high degree of dependence on forestry for incomes. Among the four key council members, the top income-earner has an annual income of 100,000 RMB, all generated from wood/bamboo trading; The second largest-income household has an annual income of 60,000 RMB, of which 20,000 RMB are derived from forestry; The third

largest-income household has an annual income of 50,000 RMB, of which 35,000 RMB are derived from forestry; And the fourth largest-income household has an annual income of 40,000 RMB, of which 30,000 RMB are derived from forestry. From the above-mentioned figures, we can see that the proportion of forest-derived incomes among the total reaches as high as 74% of the total, thus forestry production and management activities are the primary income-contributor. So engaging in forest management activities of the cooperative is important.

Cooperative members consider that, compared with other types of cooperatives, the running risk of professional forest cooperative is smaller. Taking the livestock breeding agricultural cooperatives for example, you not only need to invest each year, but also are faced with such risks as market uncertainty and infectious diseases. In fact, the Tonggu county government called on farmers to form cooperatives for red pepper cultivation in around 2005, however, due to poor marketing, the growers suffered serious financial losses in spite of the good harvest. In contrast, with the long-standing supply-shortage on the domestic timber market, together with steady improvement of bamboo processing technologies, it can be foreseen that demands for timber shall remain quite strong¹². As a result, members of cooperatives thought that engaging in forest management activities would be a good type of economic activity. Nevertheless, the cooperative still bought fire insurance for all the mountains at premium rate of 3.6 RMB/ ha, preferential rate offered by the local forest insurance company.

In addition to economic return maximization, it is also imperative for the cooperative to eliminate obstacles that hinder the realization of this goal. Developing

¹²For the cooperative, the major inputs forest management activities are for the forest land use fees, afforestation and raising investment. As the cooperatives are found in all the mountains around the residence, less cost are needed to create forest management and protection. Afforestation of barren hills purchased in accordance with 14.7 ha of afforestation technical requirements of production inputs to 8,000 RMB/ ha; In the 20-year rotation period, respectively, and one to conduct a thinning felling, thinning of income sufficient to offset the production inputs. In the end of rotation, availability of 150 large-diameter grade cedar logs, under 5 for 1 m³ volume ratio, expected to be 30 m³ of timber, according to 800 RMB/m³ of timber market price, will receive 24,000 RMB of income. Local input-output ratio is much higher than other agricultural production activities.

more forest is the common aspiration of all the members and non-membership households. By organizing the individual households into cooperative, such forms of cooperation will make it easier for them to access preferential policies and supports, such as forests, woodland silvicultural needs, capital, technology and other factors of production, as well as subsidized mortgage loans.

- **Disincentives for forest management**

At present, Shuangxi Forestry Professional Cooperative's major constraints exist in the capital, management and technology, though they differ from each other in their corresponding degree of impacts on the cooperative's development. Such constraints are also the problems that call for urgent address by the cooperative in its development process.

Firstly, insufficient capital funds are the chief constraint facing the cooperative. In applying for mortgage loans in 2009, the cooperative proposed to mortgage 1,000 acres of woodlands, which were evaluated of worth 1 million RMB. In accordance with 50-60% rate designated by the bank for giving out loans, the cooperative was entitled to have 50-60,000 RMB in loan. However, taking into account the risks involved in loan-using, the cooperative in the end decided to take only 300,000 RMB. What we meant here by cooperative financial constraints is the insufficient self-owned financial resources that most members are faced with, which often pose negative impacts on the capital investments as well as healthy development of the cooperative. To be specific, had sufficient funds been made available for the cooperative, then targets set for 2010 and 2011 could have already been achieved in 2009. Due to shortage of funds, the cooperative adopted an approach that encourages "parallel-going of forest silviculture and forest harvesting" and "phased investment". Though this innovative developmental model reflects the collective wisdom of the members, if the operational scale of the cooperative is to be expanded soon, difficulties in accessing to fund constraints must be solved. In addition, cooperative members also hope to further reduce the cost of capital.

Secondly, the next major constraints are management capacity. With the further

development of cooperatives, increased demands occur for overall managing skills such as organizing, coordinating, communicating, planning and so forth, putting even more challenges to the key members of the cooperative. In the process of silviculture and reforestation, how to resolve land related disputes between members? How to win from the government and its functional departments preferential treatment? When surplus is achieved, how to balance the extra earnings and initial inputs? How to reduce the running costs? How to achieve economies of scale? These are all critical issues that the management will be faced with and must be solved satisfactorily. In fact, key members of the cooperative have already realized their limited expertise for management, and are adopting various constructive measures for improvement in this respect, such as organizing learning tours, sponsoring forums and so on.

The third and last major constraints are insufficient technology support and technical expertise. At present, the cooperative typically commissions afforestation programs out for their implementation. That is to say, the cooperative will make decisions on afforestation sites, afforestation area, intended seedlings, planting density, reforestation costs, and then contract the activities out. Though the cooperative inspects the survival rate, follow-up quality control, or whether the program meet the set-target after one rotating harvesting cycle, remains pretty weak. In other words, the cooperative does not have full control of the whole silvicultural process. Some key members of cooperatives believe that so long as such critical indicators as the survival rate, seedling species and planting density are guaranteed, the set goals can basically be well achieved. However, there have been cases of poorly-developed forests caused by inappropriate planting of seedlings in other villages. In addition, the cooperative also falls short in terms of pest/disease control, which in turn increases risk-potentials involved in silvicultural activities.

6.2.3 Incentives and Disincentives for *Camellia Oleifera* Planting Professional Cooperative

- **Incentives for *camellia oleifera* planting and management activities**

Having been engaged in *camellia oleifera* industry for decades, villagers in

Yongqing have rich experience in this aspect. At present, the six person initiative has clearly defined business goals to maximize the returns from *camellia oleifera*. Long engaged in this line of work, membership households of the cooperative have a relatively high degree of dependence on forestry for their incomes. So far as the key members are concerned, the percentage of forestry derived incomes among the total incomes amount to 60% at the higher level and 20% at the lower level, with an average rate of 45%. So it is obvious to see how important this industry is for the local villagers. Cooperative members thought that, the risk of professional cooperative *Camellia* is not much different from that involved in other types of cooperatives. But, if there is no good planting technique, especially if there are no reliable techniques in recognizing the high-yield oil tea seedlings, the cooperative shall face greater risk. In recent years, the government and its functional departments encouraged the development of farmers' cooperatives so as to make sure the farmers have ready access to appropriate technology easily. So, the establishment of the *camellia oleifera* cooperatives is a natural response of the Forest farmers to the technique risks involved in this field.

Jiangxi Province is vigorously promoting the development of *camellia oleifera* industry, which, together with the preferential policies of the forestry administrative departments to forestry cooperative organizations, will surely give more momentum to the further development of the



camellia oleifera cooperative. With the improved economic sense of farm households and their increasing awareness of government policies, farmers will certainly take on more activities that are to their benefits. The feature of the cooperative is distinctive. The Board-Director has been to quite a few different places as a migratory worker and has quite insightful understandings about China's rural development policies. He also hopes that the "Benefit the Farmers through Science/Technology Popularization" campaign can bring about rapid economic development of his hometown. Moreover,

the Cooperative has its own periodicals entitled “The Field”¹³ as well as its own farmer’s library so as to create favorable environment for the farmers to master science and technology.

In addition to economic return maximization, eliminating the obstacles involved in the process is also one of the incentives for forest management. It is a common aspiration of the membership households to create more forests and to increase per unit oil-output of *camellia oleifera*. Currently, what the membership households get from the cooperative is only training programs on production as well as management skills, but as the cooperative develops further, it will be able to offer more helps in obtaining such factors of production as lands, capital, and technology needed in reforestation programs, and in winning favorable government supportive policies.

- **Disincentives for *camellia oleifera* planting and management activities**

Tonggu village *camellia oleifera* planting professional cooperative is still in its early stage of development, which actually is professionally technological association. Judged from the aspects of being a fully competent cooperative, it is currently faced with problems such as incompetent management, insufficient capital and backward technologies.

Although demands exceed supplies for *camellia oleifera* in the current market, the total output is small, which is worsened by the lack of a consistent quality criterion. It has not yet been covered by its strategic plan as to how to increase in both terms of quantity and quality so as to become an established market brand, so as to lay down a solid foundation for its further development. In other words, many key issues involved in the running of the cooperative have not been given their due share of attentions, for instance, how to implement joint operation throughout the entire procedure of *camellia oleifera* growing and production, and how to ensure full and effective participation of the members in decision-making. Insufficient capital input is another obvious challenge to the cooperative. For the 13.3 ha of suitable lands rented

¹³ “The Field” is a kind of internal publications which published by cooperative accounting for farmers, it consist of many aspects, such as popularization in rural areas, promotion of appropriate technologies in agricultural production, rural poverty alleviation, rural leisure and cultural life etc.

by cooperative for developing high-yielding camellia oleifera forests, over 100,000 RMB will be needed, which is, judging from the present overall profit-earning capacity, far beyond the reach of the cooperative. Among all the disadvantages, the most troublesome problem is its model and direction for development. In other words, it needs to elaborate on whether it is beneficial enough to carry out more in-depth joint operation so as to further improve the economic returns of the Forest farmers.

6.2.4 Incentives and Disincentives for the ‘Three-Defense’ Association in Dacao Village

The role of Dacao village ‘Three-Defense’ Association in forest management activities can be regarded as providing quasi-public goods, the services that the members enjoy, such as fire prevention, security, pest control, are partly funded by the membership fees they contribute, rather than wholly paid by the government.

The establishment and the formation of ‘Three-Defense’ Association have deep-rooted interest motivations. It can be divided up into several aspects as follows: firstly, it is necessary to set up such association in order to achieve the objectives set for the reform on forest property rights system. The reform targets at a double “increase” in terms of both forestry productivity and the Forest farmers’ incomes. To reach this goal, available forest resources must be most efficiently allocated. Thus, by pooling the fragmented woodlands through forming such an association, the problem of insufficient public goods can somehow be alleviated. Secondly, it is necessary set up the association in order to strengthen the functioning of the village committee. Following the reform on forest property rights system, forestry taxes have been substantially reduced. Correspondingly, revenues of the village also declined so sharply that the responsibilities of the village committee can hardly be satisfactorily fulfilled. By setting up such an association, it becomes possible for the village committee to fulfill part of its responsibilities through the association. The above-mentioned reasons are on the standpoints of the government. Thirdly, it is necessary to set up the association in order to improve farmers’ business sense and capacities. Through carrying out the activities about fire prevention, anti-theft and

anti-pest, it not only services the farmers but also improves the business sense and ability.

The main disadvantage in the running of the association is that it has not yet won the farmers' recognitions, particular the recognitions from those highly competent large-scale forest farmers. The research which Jiangxi provincial forestry department has done among such type of forestry associations in province shows that only 1/3 of such associations are properly functioning, 1/3 are managing to survive, and the other 1/3 is bankrupted. The reason is that the association's funds are mainly from the farmers contributions, whereas the governmental inputs are given only in subsidiary forms. When the farmers' incomes from forestry activities are less than their expected level, their willingness to pay their contributions will surely be hurt, thus reducing the association to even greater fund shortages. In fact, most of the association that are managing to survive or having gone broke are located in regions where middle-aged and young forest stands concentrated, so the farmers can not see the immediate returns of their productive efforts. In the case of Dacao village, where bamboo makes up the main forest resources and provides immediate returns from forestry production and operation, most members have both ability and willingness to pay their contributions.

6.3 Support in Policies and from Institutions

Current policies have significantly positive influences on the establishment and development of the FFCs. The functions of the policies show up through out the process of setting up, developing and operating the FFCs. Concretely, there are four aspects of effectiveness.

(1) The policies implemented by the government to promote the development of farmers' cooperatives have influences on the establishments and the development s of the FFCs, such as the Shuangxi Forestry Professional Cooperative, and the Linke Afforestation Professional Cooperative. The promotions consist of capital investment to and technical support on the agricultural cooperative from the government. For example, both the bee-breeding and the rex-breeding cooperatives were funded by the

government in 2009.

(2) The establishment and the development of the FFCs are favored by the government and its functional departments. Tonggu County Forestry Bureau participates in the construction and listed company for the Linke Afforestation Cooperative. So does Shanggao County Forestry Bureau to the forestry economy cooperative in Shanggao county. The Shuangxi Forestry Cooperative won mortgage loans with a discounted interest rate. Besides, the afforestation cooperative has been involved to join in undertaking “one big, four small” project for more significant profits. To this point, the establishment and the development of the FFCs are also induced by the forestry projects responsible by the forestry administration.

(3) The further developments of the FFCs have dependences on the continued increase of forestry benefit achieved by the FFC. In the reform, the Forest farmers’ forestry benefits increase a large degree for the policy of reduction of forestry taxation and fees. The Forest farmers are activated to engage in forestry production, which lays foundation for jointly cooperation. The growth of income results from the forestry institutional reform. The development of the cooperatives has been influenced by the previous reform and will be sequentially influenced by the further one.

(4) The implementation of related policy will affect the development of the FFCs. The professional cooperatives should be functional to offer technical supervisions, and services on forest products sales. However, the cooperatives do not play the upper roles in the forestry practices. From this point, the administration department in charge of implementing policy should not only look through application material, but also look into the physical state of the FFCs by visiting the Forest farmers frequently.

6.4 Access to Information and Information Services

The information to be obtained by the FFCs can be divided into two categories: first, market information, specifically including that of the market of production factors and products. The Forest farmers need access the necessary seeds and seedlings, pesticides, fertilizers, technology, capital for engagement in the forestry productions. The market of products is functional for the Forest farmers to sell logs

and bamboo products. The other category is non-market information. It refers to information about capital investment, technical services and other benefits being favorable to the forest farmers offered by the government and its functional departments.

At present, the Forest farmers learn market information about pesticides, fertilizers and the purchase channels by themselves. And they purchase pesticides and fertilizers by themselves or with partners. The purchase channels are shown in the Figure 6-1.

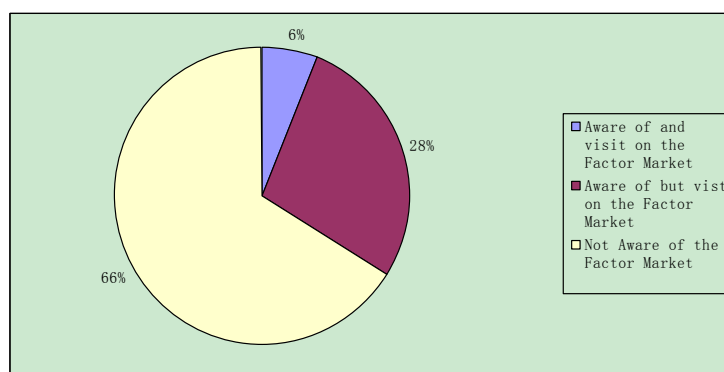


Figure 6-1 the Purchase Channels of the Forest farmers

With regard to such factors as seedlings, a few forest farmers are through the unified purchase organized by the village committee, and the majority is still on their own. In term of such factors as technology and capital, the majority of foresters did not know how to source from the market. According to information of logs and bamboo products, the forest farmers learn directly from the market. In addition, most Forest farmers did not know the existence of the Factor Market organized by the government, and only a few people have ever been to visit that particular market. The awareness on the Factor Market is shown in the Figure 6-2.

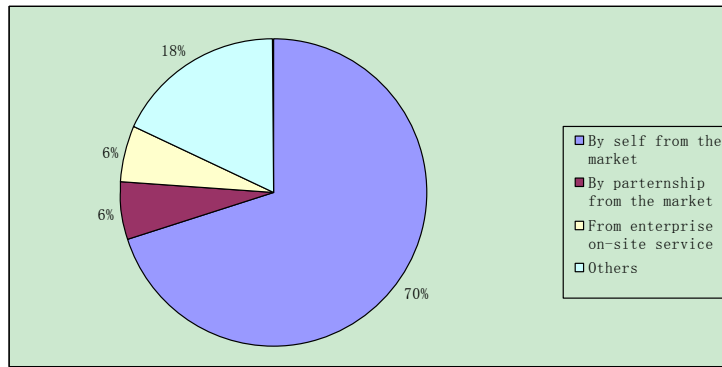


Figure 6-2 the Awareness on the Factor Market of the Forest Farmers

With regard to access of the non-market information, some forest farmers point out that there are no difficulties for technology, the local forestry administration department will organize training on prevention of insect pests and other aspects in each year. However, most forest farmers can not access information about capital investment, technical services and other benefits being favorable to the Forest farmers offered by the government and its functional departments. In practice, this partial information is often reaches the village committee, rather than directly reaching the foresters.

6.5 Other Deficiencies

Generally, the FFCs in Tonggu county are featured with the following four aspects of deficiencies:

First, the FFCs are in the initial stage. Since registrations, most cooperations have operational history of not more than two years which determines that the FFCs do not have a sound administrative system, clear development goals, adequate participation of members. Therefore, the FFCs face many limitations in the aspect of organizing the Forest farmers to implement joint production.

Second, the operation and management of the FFCs is dominated by the key members, which usually able persons in rural area of China. The key ones play dominant roles in making decision on key issues as well as daily management. In other words, the equitable decision-making principle of “one person, one vote” might be a nominal one.

Third, there are no clear developments patterns for the FFCs. Currently, majority

of the cooperation organization are named as the professional cooperatives nominally, but are under operation of the stock cooperatives. In this context, it should take into account to making clear the patterns, so that the existing problems could be solved and prevent the potential problems similar problems for reoccurring.

Fourth, there are no sound mechanisms for the operations of the FFCs. Most FFCs lack of funds for normal operations, and their operation costs are borne by the key members. All-round guarantees to ensure sustainable development of the FFCs are in absence.

6.6 Potential

Why should the FFCs be formed? Answers from different stakeholders are varied. No matter what kind of pattern adopted by the FFCs, the core is still on ensuring that the foresters' income is increased. In this process, the FFCs should help the Forest farmers to resolve difficulties in the process of access of production factors and selling forest products. As a result, the FFCs can be worthy of the name. In term of FFCs' forestry benefits, it should not only pay attention to the current growth, but also the sustainability of growth in the long term. Only if Forest farmers' production and management capacity is increased, their forestry benefits will be possible to keep on increasing in the long term. In this regard, the potential of the FFCs depends on whether they can continually improve Forest farmers' business capacity and income.

The FFCs create more opportunities for Forest farmers to improve competitive capacity in the forestry production. Therefore, the FFC's operational performances relate to the vital interests of Forest farmers. It is noteworthy that the FFC itself is an independent economic body. When participating in the process of market competition, the FFC might be trapped in a poor management position for failure of risk prevention. In this connection, the Forest farmers do not necessarily get bigger forestry benefit after participate in cooperative organization. However, the FFC can bring together the broken forestlands which will facilitate formulation of intensive production and the realization of economies of scale, and is a production and business model in line with the practices of forestry.

To promote the development of the FFCs can help foresters make this better model be widely accepted, and improve efficiency in the allocation of forest resources. At the same time, in order to make the FFCs run an effective operation, and the Forest farmers increase revenue, it would require the help to remove the constraints faced by the FFCs, such as capital, technology and market constraints. In the process of the elimination of the constraints, government departments should play a guiding role by funding the establishment of the pilot demonstration units to form a fixed pattern for the other FFCs for reference. If constraints can be eliminated and operational risk can be taken under control, the FFCs surely would have a brilliant future.

In accordance with the agricultural cooperatives, the FFCs also have a variety of development types. Though the FFCs in Tonggu are in the initial stage, we are confident that the professional cooperative, the stock cooperative and the professionally technical association will have their own prospects. Nevertheless, the three professional cooperatives concerned in the study are more likely to evolve into stock cooperatives.

7. Recommendations or Options for the Development of FFCs in the Project Province

7.1 Policy Recommendation

(1) Strengthen funding supports to the FFCs. The development of FFCs is by nature a process of reproduction expansion based on forest resources. Among all the affecting factors, fund-availability plays the most decisive role in the speed, and even the success or failure of the expansion. Although Forest farmers have relatively easier access to 30,000 RMB worth bank loans, this is far from enough for Forest farmers whose forests are larger than 3.3 ha in size, given that the average costs of 8,000 RMB/ ha in afforestation. In other words, financial supports to the cooperatives should mainly focus on large-scale high-yield forest so as to promote the healthy growth of forest resources and quality-enhancement, in turn contributing to the Forest farmers' earnings. In addition, funds should also be made available for infrastructure

development, for example, road construction, silviculture equipment purchase that are conducive to the establishment of high-yield forests. For this purpose, innovative ways in offering financial credits and financial transferring payment should be explored.

(2) Explore the building of the pilot demonstration of the FFCs. As the FFCs in Tonggu County are still in their initial stages, there is not yet a successful model applicable for the later-comers to learn from. So, for the moment, efforts should be made to promote the growth of demonstrative pilot cooperatives, such as demonstrative “Three-Defense” association, demonstrative forest professional cooperatives. In setting up pilot programs, it is necessary to explore for optimal modes in means of cooperation, fields of joint operation, share-holding, and surplus-distribution and so forth. On the part of the FFCs, they are expected to make clear stipulations on the following issues: should the joint operations be expanded to the trading of log/bamboo? Should salaries be paid to the management of the cooperatives? And if so, how much? There is no clear answers as of now to such problems, but pilot programs might yield some implications for solving them successfully.

7.2 Legislation Recommendation

The formation of the FFC is important. However, if the established organization did not turn out as expected, there would only be more harms than benefits. In the development of FFCs, many fake-FFCs have emerged in the name of such organizations. On one hand, this practice violates the "Farmer Cooperatives Act"; and on the other hand, it constitutes direct infringement against the interests of Forest farmers, as well as indirect jeopardy to the common interests of the whole society. To strengthen standardized management, strict measures must be implemented at the registration stage of such organizations. In particular, closer scrutiny of the applicants' "Organization Charter" is required to make sure they do fall into such type of organizations; Secondly, a dynamic management system should be put in place to make sure the cooperatives are constantly reviewed for their operations; Third, better

inter-departmental coordinating mechanism should be set up to ensure well-facilitated management initiatives.

7.3 Recommendation of Governance and Institution

(1) Increase trainings of the technical and managerial capacity of the FFCs. Under the background of relatively backward rural social economy, China's forestry is at the primary level of its development, characterized by typically poor technical and managerial skills in forestry operations. So an urgent task is to train one technical expert and one managing expert for each FFC in each village. As far as technology is concerned, training programs should be focused on high-yielding technology and pest/disease control techniques. In addition to the training programs offered by corresponding forestry administrative departments, effective ways should also be explored to encourage inter-FFC contact and inter-project collaborations. One possible way is to take advantage of the training programs offered by the national NFPP to get the concerned people properly trained.

(2) Strengthen systematic incentive. The emergence and development of FFCs have, ever since the very beginning, been led by systematic incentives from the government. Although most FFCs have not directly got any benefits offered from such new arrangements, they hold high expectations on the new modes of production and new ways of cooperation brought about by the new arrangement. However, if the systematic incentives fail to result in tangible economic returns, the existing FFCs may lose interests and enthusiasms to carry further on may wither, in turn casting negative impacts on those would-be FFCs. To make sure the systematic incentives do function, more preferential measures should be put in place for the FFCs in forestry production and management. Take Shuangxi Forest Professional Cooperative, whose main business focuses on afforestation and silviculture, as an example, regulations concerning logging quotas, timber transportation should be formulated so that they can have similar, or even more favorable policies than the private forest plants.

List of the Project Publications

GCP/CPR/038/EC Working Paper

No.	Title
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



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/>