FORESTS IN THE MIST

Livelihoods and Responses to the Natural Forest Protection Program in China

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For my son

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Measures

1 Yuan (Chinese Currency) = 0.1 Euro or 1 Euro = 10 Yuan	
1 Yuan (Chinese Currency) = 0.12 US$ or 1 US$ = 8 Yuan	
1 hectare = 15 Mu	1 Mu = 667 m^2
1 tone = 1000 kg	

Major species

English name	Latin name	Chinese name
Giant Timber Bamboo	Phyllostachys bambusoides Sieb. & Zucc	Jianzhu
Thorowax	Bupleurum L.	Chaihu
Tall Gastrodia	Gastrodia elata Bl.	Tianma
Bunge Pricklyah	Zanthoxylum Bundeanum Maxim	Huajiao
Chinese Goldthread	Coptis Chinensis Franch	Huanglian
Larch	Larix Principis-rupprechtii mayr	Luoyesong
Ginkgo	Ginkgo Biluba L.	Yinxing
Walnut	Juglans Nigra L.	Hetao
Asiabell	Codonopsis Wall	Dangshen
Bugbane	Cimicifuga L.	Shengma
Umbrella Polypore	Polyporus umbellatus Pers.	Zhuyu
Chinese Dogwood	Macrocarpium Chinese Hutch	Shan Zhuyu
Officinal Magnolia	Magnolia officinalis Rehd	Houpu

Acronyms

AAC	Annually Allowable Cut
ADB	Asian Development Bank
C&I	Criteria and Indicators
CPF	Collaborative Partnership on Forests
CSD	United Nations Commission on Sustainable Development
EC	European Commission
ECOSOC	United Nations Economic and Social Council
EIA	Environmental Impact Assessment

FAO	United Nations Food and Agriculture Organisation
FMU	Forest Management Unit
FSC	Forest Stewardship Council
GTZ	Germany Technical Cooperation
IAF	International Arrangement on Forests
IFF	Intergovernmental Forum on Forests
IPF	Intergovernmental Panel on Forests
ITTO	International Tropical Timber Organization
IUCN	World Conservation union
M&E	Monitoring and Evaluation
MEA	Multi-lateral Environmental Agreement
MIS	Management Information System
NFP	National Forest Programme
NFPP	(Chinese) Natural Forest Protection Programme
NGO	Non Governmental Organization
NRM	Natural Resource Management
NTFPs	Non-timber Forest Products
NWFP	Non-Wood Forest Product
ODA	Overseas Development Aid
PfA	Proposals for Action (by IPF/IFF)
PME	Participatory Monitoring and Evaluation
PRA/RRA	Participatory Rural Appraisal/Raid Rural Appraisal
SEPA	State Environmental Protection Administration
SFA	State Forestry Administration
SFM	Sustainable Forest Management
SFMS	Supreme Forest Management Station
TFRK	Traditional Forest-related Knowledge
UN	United Nations
UNCBD	United Nations Convention on Biological Diversity
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNFF	United Nations Forum on Forests
UNEP	United Nations Environment Programme
VFMC	Village Forest Management Committee
VFMP	Village Forest Management Planning
XSFB	Xiaolongshan State Forestry Bureau
WDS	Western Development Strategy

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September 2006 Beijing

CHAPTER1

Forests, People, Sustainability and Research Methodology

The metaphorical title of this thesis, "Forests in the Mist", has a twofold meaning. First, it points to the fact that, as a forestry researcher, I have lived with the discourse of sustainable forest management (SFM) and with the appeal to solutions based upon integrated programs of policy intervention, legislation and institutional reform. However, due to the many complex struggles involving an array of different actors - government officials, forest guards, farmers, and project managers, there is much inconsistency between forestry policy and practice, and between the adoption of SFM discourses and actual intervention.

The second kind of 'mist' surrounding so-called sustainable forest development concerns the intricate and dynamic relations that exist between the utilization of forest resources vis-à-vis local livelihoods, cultural practices, and political networks and institutions, as well as how forest issues connect up with more macro and global level sustainability discourses.

Such uncertainties and incoherence colored my four and a half year study in Xiaolongshan forest region in Southeast Gansu Province and comparative studies undertaken elsewhere in other forest regions of China. My first trip to Xiaolongshan (Annex 1) was in the spring of 2001 as a community development specialist in a technical advisory team for a UNDP (United Nation Development Program) funded project entitled 'Capacity building for enhancing the implementation of the Natural Forests Protection Program'. I was given to understand that I must start my work on capacity building by providing training in the concepts and methodology of participatory development, and passing on already documented experiences of this to forestry bureau staff.

In the next four and a half years, I travelled countless times to and from the Xiaolongshan forest region. Arriving at the guesthouse managed by a subordinate company of the Xiaolongshan State Forestry Bureau (XSFB) located in Tianshui City, I made friends with a waitress who did me the favour of giving me a room on the highway for a day without requesting that I fill in the registration form or providing a deposit in advance. She knew that I would be going to the field next day and quite a number of staff from the Xiaolongshan State Forest Bureau would serve me with a banquet before leaving for the village. She also got used to serving me additional hot water for tea so that I would not drink alcohol beyond my capacity at dinner. Likewise, in a village named Estuarine, to which I frequently travelled, the dogs got used to

welcoming me at the village entrance without yapping, and the villagers greeted me naturally.

My work in Xiaolongshan forest region eventually ended with the completion of a project financed by the European Commission (EC) aimed at establishing a village forest management committee, integrating rural development with forest management that included components of training, participatory planning, small grants, promotion of ecotourism, and handing back the management roles of state forests to the local community.

During my last trip to Estuarine Village, I heard of two tragic events that had recently happened. A forest guard from Supreme Forest Station accidentally fell from his motorbike a distance of about 20 meters down the mountainside, hitting his head on sharp stone. He was wearing no protection. He was on his way from the station to the village. Farmers said he had been lucky to survive after three days in a coma. He is 22 years old and his parents' only child and is thus the bearer of his parents' dreams, both of who are retired from Xiaolongshan Forest Farm, and who now reside in Tianshui, 200 km from Supreme Forest Station.

August is quite often in flood, and in August 2005 heavy floods hit the village. Floods swept away two men. Both were aged between 30-40 years. They lived in the village with their wives, who at marriage had come to live with them from even poorer regions, several hundreds of miles away. The Willow Township leaders told me that these two men believed themselves to be good swimmers and had been trying to gather logs in the course of the river south of the village and had been washed away by floods from upstream mountains and hills. It had taken two days of searching before their bodies were found downstream. Such are the vulnerabilities for the people who make a living from the forests.

Two weeks later, in mid-September in Beijing, as golden autumn began; I received a call from Guo, the Communist Party chief of Willow Township. He had been leading a delegation of about 20 members, including all the township leaders, the vice party secretary and vice governor of the county in charge of rural development, on a tour of Shenzhen, close to Hong Kong (called an 'open window' for policy reform tour), which had now landed in Beijing to continue the tour. He delivered special thanks to me and I asked why. He explained that part of the funding for the tour had come from my EC-funded project. He then asked me whether I could do him a favour and find a car for him from my institute, explaining that he hoped to visit his sister in Shijiazhuang, 200 km from Beijing. At the same time, I learned from my research assistant the good news that, after a hard struggle and with my continuing support, heads of each village forestry management committee had reported receiving seed money from the township chief to start up their committees, and that these funds had actually come from my project.

Yet despite these good news and small successes, I still held feelings of frustration, confusion and a degree of helplessness, even hopelessness, in that I had dedicated myself to sustainable forest management over four and half difficult years. These emotions have not disappeared over time but have actually accelerated because of the enormity of the task and the need to consider not only forest management but the livelihood needs of vulnerable forest people.

Nevertheless, the Sustainable Forestry Research Centre of the Chinese Academy of Forestry for which I work, sponsored an international workshop entitled 'Theory and Practices towards Sustainable Forestry Management' as an official rounding off of my EC project. Academics, senior officials, practitioners, and forest managers from national and international organizations were called upon to present their thoughts on sustainable forest management. The vice governor of Stamp County declared that the EC funded project had been successfully implemented in his county and that he would extend it to another place in the county to enhance the development of forests as well as to eradicate poverty. Academics and senior officials hotly debated policy reform, capacity building, legislation and institutional reform, practices to harvest forests sustainably, and the principles of ecosystem management, participation and community based organization. As is usual on such occasions my enthusiasm and endeavour to secure SFM was once more refuelled by the symposium.

Connotations of Sustainable Forest Management

Since the 1960s, environmental issues such as global warming, loss of biodiversity, and pollution have awakened a growing debate on sustainable development (Benton, 1999; Guthmann, 1997; Wang, 1997). These environmental hazards resulting from forest decrease or accelerated by forest decline, especially in developing countries have drawn increasing attention from politicians, scientists and development experts, grounded in the notion that the unsustainable use of forest resources is a global problem which has gained symbolic value under the idea of the "heritage of the world community". Discourses such as "Forestry is the core element of the earth's ecosystem", "Forestry is without question one of the hardest issues for the environment and development in the present world", and "save the forests to save the environment", have been widely introduced into international arenas of debate. Policy action for legislative and institutional reform, *vis-à-vis* restoration of natural forests and the promotion of new plantations has been initiated by FAO and other international agencies (Zhang, Zhu, Xiao, 2001). Yet despite all the discourse, over the last three decades, in many developing countries around the world, natural forests have declined, either in quality or quantity by nearly 13 million hectares a year, which, along with environmental deterioration, for instance the loss of biodiversity, water and soil erosion, and climate warming, have increasingly become critical and unavoidable issues relevant to human life and development on our planet (FAO, 2000; Zhang, Zhu and Xiao, 2001).

While SFM has been scientifically elaborated as a silvicultural technical concept with a sector focus for many years, the 1992 United Nations Earth Summit on Environment and Development proved a turning point regarding its interpretation. Following this, SFM emerged as a central discourse in international political dialogues involving the United Nations (UN) system, the World Bank (WB), and more recently the Tokyo Protocol, and the Convention on Biodiversity Conservation (CBD). Forests have become one of the main foci in bilateral international dialogues. The European Commission (EC) has updated trade regulations to grant special incentives for the protection of the environment as stipulated in Article 21 (2) EC 2501/2001, which reads: "The special incentive arrangements for the protection of the environment may be granted to a country which effectively applies national legislation incorporating the substance of internationally acknowledged standards and guidelines for sustainable management of tropical forests". Likewise, forestry issues have been at the centre of political dialogues between China and the EC, Russia, Southeast Asia, and Canada, along with trade, development cooperation and combating terrorism.

The lack of a standardized definition of SFM internationally provides much space for countries whose explanations of SFM differ, and this was partly the reason for the failure to achieve a legally binding international convention or International Forestry Convention at the Rio earth summit. Since the Rio summit, the UN Economic and Development Committee have set up the UNFF (United Nations Forest Forum) with the mission to achieve some such international legally binding legislation. In the meantime, inter-governmental mechanisms have been encouraged to debate SFM, which include eight processes for identifying criteria and indicators of SFM, covering all types of forests and regions in the world. As a member country, China participated in two processes, the Montreal Process of Criteria, and Indicators of SFM on Temporal and Boreal Forest (the ITTO - International Tropical Timber Organization - process). Reviewing the long list of proposals of the UNFF, as well as the seven criteria and 57 indicators, we can conclude that SFM includes: biodiversity conservation, timber and non-timber products, soil conservation, water conservation, pollution control, carbon capture, eco-tourism, long term virtual and cultural heritage protection, community participation, national sovereignty, poverty alleviation, public education, international cooperation, technical transfer and benefit-sharing mechanisms, etc. Hence SFM can cover practically anything, but thus cannot provide a clear practical meaning (Chapter 3 for further details).

Let us take the ITTO definition of SFM as an example: "Sustainable Forest Management is the process of managing permanent forest land to achieve one or more clearly specified objectives of management with regard to the production of a continuous flow of desired forest products and services without undue reduction of its inherent values and future productivity and without undue undesirable effects on the physical and social environment". (Poore, undated: 3)

This can further be elaborated in terms of two issues. First, the notion of SFM has undergone dynamic development and change from its historic roots as a predominantly

technical / silvicultural concept, towards a comprehensive vision for the maintenance and mobilisation of forest resources for development, way beyond the narrow limitations of sector reflections. And secondly, the 'modern' understanding of sustainable forest management is linked to (or, rather, derived from) the cross-cutting, paramount vision of Sustainable Development (SD)-adopted as a truly global vision at the 1992 United Nations Conference on Environment and Development (UNCED) (UN, 1992).

Thus it follows that SFM is much less a scientific/technical issue among forestry professionals, that is, forest subject-oriented, than it is a political issue, which emphasizes more the issues of interaction among people and the interrelationship between people and forests. This assigns SFM to a 'serving position' within the overall concept and logic of integrated rural development and its contribution to SD; and links SFM inseparably with aspects and preconditions of SD, such as poverty alleviation or good governance.

Postulating SD as a cross-cutting, paramount concept for development at UNCED, SFM was henceforth considered as instrumental for and subordinate to SD at the level of international dialogue. Therefore, SFM ceased to be a sectoral concept, and was integrated into an interlocking logical hierarchy, linking SD to sustainable rural development, to sustainable natural resource management, and – eventually – to SFM. In consequence, economic, ecological and social aspects must be considered in a balanced and integrated manner at all levels of the aforementioned "logical hierarchy" – explaining, for example, the linkage between sustainable forest management and rural development and poverty alleviation (UN, 1992; Rozelle, 2000).

Despite the above crisis-oriented discourse of SFM, which has been mainstreamed in respect to global political, diplomatic, economic, and cultural issues, a lot of new discourses attached to SFM have been mobilized. For example, 'deep ecology' has linked important discursive tenets of "*biocentrism, which contrasts with the anthropocentric (or human cantered) perspective dominating in our society today*" (Benton, 1999:133), with the argument that forests should not be seen simply as a resource for humans but as possessing their own intrinsic value and worth. On the other hand, social ecology argues that "*our society has created an ecological crisis because of the power of our hierarchical and authoritarian social, economic and political structure, which permits some humans to dominate others and nature; however this domination through hierarchy is not inevitable in human society.*" Hence, Benton (1999:136) declares that "*we can not solve the environmental crisis in free-market and bureaucratic capitalist societies*" (ibid: 136), except by resorting to anti-hierarchical and democratic discourse that emphasizes the interest of human beings as a whole. And, in recent years, postmodernism has opened up a wider discussion of science, knowledge, language, power, and ideology - all important considerations when analyzing environmental discourses, human-environment relationships and environmental issues and policy (ibid: 145-147).

Yet, few doubt that global environments are "in crisis" and that the 'North' dominates the 'South' in the name of 'environmental problems' (Brandth, 1998; Benton, 1999). Mainstream discourse of SFM in international political processes urges all countries to be responsible and accountable for this issue (WB, 2001).

SFM as an emergent discourse in China

Since 1992, SFM has been emphasized by the Chinese Government, with the State Forestry Administration (SFA) playing a fundamental role in promoting SFM discourse and responding to international concerns about forest development. This was aimed at demonstrating how China, as a responsible country, can contribute to the international domain of policy reform, legislation and program intervention with respect to forest management practices (SFA, 2001, 2002, 2004). This is backed up with the image of a responsible country engaging in theoretical and methodological innovation and sticking to a development policy that is 'open' to the world at large. However, in spite of this, the configuration of SFM discourses is attributable in large measure to international bilateral and multi-lateral aid agencies. Indeed, a large set of projects concerned with SFM have been implemented where SFM is a 'loan' word, in other words a 'buzz' word for obtaining loans.

The Central Government has adopted a "Sustainable Development Strategy" as one of its fundamental national development strategies (SFA, 2001, 2003). Forestry is recognized as the keystone of ecological construction, and forestry is believed to be one of the basic industries and public interest undertakings for sustainable socio-economic development. With high attention from the Central Government, local government at each level and civilian society likewise are propelled to carry out all kinds of activities ranging from publicity and education to practical implementation. A mode of operation with the distinct Chinese characteristics of the government propelling and the public 'understanding', coupled with standardized legislation and the participation of civil society, was developed.

In June 1999, the Government officially launched the Western Region Development Strategy (WDS) as one of its major efforts towards to sustainable development. This had two main objectives: (i) to reduce economic disparities between the western and other regions; and (ii) to ensure sustainable natural resource management. One can identify among others the following programs under the wing of WDS:

1. The Natural Forest Protection Program (NFPP), which commenced in 1998 and introduced a ban on industrial logging in natural forest regions throughout most of the Peoples Republic of China (PRC). It applies to all forests in the western region and is China's largest nationally funded forest conservation program.

2. The National Land Conversion Program, introduced in 2000 for the western region in order to reverse the degradation of vegetation and soil erosion by converting steep

2. lands that are presently cultivated or barren, into forest, shrub or grassland cover through providing a mixture of food and cash subsidies over a period of eight years.

It is hard to define what kinds of policy and legislative reforms and program interventions resulting from the imported SFM discourse or from the domestic requirement to meet the needs of national social and economic development and the nature of forestry conditions and development were needed. Reviewing central level official forestry documents over the last 10 years shows a degree of coherence (Rooij, 2006). It is quite common in these official documents to propose that certain policy and legislation will be reformed or programs will be introduced in order to contribute to SFM, and to meet the needs of China's economic and social development, as well as to enhance the development of forestry (FAO, 2001, 2005). However the interlocking of these elements and how to graft international domains of SFM onto or into the current nature of China's forestry, is complex. Chapter 4 is devoted to providing a detailed analysis of these processes.

Social concerns in implementing NFPP

The Natural Forest Protection Program[1] (Annex 2 for details) is selected in this thesis as the main research focus, since in China it is regarded as making a great contribution towards sustainable forest management. This program aims to successfully control major soil and water erosion, initially in the key watersheds suffering from ecological and environment degradation.

The introduction of NFPP, therefore, brings with it a series of new contradictions and social problems (Zhang, et al. 2002). In the program area, logging either has to be reduced or banned in some of its regions. With the sudden reduction of timber production in natural forests, local people in forest areas lose overnight nearly all sources of their income, which exacerbates the poverty situation in those forest areas. In places where logging was banned, logging equipment was stored away, timber transportation came to a stop, and many wood-processing industries were shut down. State-owned forestry enterprises were directly affected; nationwide about a million workers became redundant. A substantial part of government funds were allocated to find those people some other jobs, such as forest guards, and to make sure that pensioners and the unemployed were incorporated into social security schemes. Local government fiscal revenue in forest areas is still heavily affected by the discontinuation of logging (Zhao, et al. 2001). In some particular cases, over eighty percent of a county's fiscal revenue depends directly and indirectly on logging, and the sudden reduction in income therefore endangers the appropriate provision of social services (Zhao, et al. 2001; Zhang, et al. 2002). It is simply impossible for the five million

[1] In June 1999, NFPP was merged as one of the programs under the Western Region Development Scheme (WDS), which has two main objectives: (i) to reduce economic disparities between the western and other regions; and (ii) to ensure sustainable natural resources management.

people living there to protect natural forests while satisfying their own basic needs (Liu, 2003).

The NFPP is an enormous and complex process of change affecting the communities and state-owned sectors. It constitutes a considerable upheaval rather than a gradual process of social change. The NFPP involves a great diversity of actors - rural farmers, foresters, officials in various hierarchies of government agencies as individuals, as well as communities, state forest farms, and government institutions. Facing planned intervention, which suddenly switches existing policy and forest use practices, means that rural people, foresters, communities, state forest farms have to discontinue their existing forest practices and get used to, and seek new livelihoods. Likewise, officials have to adopt new and unfamiliar policy laws and enforcement measures. Such social change also brings with it a reconfiguring of power, knowledge and networking. This leads to the question of how far the NFPP urges the redeployment of power, social relationships and configurations of knowledge that are environmentally friendly. In a national workshop on NFPP impact and policy recommendations in Xi'an, organized by the State Forestry Administration, critical issues were raised for discussion: "Will natural forests survive without the transformation of community livelihoods oriented to the sustainable use of forests? Will 12 billion US$ of investment in NFPP be a better exchange for a period of more than 13 years of bitter struggle for local people?" (Liu, 2003). Will you go? Will you be killed?

On the basis of the foregoing general discussion of sustainable forest development and China's response to the pressures of international bodies, I move to outline the research framework adopted in this thesis now.

Research framework

Rationale

Forests are arenas of struggle and conflict, where both trees and local forest dwellers usually find themselves on the losing side (Doornbos et al. 2000). Moreover, the high visibility of these unresolved conflicts has spurred theoretical developments, policy interventions and institutional changes. Yet neither local actors nor researchers have developed a solid basis for resolving these conflicts. In short, the forest issue has not yet been unlocked in terms of a sound theoretical understanding that goes beyond the "tragedy of the commons[2]" perspective of the 1970s built upon economic analysis (Doornbos et al., 2000). Likewise the present thesis does not pretend to debate in detail relevant general sociological theories and methodologies. Instead I have chosen to

2 The tragedy of the commons is a phrase used to refer to a class of phenomena that involves a conflict for resources between individual interests and the common good. It demonstrates how unrestricted access to a resource such as a pasture ultimately dooms the resource because of over-exploitation. This occurs because the benefits of exploitation accrue to individuals, while the costs of exploitation are distributed between all those exploiting the resource.

employ an actor-oriented approach as the core perspective to reveal and describe the various actors, institutional or individual, their lives and strategies associated with forests, and the struggles, conflicts or accommodations among them in relation to forestry policy and forest use practices.

Although NFPP is the focus for my research, I adopt it as an example of a planned intervention program that is coherent with the discourse of SFM and thus a way of intervening into the social life of various actors. However, I must emphasize that NFPP as a subject is not the central concern of my research. I have no intention to criticize it and its implementation policies. Moreover, I have included in the research other national programs such as the conversion of farmland into forest, as well as local initiatives for forest development. As a consequence, I am not able to provide many policy suggestions for the NFPP, although my research results provide many hints for policy makers.

Actors in the research framework

Figure 1-1 shows actors at different hierarchical levels and their interrelationships. On the left, is the system that governs multifarious issues related to people and development and on the right the parallel system governing forests only. The paralleled systems are disconnected and coercive in separating local people from forests, which contradicts the reality of the lives of rural people who dwell in and are in associated contact with the forest everyday. In the figure, the academics and practitioners are handed the balloons filled with the SFM discourses as a means of bridging the great gulf between people and forests.

Figure 1-1 The various actors involved in the NFPP Program in Gansu Province

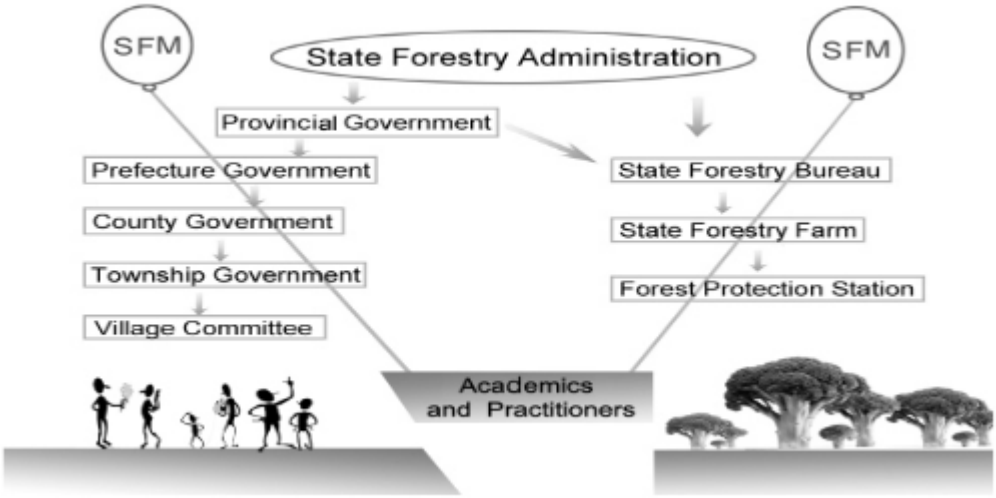

Figure 1-2 Diagram of interrelationship between planned intervention and forest policy and use practice

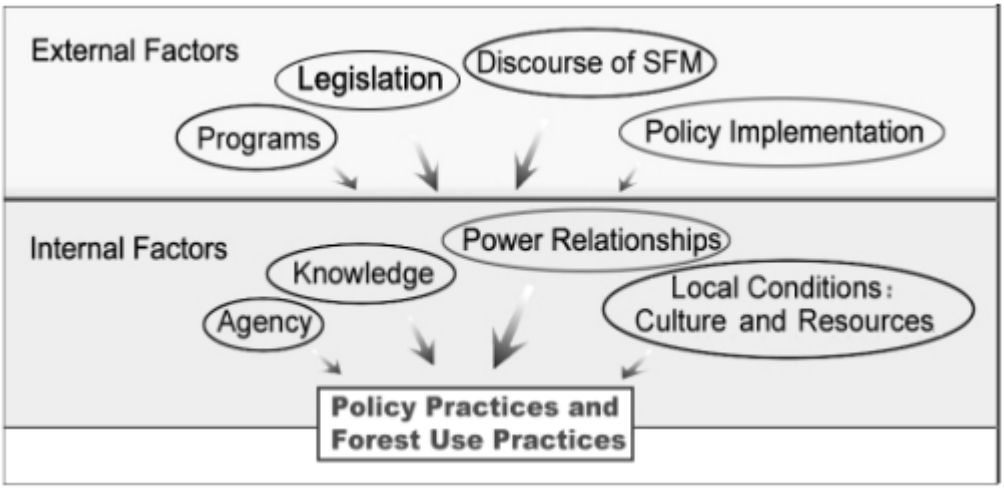

Figure 1-2 shows the various components both external and internal that shape policy practices and on the ground forest use practices. Each actor translates and interprets the discourses of SFM, which have been narrowed down by various endogenous restrictions from legislation, specific government policies and partly by such programs as the NFPP into policy practices and local forest use practices, with their own exogenous factors from the perspectives of agency, knowledge and power. However, different actors have different degrees of 'agency', 'knowledge' and 'power', so that some rules, policy or programs may limit the choice for one actor but not that of another. Some actors may be able to interpret the rules and the policy and implement the program in their own way so as to incorporate it into their own larger 'project' in their daily life span.

Research questions

From these two interlocking figures, one easily arrives at the central questions for the research:

1. How and why do various actors react to planned forest programs and how do they translate and interpret the discourse of SFM?

2. How do these various actors develop their own policy and/or forest use practices, which represent compromises and accommodations between the actors involved?

3. And how do their understanding and agency contribute to the shaping of different power relations?

Description of the research region

Geophysical condition

My focus for the research, the Xiaolongshan Forest Region (Annex 1), is located in Southeast Gansu Province bordering upon Shaanxi and Sichuan Provinces, which includes two separate units of administration: a State Forest Bureau called "Xiaolongshan Forestry Experimental Bureau" and eight Counties (or County level Districts). Over 80% of the forests are managed by Xiaolongshan Forestry Bureau, the rest are collective forests or private forests on collectively owned lands. The Xiaolongshan forest area includes all the territory of the Xiaolongshan Mountains and a part of the western Qinling and Guanshan Mountains, and the upper reaches of the Yangtze and Yellow Rivers, the two longest river courses in China. Within the territory, the altitude ranges from 700-3,200 meters, with an annual rainfall of 380-700 mm, and a yearly average temperature of 7-12ºC. It is within the warm temperate zone, and the semi-moisture and semi-drought forest and grassland zone.

The forest area is located within the mountainous area of the nationally well-known Qinling Mountain[3] and Longshan Mountain[4]. Its topographical features vary with many ups and downs at an altitude ranging from 704-3,300 meters. Within the total forest area, the mountainous area covers approximately 66%, the hilly area around 30%, and the valleys about 4%. It enjoys rich and diverse flora with a large number of species: 171 families, 847 genus and 2,511 flora species. Beside these, it contains 245 families, and 2,036 fauna species including 46 bird families, 318 species, and 9 families of mammals, 31 species, out of which, 13 species are classified as national endangered fauna.

Socio-economic situation

Xiaolongshan Forest Region stretches over eight counties (districts) and three prefectures, namely Tianshui, Longnan, and Dingxi Prefectures in Gansu Province. Within the forest and its bordering area, there are a total of 300,240 households (56,024 households in the forest area, and 244,216 in the bordering area) with a total agricultural population of 1,269 million people living in the 1,920 administrative villages under 89 townships. In its buffer area, the population density is 152people/Km^2, while inside the forest area it is only 35people/Km^2. Most of the villages face rather poor economic conditions with local farmer net annual income of

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3 It runs from west to east. To its south, is China's tropical area while to its north is China's temperate zone.

4 China's topography features higher western areas and lower eastern areas, from the coastland in eastern China, after two rises of altitude, to the Tibetan Plateau in western China. Longshan Moutain is a general term. It refers to the mountainous area in southeastern Gansu, which lies in the first rise in altitude. To the east, is the famous Guanzhong Plain, where 1000 years ago, in the Tang Dynasty, the then capital city of Xi'an was located.

around 1,100-1,500 Yuan (about 150-190 US$) per capita, which, in 2002, was about 45% of the national average. Within the forest area, 6 of the 8 counties (districts) fall within the nationally designated category of 'Poverty County'.

Xiaolongshan forest area embraces rich historic and cultural landscapes. The city where Xiaolongshan Forestry Experimental Bureau is headquartered, known as Tianshui city, is a famous historic and cultural city in China, one of the places of origin of the Chinese people. The city covered the relics of Dadiwan, with a history of 7,800 years. It is said to be the birth place of the cultural ancestors Fuxi and Nǔwa.

Xiaolongshan State Forest Experimental Bureau

Xiaolongshan Forestry Experimental Bureau of Gansu Province (Annex 3 for details), was established in 1962 with the approval of the National Planning Commission. It used to be under the direct administration of the former Ministry of Forestry. Later, through a number of reforms in the administration system, it became decentralized and is now under Gansu Provincial administration. There are 21 national forestry farms under the bureau, and 15 commercial service units with a total of 6,232 incumbents, 1,166 retired people, and 694 staff enjoying a policy-based subsidy.

Xiaolongshan Forestry Experimental Bureau administers a total area of 12.43 million Mu[5] of land, of which 9.459 million Mu or 76% is forest land, of which 55.7% (or 5.86 million Mu) has forest coverage. Its standing timber reserves are 27.71 million m^3. It constitutes the largest group of state-owned forestry farms nationwide.

Estuarine Village, Willow Township and Stamp County

Gansu Province is located in western China. In 2004 its GDP per capita was only 8,000 Yuan, 50% of the national average. It is the second poorest province in China. Stamp County is located in the southeast part of Gansu province, bordering with Shaanxi and Sichuan Provinces, and on the southern side of the Qinling Mountains. The Qinling Mountains lie in the middle of China, dividing the country into two halves, the tropical climate and the temperate climate zones.

Stamp County has 15 townships and 249 administrative villages, and has a population of 221,000 and a territory of 2,722 square kilometres. This county has 30,000 hectares of farming land, and 120,000 hectares of forest land with 43% of forest coverage and abounds in biodiversity. This county is located in the upper reaches of the Jialing River, one of the largest branch rivers of the Yangtze River, where water and soil preservation are required for the Yangtze River's protection. Average annual income for the rural population is around 1,610 Yuan per capita (approx. $US200), mainly from farming, and seasonal off-farm jobs. The major staple crops are maize and wheat,

5 Name of Unit for area of land in China with 1 ha = 15 Mu.

and cash crops include Chinese herbs and the chestnuts and gingko nuts. The major industrial activities are mining and processing, and a local wine industry.

Willow Township of Stamp County in Gansu is famous for its mining industry and 1/2 of county government revenues are collected from the mining industry in Willow Township. This township is located in a transitional area from forest to farming and most mining is located in the state-owned forest area. Relationships between officials from Xiaolongshan State Forest Bureau and local officials, and personnel in the private industry sector are very intensive.

Willow Township has 11 administrative villages, and 61 natural villages or hamlets with a total population of 9,083. This is a typical mountainous area where over 90% of land is categorized as hilly, most of which is owned by the state forest farm. The average income in 2004 was 2,050 Yuan (approx. 205 Euro) per capita, and grain production per capita was 327 kg. This region is classified as the national key water and soil protection region and thus a main focus for implementing the NFPP and the program for the conversion of farmland into forest and pasture. White-bark pine (*Pinus Bungeana*) is naturally distributed in the region (about 1,500 ha in total), and reported to be the largest natural white-bark pine forest in the world. This white-bark pine ranks as a second level protected species in China. Due to long-term human disturbance, the virgin white-bark pine forest has badly deteriorated, with only 5% of the forest surviving from severe destruction. Local communities have realized the importance of protecting this white-bark pine forest, but local government has not yet been able to establish a protection zone for it. There are severe contradictions between economic development, food security and White-bark pine forest protection.

Estuarine Village of Willow Township (Annex 1) is the last destination for my study, a buffer zone of Xiaolongshan forest region. I stayed there on and off between October 2004 and June 2005. Estuarine Administrative Village has 5 natural villages, 205 households and a population of 795. Its area is 1,570 ha including 140 ha of farming land, of which only 55 lie close enough to the river bank with the potential for irrigation and high production. This village is 5 km from the township headquarters and has one of the eight most scenic areas in Stamp county, called Jiangxia Dongtian (meaning *Estuarine from valley, beautiful sky*). This village has 63% of forestry coverage, mostly owned by Elm Forest Farm, one of 21 forest farms administered by Xiaolongshan State Forest Bureau. The village is rich in tree species of White-bark pine. The major economic activities in this village are farming, walnut plantations and eco-tourism. The average net income was 1,680 Yuan per capita in 2004.

Rationale for site selection

Firstly, I selected the best site for answering my research questions. I wanted to illustrate how forest policy and practices dovetail with the model of planned intervention and discourse configuration. A model unit selected by the State Forestry Administration, usually embodies good leadership with responsibility, and is assumed

to avoid in some measure, errors created by contingencies such as serious corruption, and manipulation, etc. Xiaolongshan State Forest Bureau was the flagship state-owned forestry enterprise for the implementation of the NFPP, which has been highly appraised by the SFA and the Gansu provincial government. Elm, Dangchuan and Shimen forest farms were listed by the bureau as the best farms in implementing the NFPP. Program and policy interventions, in particular enforcement measures, were considered to be a model of success in the NFPP program there. Officials in Willow Township had strong personal contacts with Elm state farm, and the Estuarine Village was recommended by the Elm Forest Farm and Willow Township government as the best choice. The Stamp County was categorized as a rich county in Gansu, and the Willow Township as the richest in Stamp. I guessed that they may not have suffered financial deficit in the government accounts, which would then guarantee less hunger for money in my project.

Secondly, it was chosen for its unique geographical position, essential ecological status, and long history. Xiaolongshan forest area is located in the upper reaches of the two so-called mother rivers in China: the Yangtze River and the Yellow River. Its forest resources play a very vital role in maintaining China's ecological safety. This is an area with many historical and cultural sites associated with Chinese civilization.

Thirdly, the rural communities inside the forest area have the benefit of complexity and variety in terms of nature. The different places inside the forest area show various degrees of dependence on forest resources, which is caused by differences in forest coverage rate, timber storage, forest type and their locations related to their surrounding forest area. These said factors form the complexity and variety of the rural communities. Most of the areas are poverty stricken. People lead a hard life, and the regional economy is poorly developed. Local farmers strongly depend on the nearby forest. After the NFPP came into implementation, the contradictions between forestry, agriculture and animal husbandry became increasingly more striking, which in the end often turns into conflict or tensions between the rural communities and state-owned forestry farms.

Lastly, forest farms experience very serious opposition from local rural communities. The difficulties in managing the Xiaolongshan forest area are due to the fact that local rural communities have made incursions into forest resources. The main tasks of forest management here are regulating local farmers' behaviour by force. As to concrete measures, these include engineering measures such as physical or biological fencing, and the employment of forest guards; adopting strategies of specifying geographical responsibilities, and looking out for any suspicious activity. In this way, the local rural residents are regarded as the forests' principal enemy. All efforts are made regardless of cost, to protect the safety of state-owned forest resources. The inevitable consequence of this is high maintenance costs and increasingly deteriorating relations between state-owned forest farms and local rural communities. After the enforcement of the 'ban on cutting', forest utilization forms have gone through fundamental changes, and the original benefit-sharing patterns have been transformed. The state-owned

communities increased their share of benefits through the NFPP, while the share of local rural communities' shrunk in comparison. The old forest management modes further sharpened the tensions, which necessitated the shaping of a new system.

Approaches to field data collection and analysis

Research plan

My research included two parts, desk work and field data collection. Investigation of the discourses of SFM and analysis of China's policy, and the legislative framework mainly took place in 2002-2003. In the spring and summer of 2004, the implementing strategy and approaches were carefully analyzed.

My field work was composed of three phases. The 1st phase was convened in the spring of 2002, the 2nd in the autumn of 2004. These two phases shared the same research aims and approaches in the same villages. A multi-disciplinary research team, led by myself, was organized and stayed in one selected village for about 3-4 days interviewing over 10 households. Through these two phases of investigation, I expected to gain a general understanding of changes in people's livelihoods, attitudes and forest management in the selected villages from counties as well as selected farms of the Xiaolongshan State Forest Bureau (XSFB). The major survey items were: 1) Profile of sample forestry farms and sample villages; 2) The dependence of the state-owned forestry farms and rural communities on forests; 3) The ownership system of forestry land (including agricultural land), its history and raison d'être; 4) Utilization of forests and benefits gained before and after the NFPP implementation; 5) Household income composition in the sample villages and the contribution of forests to household income; 6) Forest management methods, features, effects and existing problems; 7) Conflicts taking place in the course of forest utilization and management, reasons, and resolutions (including existing and potential ones); 8) Community's participation means, features and obstacles; 9) The control rights of institutes and individual persons within and outside the community, justification of the rights, process and reasons for the rights; 10) Communities' attitudes towards the NFPP and their suggestions on policy.

The last phase took place between October 2004 and June 2005. I had successfully obtained a grant from the EC for village forest management planning[6], with the aim of testing proposed actions resulting from the first two field investigations of the SFM. Thus I ended up in Estuarine Village, Willow Township of Stamp County - my target place for collecting data relevant to knowledge, the agency of different actors, different

6 Considering administration village in the NFPP and conversion farmland into forest and pasture programme (other large forest program implemented under the scheme of "Great Western China Development") as a basic planning unit, all forest resources either state-owned or collective owned within the geographic village boundary was included in the planning, and state owned forest farm and local forest authority and rural farmer jointly make and implement a village forest management planning.

level officials, foresters from XSFB, village leaders, lay poor and rich farmers, and their life struggles associated with forests.

Selection criteria for sample farms, villages and households

XSFB has 21 forestry farms under its administration, which can be classified into three types based on the amount of forest resources under its control: rich, poor, and moderate forest resources. Dangchuan, Shanmen and Elm forestry farm respectively represent these different types (Annex 4 for details).

Within the three sample forestry farms, three representative administrative villages were selected for my research purposes. The criteria for selecting the three representative villages were: 1) Farmers' per capita net income and its changes after the NFPP was implemented; 2) Distance to forests from community residence; 3) Richness of forest resources in the village; 4) Farmers' means of utilizing forest resources and their degree of dependence on forests; 5) Main NFPP activities that farmers participate in; 6) The degree of representation of villages inside the sample of forest farms.

Based on reviewing secondary sources and on discussions with staff from the concerned forest farms and township governments, nine villages were selected for the study: Goumen, Daji, and Gaoqiao villages within Shanmen Forestry Farm, Shizui, Huamiao and Dangchuan villages within Dangchuan Forestry Farm, Shibei, Yushu and Wangzhuang villages within Elm Forest Farm as sample villages (Annex 5 for details of the nine sample villages).

Sample farmers were selected by the joint use of random and systematic sampling methods. First, farmers were classified into three categories – the rich, the poor and in between - in the light of their wealth situation. Taking into account the proportion of each category's share of the entire community, a certain number of farmers were drawn from each respective category. Eleventh and Ten farmers in total were sampled from each sample village at 2002 and 2004 respectively.

Major methods of data collection

Strong emphasis was given to participatory techniques and ethnographic data collection. The questionnaire used to interview farmers included two major parts: structured questions regarding farmers' general profiles (Annex 6), and semi-structured questions regarding the farmers' opinion on the research issues. The general profile of farmers mainly covered the composition of families, their wealth status, household income sources (including before and after the NFPP implementation), and their main household expenses. Research issues related mainly to the following three dimensions: 1) Farmers' awareness of natural forest protection, and their cognition of the NFPP; 2) Farmers' responses to current natural forest protection policy; 3) Farmers'

recommendations for reformulating NFPP related policies, and farmers' expectations and wishes regarding the NFPP.

Semi-structured interviews were carried out with key informants, who included: 1) Heads in the corresponding counties, and major leaders of the Xiaolongshan Forestry Experimental Bureau; 2) Heads of the state forest farms; 3) Staff in the state forest farms; 4) Staff at township level; 5) Village heads; 6) Rich, better off and poor farmers.

Group discussions were organized including groups of elders, men and women, employees and leaders in Xiaolongshan SFB to discuss topics selected from the following: 1) influential, big events (including national and local policy adjustments) in the history of forest resource management and utilization, and their impact on specific locations; 2) the traditional ownership system of forest resources, the direction of change, and the present ownership system, management, utilization methods, and the activities and benefits of forest resources; 3) experience in forest resource utilization and management, and their opinions concerning practices, and conflicts related to forest resources both current and previous, and the causes, processes and solution of these conflicts; 4) the most fundamental decision-making process and methods within the communities; 5) viewpoints on forestry development and awareness of forestry laws and policies and recommendations.

The various findings helped us to understand the social division of labour, the utilization and management of forestry land, community participation in the major NFPP activities, and the benefits from forestry for different groups.

Qualitative interpretation

Data analysis combined with modes of situational analysis and case material provided the link between the data collected and the conclusions drawn. In this way, the original, fragmentary data were organized into a format relevant to my study. Such data treatment measures covered comparison, analogy, induction, deduction, reasoning, analysis, and summarization, helping to identify existing processes and problems, for further enquiry.

Structure of the Thesis

The thesis consists of 9 chapters. This chapter explained the background of my study and set out the research framework. Chapter 2 develops theoretical foundations and to identify central research themes, adopting Long's actor-oriented approach to the and debates on planned interventions regarding the relationship between agencies, structure, knowledge and power, and Foucauldian approach to the discourse in the analysis of Sustainable Forest Management. Chapter 3 reviews China's official policy and legislative documents that reflect the dominant discourse of forestry development, the nature of forests and China's forestry development needs. a macro level framework was provide by assessment of China's forestry legislation that sets the limits for

various actors to interpret the discourse of SFM and program intervention in forest policy and use practices. Chapter 4 illustated the land tenure changes and conflicts before the household responsibility system was implemented in China. It includes a series of historical vignettes of the history of forest areas in China and especially of the Xiaolongshan forestry region, details of the administrative structures affecting forest management and development, and an appraisal of the present-day sets of socio-political and economic relations surrounding forest management and access. Chapter 5 analysed the effects of NFPP on state forestry farms with varying degrees of forest reserves, and on the staff in different positions in the Bureau. It also includes analyzing of the changes in the XSFB's forest management and its adjustments in human resource organization, financial systems, organization of afforestation, and industrial structure consequent upon the implementation of the NFPP. Chapter 6 provides an overall look at the relationships between local communities and forest resources, and the impacts that the NFPP had upon people's livelihoods in 2002 and 2004 respectively, three and five years after the NFPP was implemented. Chapter 7 and 8 picks up the threads of the ongoing everyday struggles discussed in the previous chapter, which dealt with the social dynamics of forestry protection. Chapter 7 focuses on the local politics of village and township relations and examines the contradictions that arise in the introduction of a new EC-funded program for setting up village forest management committees. Chapter 8 focuses on changes in land and forest use practices, and examines the impact of and responses to the government's land conversion program in Esturate Village and the benefits that accrue to different types of actor. The last chapter provides a discussion of the main conclusions drawn from the research, and my 10 years experiences in professional reseach on SFM.

CHAPTER 2

Theoretical Foundations: Discourse, Agency, Knowledge and Power

The previous chapter explained the background of my study and set out the research framework. This chapter aims to develop its theoretical foundations and to identify central research themes. In so doing, I adopt a discourse analysis for understanding China's state-promoted program of Sustainable Forest Management (SFM). I also explore the significance of adopting an actor-oriented perspective to issues of planned intervention and discuss the relationships between agency, structure, knowledge and power.

Planned intervention in forest management

United Nation agencies, the World Bank and many other institutions have declared that sustainable management of forest resources can only be achieved when the livelihoods of people and communities are compatible with well-managed forest-friendly environmental protection (FAO, 2001; World Bank, 2001; Liu, 1998, 2001; UNDP/WB, 2005; Scherr, 2003; Molnar, 2004; Wiersum, 2005). About 2.4 billion rural people live in forests or on the protected resources associated with forest areas (CIFOR, 2005). Forests are home to one-half of the people of Africa, one-third of the people of Asia, and one-quarter of the people of Latin America (Wiersum, 2000). Forests are intimately involved in these people's production and provision of food, water, energy, housing, and medicine. Subsistence farming families use and manage forest vegetation every day to meet their most basic needs. A great proportion of these rural farmers, in particular poor farmers in developing countries, rely heavily on forest resources. Also, forest management and the livelihoods of people that depend on forest resources are embedded in larger contexts of culture, politics, trade, institutions, and policy.

Deconstructing deforestation discourse

Obviously, the metaphor of SFM implies that deforestation has been unremitting, and this has awakened us to the threat this has for the safety of our human existence on earth. This awareness has produced international discourses such as "forests are the heritage of humankind", "Amazon's forests function as the lungs of the earth", "forestry is the core element of the earth's ecosystem" etc. These discourses are a reminder to politicians, diplomats, civil society, and national governments of the continuing and massive problems involved in failing to halt deforestation.

According to Leach and Fairhead (2000:43), such deforestation discourse rests upon three unwarranted assumptions:

> *1. Natural forest cover is progressively being destroyed as populations increase and modernity transforms cultures which were once more forest-benign.*
>
> *2. Common analysis is linked to common policy agendas and discourses.*
>
> *3. The persistence of such representations of deforestation suggests that certain systematicity is at work in science-policy processes.*

Drawing upon West African cases, Leach and Fairhead go on to explain that,

> *"Forest loss has been systematically exaggerated in each country in West Africa—in total it is around 10 million hectares, not the usually cited 28 million. This has happened both by vastly overestimating the area where forest 'used to exist', and by considering forest lost in earlier centuries to have been lost recently. Forest cover in 1900 may have been more than that in 1700, following depopulation associated with slavery and colonial wars in Liberia, Ghana, and Cote d'Ivoire. The area capable of supporting forest has increased in recent centuries due to climatic improvement, but has varied up and down during deep climatic changes in historical times. Many of today's forests cover areas which were previously savannas, and may exist because of people, not despite them. The vegetation forms supposed to be the least-disturbed or most 'natural' are in fact often the most disturbed, testifying to the capacity of people to enrich soils and vegetation."* (Press release issued by the Global Environmental Change Program Office of the Economic and Social Research Council, UK, 24 June 1998).

The idea of halting deforestation was regularly referred to by various international and national bodies. For example, one internationally influential survey of changes in forest cover maintained that West Africa had lost between 69-96% of its forest cover during the 20th century, which was more or less in step with the levels of social and demographic change during that period. These 'facts' contributed to the production and reproduction of a further element in deforestation discourse, namely the notion that small populations once lived harmoniously with minimally-disturbed forest environments (Leach and Fairhead, 2000). Such a picture of course overlooks the evidence of changes, other than demographic, that occurred during, and in some cases prior to, the colonial period. For instance, West Africa's indigenous iron industry encouraged the expansion of settlement and kola nut cultivation, and there were also various ecological changes brought by the increasingly dynamic upland rice shifting cultivation.

All these components suggest, then, that there is no simple link between demographic growth and deforestation. Nevertheless, though having said this, one must acknowledge

the input that such formulations have in structuring the discourse of deforestation and how this is linked to the creation of institutional and normative frameworks aimed at the control of forest resources. Again, quoting Leach and Fairhead:

> *'supporting forest resource control are concepts central to conventional forestry science that has focused on materials extraction, which is less meaningful to conservation practices of forests and thus the discourse of deforestation has excluded competing claims of rights to land and resources. ' (2000: 47)*

Moreover, they argue that the

> *'structuring of deforestation discourse is closely related to economic and political interests; and specifically, to the financing mechanisms both for national forestry activities and institutions, and those concerned with development in other fields'. (2000: 48)*

The above critiques of deforestation can also be applied to the Chinese case. In the Xiaolongshan forest region, it was concluded that forest loss was due to the expansion of human settlement and to traditional forest use practices: that is, their farming practices and daily necessities such as wood for fuel and charcoal production. These views were expressed through articulated discourses that emphasize the need for "systematic scientific approaches to better managed forests" and place blame on "rural people as the enemy of the forests". These localized interpretations of deforestation have informed and generated the practices of intervention in natural forestry protection programs such as the NFPP, influencing both the government sector and its state owned forest enterprises as well as self-financed institutions. The present study focuses on understanding what lies behind these conceptualization and actions, concentrating on the various levels of the state forestry sector, and on state owned forestry enterprises - their motivation, their revenues, and power and knowledge perspectives.

A brief history of intervention in forest management

In the 1950s, mainstream development, based upon the concept of modernization, was interpreted as a drive towards technical development (Li, Liu, et.al.1999; Apthorpe, 1996; Booth, 1994). Therefore, many countries attempted to develop 'green technology', a technical knowledge system to expand production by improving area yields, shorten harvest duration and thus prevent the decline of natural forests. This is still prevalent thinking in China as well as in many other countries such as Brazil. Yet, so far no evidence has shown that technological fixes can arrest the decline of natural forests, since deforestation is the major contributor to rural people's need for farming land, and wood fuel. Because of poor governance, and poor institutional performance reflected in the low level of law enforcement, weak legislation, and 'disorder' in societies in transition etc, such ecological decline is likely to continue (Knox, 1998; WB, 2001).

Since the 1960s, development has been visualized as a more complex progressive movement not only of a technical nature but also in terms of political and institutional aspects. Deforestation, partly resulting from less development in forest areas, particularly in poor countries or poor regions, was interpreted as a result of poor technical and institutional systems. Therefore, international organizations as well as national governments have endeavoured to transfer technology, knowledge, resources, and organizational forms from the more 'developed' world or sector of a country to the less 'developed' parts.

By the 1980s, perspectives on SFM had shifted the target to those people who live in or around forest areas under the famous logo 'forests for the people, of the people and managed by the people' (Liu, 1998; Ye, Liu and Lin, 2001).And now, in the contemporary scene, development is largely driven in the direction of more 'fashionable' concepts, such as social justice, local (or indigenous) knowledge, and participation.

Yet still many models aimed at SFM remain tainted by determinist, linear and externalist views of social change. They may strengthen our understanding of the requirements, norms and practices of SFM though they often fail to explain the sources and dynamics of social heterogeneity in forest regions. Moreover, as Long underlines:

> *'Although it might be true that important structural changes result from the impact of outside forces (such as technical achievements, favourable policies, institutional reconstruction for SFM), theoretically it is unsatisfactory to base one's analysis on the concept of external determination. All forms of external intervention necessarily enter the existing lifeworlds of the individuals and social groups affected, and in this way they are mediated and transformed by these same actors and structures. A more dynamic approach to the understanding of social change is therefore needed which stresses the interplay and mutual determination of 'internal' and 'external' factors and relationships, and which recognizes the central role played by human action and consciousness' (Long 2001: 11-12).*

Long identifies such an approach with what he calls 'actor-oriented' analysis.

Applying an actor-oriented approach to NFPP

My previous training and research was technically oriented. It centred on how to offer the best technical choice to those I served. However, once I took the step to study development sociology in Wageningen University and Research, I became embedded in a completely different way of thinking. This amounted, in short, to making matters 'as complex as I could for my clients', with 'no solution, no suggestion, only complex understanding'. As Acheson citing Dussenberry puts it, 'economics is all about why people make choices. Sociology is all about how people have no decisions to make'

(Dussenberry 1960: 233, quoted in Acheson, 1994: 3). Sometimes, I was also confused by so many kinds of sociological theories, many of them contentious but all containing some grain of truth. My hard science background tells me that there is only one 'truth' in the end, but my study of sociology tells me that there are many.

However, the actor-oriented came to my rescue. Sometimes referred to as the 'Wageningen School of Sociology', the actor-oriented approach concentrates on the practices of actors and how these are shaped by the struggles and social discontinuities that arise as they pursue their livelihood 'projects'. This approach provided me with a number of 'spirits' or principles for research. It provided an entry point for my study, and ensured that I kept in mind who 'they' were, that is, the actors, purifying the 'bottom-up' strategy, and placing myself in 'their' real life worlds with the least possible prejudice that I could muster. It also provided me with an ideology of 'equity', whereby every actor - be the members of the elite, senior officials, academics or lay people - must struggle with the everyday demands of resources and social life, and where every actor has the capacity to produce his or her own life 'project'. It also provided me with some wisdom, namely, that 'I am also one actor in this context, contributing in this case to the production and reproduction of discourse on forest management.

Hence, the actor-oriented approach is based on the centrality of 'knowing and acting' individuals and social bodies. The actors, whether individual, organizational or collective, have the capacity to problematize situations, process information and make strategic decisions in dealing with each other. It focuses on the deconstruction of the social reality of development projects and the interpretation of the variations in organizational forms and cultural patterns which are the outcome of the different ways in which actors deal, organizationally and cognitively, with problematic situations (Wiersum 2000).

On the other hand, Boon (2001: 2) asserts that "because life is not predetermined by universal laws, but at most structured by redundant patterns, the search for one single theory that covers it all is futile". Long (1992: 17) quoting Hewitt (1982), similarly argues that in the social sciences there exist a multiplicity of paradigms, of which none so far has achieved the hegemonic status of a central theory or universal paradigm.

Let me note or cite some key points of Long's actor perspective that are highly relevant to my research.

> *An actor perspective emphasizes the importance of taking full account of human agency, which means recognizing that individuals, whether they be farmers, peasants, landlords, bureaucrats or politicians, attempt to come to grips with the world around them, and that they do this both cognitively on the basis of existing categories, knowledge and forms of consciousness, and organizationally in the way they interact with other individuals and social groups (Long 1988: 118)*

24 Livelihoods and responses to the NFPP

At the heart of the actor-oriented approach lie the notions of agency, knowledge, and power, which are properties of both individual and collective actors.

> *An actor-oriented analysis needs to be combined with an understanding of wider structural phenomena, since many of the choices perceived and strategies pursued by individuals and groups have been shaped by processes outside the immediate arena of interaction. (Long 2001：62)*

This raises the issue of how to analyze the interrelationships of 'macro' versus 'micro' issues and 'global' versus 'local' issues. How, for instance, do these macro structures affect people's livelihoods? And, on the other hand, how do people affect these macro structures? Long (1988: 126) proposes to combine actor issues with wider political economic processes by integrating both into a single framework of analysis (Long 2002).

Social actors in the NFPP

Social actors are all those social entities that can be said to have agency in that they possess the knowledgeability and capability to assess problematic situations and organize 'appropriate' responses (Long, 2000: 13-14). According to my study, the following large number of actors has been involved in the NFPP (Table 2-1).

Table 2-1 Social actors involved in the NFPP

Categories	Organization	Individuals
Rural communities	Villagers' committee Community-based organization Afforestation team	Lay farmers In and out migrants Cadres Village elites Forest guards Afforestation team leader Seedling producer
Government authorities	State Forestry Administration Provincial forestry department County government County forestry bureau Township government	Decision maker Planner Quality control officials Technicians
State-owned forest farm	Xiaolongshan State Forestry Bureau State forestry farm Forest protection station	Lay staff Farm director Manager Forest Policeman Technicians Quality control officials

Heterogeneous actors in action

Even where conditions appear relatively homogeneous, social actors can be differentiated in terms of access to 'natural' and 'social' capital and are likely to respond differently to similar structural circumstances and interventions such as the NFPP. However, they must not be depicted as simple disembodied social categories or passive recipients of intervention, but rather as actively processing information and developing strategies in their dealings with various local actors as well as with outside institutions and personnel. "*The precise paths of change and their significance for those involved cannot be imposed from outside, nor can they be explained in terms of the working out of some inexorable structural logic*" (Long 2001: 241). The different patterns of social organization that emerge result from the interactions, negotiations and social struggles that take place between not only those present in given face-to-face encounters but also those who are absent yet nevertheless influence the situation, affecting actions and outcomes (Long 2001: 11-15).

Explicitly in the field of development, we need to document the ways in which people steer or muddle their ways through difficult scenarios, turning 'bad' into 'less bad' circumstances (Long 2001: 14), or mitigating negative impacts from the NFPP intervention by various strategies. As Long says, citing Wright Mills (1953), "sociological explanation requires addressing both 'public concerns' and 'private dilemmas" (Long, 2001).

An actor-oriented approach aims to grasp precisely these issues through a systematic ethnographic understanding of the 'social life' of development projects – from conception to realization – as well as the responses and lived experiences of the variously located and affected social actors (Arce 1993). Central elements of this endeavour focus on the elucidation of internally-generated strategies and processes of change, the links between the 'small' worlds of local actors and larger-scale 'global' phenomena and actors, the critical role played by diverse and often conflicting forms of human action and social consciousness in the making of development (Long 2001:11-15).

Livelihoods

An analysis of the livelihoods of various actors, in particular those relating to forests and forest management, provides a starting point for my research. According to Chambers and Conway (1992), the notion of 'livelihood' can be defined as the capabilities, assets and activities required for pursuing a means of living. This is similar to Long's view that "livelihoods are made up of practices by which individuals and groups strive to make a living, meet their consumption necessities, cope with adversities and uncertainties, engage with new opportunities, protect existing or pursue new lifestyles and cultural identifications, and fulfil their social obligations" (2000). Livelihood studies, then, offer an understanding of what people do to make a living or

to resolve various livelihood problems and what they achieve by doing so (Johnson, 1998; Hussein, 1998).

A major focus in my research on livelihoods in forest communities in China was the nature of land access and use, and patterns of income flow. I especially wished to document changes in these elements following the intervention of NFPP, and to identify any changes that may have occurred that were encouraging the development of livelihoods that were both sustainable and friendly to environmental protection.

It quickly emerged that both local communities and individual households had indeed developed livelihoods compatible with the endowment of forest resources. For instance, rural householders were involved in collecting non-timber forest products, timber for commercial and subsistence use, and they would seek off-farm seasonal jobs (for instance in logging, delivering, sawing, and marketing of timber); and/or they would practice seasonal or occasional farming in the barren hills – especially if they faced a poor harvest or natural calamity. Some had also developed social networks (through which they could mobilize crucial social capital) for organizing the marketing of commercial products collected in the forests. Haan and Zoomers argued that access of livelihood opportunities is governed by social relations, institutions, and organizations, that power is important explanatory variable (2005: 27).

Agency, knowledge, and power

In real-life, the livelihoods and networks of the different social actors, whose activities interrelate with forests and other spaces, are linked to issues of knowledge, agency, and power (Long, 2001: 15-19). In like manner, Leeuwis and his colleagues (Leeuwis *et al.* 1991) accord emphasis to 'human' agency and the concept of multiple knowledge networks. Hence, the central purposes of actor-oriented methodology is to clarify how actors attempt to create space for their own 'projects' and to determine which elements contribute or impede the successful creation of space for maneuver.

According to Long (2001: 15-19),

> *'Agency refers to the knowledgeability, capability and social embeddedness associated with acts of doing that impact upon or shape one's own and others' actions and interpretations. Persons or networks of persons have agency. Agency is composed of a complex mix of social, cultural and material elements'.*

Within the limits of information, uncertainty, and other constraints that exist, social actors possess 'knowledgeability' and 'capacity'. They attempt to solve problems, learn how to intervene in the flow of events around them, and to a degree they monitor their own actions, observing how others react to their behaviour and taking note of various contingent circumstances (Giddens 1991).

Thus, when we look for causes of change, we should focus on the area where the characteristics of actors meet the opportunities and constraints of their direct environment. That is the essence of the concept of agency: a potential for change at the interface between circumstances and actors. Agency arises where things come together. Effective change is only likely if both the main contextual factors (internal and external) and the influence of policy (e.g. NFPP) work in the same direction. In other words, actors can create or induce agency to the extent that they can influence processes of conflict, innovation, revolution, and so forth.

Like knowledge, power is not simply possessed, accumulated and unproblematically exercised. Power implies much more than how hierarchies and hegemonic control demarcate social positions and opportunities, and restrict access to resources (Long 2001: 16-20). It is the outcome of complex struggles and negotiations over authority, status, reputation and resources, and necessitates the enrolment of networks of actors and constituencies (Latour 1994; Callon and Law 1995).

Knowledge processes constitute the ways in which actors come to grips with the world around them cognitively, emotionally and organizationally. That is, community people manage and use natural forests on the basis of their own and others' experiences and understandings. With the new policy of NFPP, community people were forced to manage and use the forests on the basis of their new understandings of people/forest relations. The latter were generated through learning new resource-use criteria and sharing ideas with others in the course of daily social interaction. As outsiders, we anticipated that community people in the natural forest area would reconstruct their knowledge about forest management practices to conform to the newly-introduced discourse on SFM and environmentally-friendly practice. This implied simultaneously the deconstruction of prevailing forestry norms and values and the installation of new frames of conceptualization and understanding. It might also, in certain circumstances, entail challenging 'traditional' or 'indigenous' modes of knowledge.[1]

There are two sources of forestry knowledge, local/indigenous knowledge and modern/scientific knowledge. Local/indigenous knowledge is rooted in the practices of local people, whereas, as suggested earlier, modern/scientific knowledge is rooted in the intervention of outside brokers and institutions.

In their own lifeworlds, actors have the capacity to process social experiences, and to devise ways of coping with life within the framework of their own knowledge, agency and power potentials. Related to the forests, actors have their own knowledge, agency and power over forests and forest management, which make up an important part of their own livelihood options.

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[1] "Knowledge construction is at one and the same time, 'constructive' in the sense that it is the outcome of many decisions and selective incorporations of previous ideas, beliefs and values, and 'deconstructive' in the sense of transforming, disassembling or ignoring other existing frames of conceptualization and understanding" (Long 2000: 16-20).

Furthermore, within and outside the community, actors are able to develop social networks and build their own organizing practices and institutional frameworks for coping with collective constraints and protecting collective interests. This is a dynamic process involving knowledge processes, interpersonal relationships, the development of various forms of agency, and institutional creativity.

Deconstructing systematic knowledge of forest management in China

China has a long history of farming in association with forests as well as forest management, but after 1950, a uniform top-down forestry administrative structure copied from the former Soviet Union, was installed, which in hindsight ignored the wealth of existing indigenous knowledge. This top-down forestry system was gradually reshaped; particularly following the market orientated 'opening-up' policy from the early 1980s onwards. Secondly, in the pursuit of 'modernity', interpreted either as 'industrialization', or more recently 'people's wealth, social welfare and national prosperity', China has strengthened and promoted 'hard' science and technology and now this underpins the institutionalization of top-down administration and control. Related to forest development, systematic knowledge of the forestry sciences rests upon a mixture of the original 'Normal Forest' theory of the 1800s, the ecology of the early 1900s and the 'Green Revolution' of the 1950s.

The State Forest Bureaus (consisting of large-scale state forest farms established after 1949 with several hundreds of thousands of hectares of natural forest) were established according to 'Normal Forest' theory, which constitutes the fundamental basis of forestry science as applied to the management of timber production and harvesting. Each bureau had to implement a detailed management plan, in particular for logging, but later this was never strictly adhered to. Timber yields surpassed the designated capacity of the plan for a number of reasons: for instance due to internal factors such as staff salary needs and achievement payments to senior managers; or to external factors of a political nature; or as a result of price fluctuations. Usually, the forest lands managed by state forest farms are scattered in blocks over large rural areas. The state-owned forest management system is supported by a top-down technical extension and administrative system at each level, from central authorities down to the township.

China operates a dual politico-cum-administrative system, separating rural from urban areas. People are accordingly identified as 'urban' or 'rural' citizens, although they do not strictly have to live in the urban or the rural location. For example, staff working in state forest farm areas are, in general, categorized as urban citizens, even though they live in the rural sector. The government provides social welfare support in the form of unemployment compensation, health care, and free housing for people identified as urban citizens. Moreover, a few employees recruited during the planned economy period in the state farms with a rural worker social identity (called *Nongye Gongren*) were not eligible for social welfare like urban citizens. Therefore, state farms assigned employment opportunities first to workers with urban citizenship status, and only then to *Nongye Gongren,* rural citizens. Only those job opportunities which state farm

employees did not want or did not have the skills to carry out became accessible to those of 'rural' status. This reveals the extent to which Chinese identity categories entail differential privileges and power.

Adopting an actor-oriented ethnographic approach, I seek to unveil how the 'production' of systematic knowledge arises out of everyday practices, contingent encounters and the unfolding of particular strategies. A main concern will be to understand how such knowledge and experience shapes actual forest practices and management. The creation and transformation of knowledge, agency, and institutions is best studied and understood if one gives attention to how different lifeworlds intersect with each other, generating bridges and interfaces between rural people and state farm staff involved in the knowledge process. Hence, I aim to analyze, on the one hand, actors' everyday practices, performances, maneuver, struggles and contestation within networks, and on the other hand, the discourses, 'speech games', and 'social imagery' employed. In the detailed study of everyday life, in which actors seek to grapple cognitively, emotionally and organizationally with the problematic situations they face, social perceptions, cultural dispositions, value and power, come to the fore. Actors' identities must therefore be analyzed in relation to interlocking experiences and social practices. In this way, the processes by which knowledge, agency and institutions are embodied and re-assembled will emerge as I open the 'black box of the social arrangements' of the NFPP, thus making it a grey one.

The NFPP considered as a planned intervention

The NFPP constitutes a planned intervention in forest areas, with a number of 'do's and 'don't's that have policy implications. Of the 'don't's, logging was stopped or greatly reduced. As a consequence, timber harvesting, saw milling, refining, delivering, and marketing of timber were all reduced, as was the value of the livelihoods of those involved. A further implication was that many rural farmers lost their traditional grazing fields or seasonal farming fields, under the 'request' that the barren hills be made 'green'. Cattle, which depend on the size of the grazing area, are important assets and a capital resource for farming. The loss of grazing areas may even imply the loss of communication channels. This became apparent to me when one day I visited a community in the Gansu region, and was told that in the afternoons when the sun is setting, farmers, women and men, boys and girls, round up their cattle and bring them to drink at a springhead at the foot of the hills.

Relevant to the 'do's was job creation. For example, in the principal field investigation area of Gansu, the NFPP provided a large amount of seasonal off-farm jobs in seedling production, planting, and weeding. The farm recruited rural labourers with the help of brokers who previously had assisted with the mobilization of labour for small scale plantations before the NFPP was active. This reveals only a small corner of the many complex social processes in the NFPP intervention. As I detail in later chapters, the presence of the NFPP generated a whole range of new kinds of relationships involving cooperation, negotiation and conflict.

After reviewing the dominant theoretical paradigms of planned intervention of the last three decades, Long (2001: 30-48) concludes that they mostly espouse a rather mechanical model of the relationship between policy, implementation and outcomes. He argues that it is necessary to reconceptualize the notion of intervention as "an ongoing socially constructed and negotiated process, not simply as the execution of an already-specified plan of action with expected outcomes". Intervention is made up of a complicated set of processes which involve the reinterpretation or transformation of policy (e.g. NFPP intervention measures) during the implementation process. Therefore, there is no straight line from policy to outcomes. In fact outcomes may be the result of factors not directly linked to the particular implementation program. Local governments and communities always find sufficient space for formulating and pursuing their own 'development projects' that often clash with the interests of upper level government institutions; in particular, those at the highest level and more distant socially (e.g. Central Government and the national organizers of the NFPP). Implementation should, then, be viewed as a transaction process involving negotiation over goals and means between actors with conflicting or diverging interests, and not simply as the execution of a particular policy (Warwick 1982). We must also take account of the diverse ways in which individuals and their households organize themselves, individually and collectively, in the face of planned interventions promoted by 'higher' authorities, such as governments and international development organizations. The strategies they devise and the types of interaction that evolve between them and the various intervening parties shape the nature and outcomes of the interventions. In this way, 'external' factors become 'internalized' and come to mean different things to the different interest groups or to the different individual actors involved, whether they be implementers, clients or bystanders.

Here, in this study, I focus my research on the livelihood mitigation strategies of the different actors affected by the NFPP. I look at the underlying bodies of knowledge, issues of agency and institutional resources (including social resources such as kinship), inherited and associated powers, new forms of 'imported' knowledge brought by new immigrants associated with the program, and issues of agency and institution creation during the process of implementation. A good deal of discussions will be devoted to exploring how far these processes match the official discourse and goals of SFM.

Analyzing the Discourse of SFM

Defining discourse and discourse analysis

Many discourse studies do not provide a clear definition of discourse (Grillo, 1989; Purvis, 1993). Discourse is employed in a variety of senses, which for convenience may be reduced to two (Grillo, 1989). The first refers to verbal exchange, that is, to the flow of speech in conversation. This is what 'discourse analysis' in linguistic studies entails and as such it is not relevant to my study. The second sense is that associated with Michel Foucault's 'higher-order' linguistic practices. For Foucault, a discourse consists of a group of statements and practices linked to a 'referential', itself consisting of "laws

of possibility, rules of existence for the objects that are named, designated or described within it, and for the relations that are affirmed or denied in it" (Kuhn, 1972: 91). This usage extends to embrace a whole range of cognitive and ideological components which Long considers one of the cornerstones of an actor-orientated approach. He writes:

> *Discourse refers to sets of meanings, metaphors, representations, images, narratives and statements that advance a particular version of 'the truth' about specific objects, persons and events (Long, 2001: 242).*

But here, I use the term 'discourse' in a more specific way. The present research employs the term discourse to capture the specific ways in which SFM is represented. .It consists of a group of statements which provide a language for talking about or representing particular knowledge about SFM. Put more simply, it consists of a framework that includes whole sets of ideas, words, concepts and practices. The notion of SFM is so broad. In fact, it could include everything related to forestry, to management, to political, historical and economic conditions, to poverty alleviation, to development, natural resource management, biodiversity conservation, etc. Because of this it provides sufficient space for specific actors to interpret the meaning of SFM in any way that suits them. SFM discourse then does not consist of one statement, but of several that work together to form what Foucault calls a 'discursive formation' (Hall, 1992: 291), or what one might alternatively call 'an arena of negotiated and fluctuating meanings'. Discourse is about the production of knowledge through language and practice. Various actors give meaning of SFM through a repertoire of 'discursive practices'. The meanings of SFM produced by various actors, represents, on the one hand their understanding and knowledge of forest management and how it relates to SFM discussion both domestically and internationally. On the other hand, it also represents their needs, power, social status, gender, and age, which enter their social field in the struggle for a better life. Therefore the discourse of SFM influences the social practices of forest management in a variety of ways. The range of meanings adopted by different actors is deeply implicated in their practices, in forestry policy and use.

Discourses produce meaningful knowledge about SFM, and so have real consequences and effects on forest management. Discourse analysis also involves a detailed process of contextualization (Grillo, 2000). Sherzer suggested that "it is discourse which creates, recreates, modifies, and fine tunes both culture and language and their intersection" (1987: 296) and Seidel argues that "discourse is a site of struggle. It is a terrain, a dynamic linguistic and above all semantic space in which social meanings are produced or challenged" (1985: 44). Discourses are not reducible to class-interests, but operate in relation to various kinds of power – they are part of the way power circulates and is contested. The question of whether a discourse is true or false is less important than whether it is effective in practice (Hall, 1992: 295).

According to Stuart Hall, to get a fuller sense of Foucault's theory of discourse, we must bear the following points in mind (1992: 293):

1. "A discourse can be produced by many individuals in different institutional settings". For example, politicians, government officials from different levels and sectors, academics, practitioners, owners of private forests.

2. "Every discourse contracts positions from which alone it makes sense. Anyone deploying a discourse must position themselves as if they were the subject of discourse". For example, when we use the discourse of SFM, everyone agrees that the forests have been used in unsustainable ways. However, to what extent why and how may be different.

3. "Discourses are not closed systems. A discourse draws on elements in other discourses, binding them into its own network of meanings". Thus, the discourse of SFM in international circles draws on the early discourses of sustainable development, environmental crisis, global warming, poverty alleviation, and equity in respect to ethnicity, culture, and gender. In Central government, the discourse of SFM in China usually draws on elements from economic development, the development of the western region, and environmental protection. However, in local level government, the discourse of SFM usually draws on the elements concerning state enterprise reform, and fund transfers from the national account. These associated discourses have been changing and reproducing, and the discourse of SFM has also been changing accordingly.

4. "The statements within a discursive formation need not all are the same. But the relationship and differences between them must be regular and systematic, not random".

Actor-oriented Discourse Analysis

At first glimpse, it is true that SFM discourse 'belongs' to giant institutions, such as the World Bank, United Nations, governments of the developed countries and a few powerful and influential developing countries, international NGOs, large national NGOs, but it is actors, individuals or institutional representatives, who use it, manipulate it and transform it. We could consider that it is the encounter between or confrontation of actors (such as officials at different levels, technicians, researchers, forest owners, etc.) and their ideas and values that perpetuate or transform dominant discourses of SFM. Adopting an actor-orientated approach is, as Long says, a good way to understand these processes, since it places emphasis on situated practice and provides a methodology for analyzing discursive practice and exploring interface situations (2002: 53)[2].

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[2] Long characterizes a social interface as "critical point of intersection between life worlds, social fields or levels of social organization where social discontinuities, based upon discrepancies in values, interests, knowledge and power, are most likely to be located (Long, 2002:243).

> *Interface analysis enables us to understand how 'dominant' discourses are endorsed, transformed or challenged. A major task of such analysis is to spell out the knowledge and power implications of this interplay and blending or segregation of opposing discourses. Discursive practices and competencies develop primarily within the circumstances of everyday social life and become especially salient at critical points of discontinuity between actors' lifeworlds. It is through the lens of interface that these processes can best be captured conceptually. (Long: 2002: 71-72)*

So far, very little literature has analyzed the framing of domestic discourses from the international domains of SFM in China. These discourses are the general context in which specific meanings of SFM are defined in relation to particular practices. That is, a set of widely held ideas about SFM are a pool from which various actors can withdraw parts in order to make sense of forest management, and the general ideology concerning the perspectives of forest management within a particular period of time and space. As such, discourses are never static and rarely stable. They vary with time and space and vary according to who uses them.

Scientific domains of nature

For most economic theories, nature constitutes a pre-theory concept, considering timber, nuts, air, water, land and such like, as 'free' or 'spontaneous' gifts of nature, incorporating no prior human processing or expenditure of human labour. Assuming these are openly available to all without social and economic restriction and in plentiful supply, they become costless in economic accounting and beyond the domain of economic theorizing. This simple exclusion of nature from economics is overtaken by a later phase where it is simply postulated that these free goods have now become un-free, and have taken on economic incarnation as products (Martin, 2000). This transformation is not itself the subject of explanation in economic theory, and mainstream economic theories and social science generally assume the conditions underlying the demise of nature as a free good and its reincarnation as an economic one. Implicitly, it juxtaposes alongside the initial state of plenty, a new scenario involving the emergency of scarcity, markets and prices. More precisely, at this present theoretical juncture, we are somewhere in between.

Nature has thus long remained 'silenced' and invisible in social science theory, though fully engaged and exploited in socio-economic reality. In China, nature is a field for so-called 'hard sciences' to discover, and the human field is for "soft sciences" to deal with, with very clear boundaries between them[3]. Nature is not easily accommodated in mainstream social science, since it seems to amount to abandoning several tenets and disturbing the comprehensive, internally consistent power of an existing theoretical

[3] Academics started two decades ago to bridge the 'soft' and 'hard' sciences in research and advocacy. Then the Chinese government highlighted this importance and called this field the newly created category of 'cross-breeding sciences'.

position. It is most clear in the domain of economics. For instance, the relationship between nature, technology and economy entered classical economic theory in the form of a breakthrough – the so-called law of diminishing marginal returns to the intensification of inputs on a given amount of land. Marxian writing also draws a parallel between nature and labour, namely both that were exploited, exhausted and disposed of by the capitalist process. But many sorts of nature, such as forests, are not subject to this law. Classical economics argues against the coefficient production function approach, exemplified in the input-output matrix, where any emergent shortages of natural resources can be overridden through processes of substitution and induced technical change. Both as paradigm and as process, industrialization came to dominate nature and to exercise power over it, and I do believe this is why nature is unwisely used.

Externality is a characteristic of 'nature'. Deforestation is associated with flooding, loss of topsoil, loss of wild life systems supported by forest at the local level, and the loss of biodiversity, global warming, and social injustice at the global level. Typically, these external effects began to "knock on the doors of conventional theory" (Doornbos, 2000). Market failure awakes government intervention in forest management. However, the later theoretical work shows that any field with market failure with free market instruments would be exacerbated by 'government failure'. The reasons leading to 'government failure' include: internalizing development objectives as sector objectives, prioritizing development objectives over actual demand, over-budgeting, and corruption (Charles, 1994). Academics argue for the combination of free economic instruments and government measures. However, it is difficult to come up with an easy solution given the divergence of culture, forest resources, politics, and economic circumstances.

The crisis of the commons, forests included, lay at the roots of the new institutional theorizing in attempts to explain the process of natural losses and to propel the idea that a solution requires the prior full assignation of private property rights in previously 'free' or communally-held natural resources. In a different vein, by shutting out the space between the free and priced states of nature, social struggles in the evolution of property rights in nature were sidelined (Doornbos, 2000). However, to my mind a critical question is whether we can privatize social welfare entirely, although forests constitute two sides of a coin, tangible and materialized subject – the nature of forest, and intangible and abstracted subject – and ecological functions for human kind.

To my limited knowledge, many other disciplines besides economics within the social sciences also cannot boast of great advances, and share many dead ends and missing points in their theoretical framework. Thus, contributing one more metaphor to 'forests in the mist', the theoretical framework for SFM is also in the mist, and needs further construction.

Forests as "common pool property"

Being in many respects different from agrarian resources, forests have a long history in most regions and are mostly considered as "common pool property". Thus they are inclined to be managed within collective or state schemes. Despite initial skepticism that common pool resources (such as forests) could ever be managed sustainably (Gordon, 1954; Hardin, 1968), many researchers came to the conclusion that suitable institutional frameworks could be designed to secure beneficial outcomes for stakeholders (Jodha, 1986, 1992; Ostrom, 1990; World Bank 2001). According to Ostrom, individuals may develop successful common pool resource regimes when they share a common understanding of their situation and strategies for change, when they value the benefits from collective activity relative to its costs, and when they constitute a relatively well-defined and stable group (1990: 90; 1999: 4-7). The institutional choice perspective (in terms of organizational and forms of regulation) focused on internal design principles, is highly useful for understanding and predicting individuals investment in rural change (McCay and Jones 1997). McCay and Jentoft (1998) suggest drawing upon economic sociology's notion of 'embeddedness' to place property regimes and their external and internal social relations in historical context. Fortmann and Roe (2001) argue that community boundaries are often ambiguous or based on diverse class, religious, ethnic and other characteristics which place members in different, often contradictory, relations to forest benefits. Klooster recommends that common property theories "sally forth out of the institutional details of organization and excessively parsimonious models of rational choice" to focus on external and internal social contexts of struggle within forest communities (1997: 310-311).

Although the theoretical issues concerning common property regimes in relation to forestry management offer interesting insights into the socio-political dynamics of forest development and explore the complexities of collective assets and their management, I am more interested in aspects that emphasize processes of negotiation, involving dialogue and bargaining between actors, which may significantly shape the destiny of NFPP interventions; in particular, those which may rest on the establishment of a supportive network and institution of actors. And for this purpose an actor-oriented methodology is more useful.

All the above processes in the end boil down to the analysis of sustainable livelihoods of various actors, which ideally is hoped to be the main outcome of the NFPP intervention. Chambers and Conway (1992) point out that a livelihood is sustainable when it can cope with and recover from stresses and shocks; maintain or enhance its capabilities and assets, while not undermining the natural resource base. I focus my research on the relevance of sustainable livelihoods to forests and forest management. This includes the way that forest resources and their management contribute to sustainable livelihoods, and broader issues of improving adequacy, security, well-being, capability, adaptation, vulnerability and resilience. On the other hand, it includes maintaining forest resource bases in a sustainable way and with an additional environmental requirement such as protecting the lower reaches of watersheds when

subjected to disturbing forces, in particular those that result from rural livelihood vulnerabilities

Policy discourse and policy design

Many of the basic ideas which have been used to justify the maintenance of a state monopoly over forest management in the developing countries have become hard to defend. Top-down approaches to forest management have been subject to increasing criticism in the wake of the apparent failure of scientific forestry and state ownership of forest lands to prevent continuing deforestation. Studies on common property management regimes have revealed that community-based resource management systems can be more efficacious than centralized control in some circumstances (Gauld, 2000: 223; Bartlett, 1992). Growing social and political conflicts over deteriorating forest resources and environmental concerns has generated the notion of matching sustainable forestry management with goals of social justice, equity, development, empowerment, and environmental sustainability through so called stakeholders participation and 'decentralization' processes. However, international discourses of SFM have not had significant influence on domestic discourse, although international donors, international donor-driven academics, practitioners, planners, NGOs, and development agencies have given demonstrations at local level aiming to promote changes in policy to increase local community involvement in forestry management (Liu, 1998; Zhang, Liu, et al. 2002).

Although the relationship between state policy and forest deterioration or restoration has been on the political economy and environmental degradation research agendas (Bryant and Bailey, 1997; and for China, Lu, et al. 2001), much of the work so far has neglected a detailed analysis of the self-defined interests of beneficiaries such as state officials, planners and foresters. Thus, it rests with sociologists and anthropologists to probe this dimension through a more thoroughgoing examination of the interplay of the self interests of all those actors involved in forest affairs. This requires both an in-depth study of the perceptions and practices of those who aim to promote the official discourse of SFM, as well as a critical examination of the 'reported' successes of projects involving local people and forests (Dove, 1992; Gauld, 2000).

Policy discourses, and the categorizations, problem definitions and administrative procedures which develop within and from these discourses, promote and justify particular concerns, strategies and solutions at the expense of others (Long and van der Ploeg, 1994; Dove, 1994; Fairhead and Leach, 1995; Gauld, 2000). Similarly, the persistence of particular policy narratives, ideas, and 'orthodoxies', as they exist in a dialectic with political and economic interests (Moore, 1996), influences the way in which society-environment interaction is constructed and understood within policy (Guthmann, 1997). The discourses surrounding environmental management are thus intimately bound up with power relations (Long and van der Ploeg, 1994; Gauld, 2000). In China this is clearly the case, since much of the discourse of SFM is deployed normatively (often through specific legislation or contracts with donors) in order to

shape and control forest management processes. As Rush (1992) notes, forestry management is therefore inherently political, since it revolves around control over critical resources and ideas. The Chinese case is especially interesting since present-day issues of forest development are underpinned by the historical legacy of state control over forest lands and the political economy of commercial timber production. Thus timber production rather than community development has historically dominated debates about forest use and continues to do so.

CHAPTER 3

Forestry Discourse and Normative Frameworks

In Chapter 2, I developed a theoretical framework for understanding ongoing debates on forestry issues, based on insights from discourse and actor-oriented analysis. This chapter reviews China's official policy and legislative documents that reflect the dominant discourse of forestry development, the nature of forests and China's forestry development needs. Assessment of China's forestry legislation provides a macro level framework that sets the limits for various actors to interpret the discourse of SFM and program intervention in forest policy and use practices.

Contextualizing China's forestry norms and legislation

The domain of forestry legislation in my research covers broad normative elements, including legal acts, such as constitutional provisions, forestry and environmental statutes and subsidiary legislation, and official documents, for example, on development strategies, policies and measures, as well as future commitments and promises.

Three interlocking factors for the creation and reform of forestry legislation

Firstly, from an historical point of view, the creation of forestry legislation in China is partly attributed to the common awareness of the need for forestry development and to balance interests among various actors associated with forest practices. Forestry legislation thus reflects the nature of forestry, the struggle and comprise between actors on the ground, and national and global social, economic, and cultural development perspectives. Reform of forestry legislation can be traced back to the new needs of local actors, as well as to changes in the condition of forests.

Secondly, as a scientific subject, forestry was introduced into China about 100 years ago, about 150 years later than the origins of forestry sciences in Europe. Scientific frameworks, along with discourses concerning sustainable harvest approaches, management, silviculture, and super cloning, have, since their introduction, become embodied in Chinese forestry legislation. Knowledge about SFM has encouraged new thinking about forests and has generated new understanding of forestry development.

Thirdly, discourses related to forestry management at the contemporary stage have been a main driving force behind the reform of forestry legislation. Macro level forestry concerns can be embodied in forestry legislation through their translation into discourses by government authorities, and other agencies such as NGOs, and multi-

lateral international agencies that influence national policy and the formulation of legislation. In the meantime they influence or impose on local policy action and forest use practices. Discourse and debate about SFM in international circles, along with commercial, political, financial, and diplomatic inducements or through compulsory means, have become embedded in Chinese forestry legislation. However, the reform of Chinese legislation must be ascribed to current and future domestic political, economic, and social development needs.

In summary, legislation is socially constructed, and rooted in domestic economic, social, and cultural development needs, in forestry conditions, and knowledge in China, as well as in changes that have taken place historically. More recently it is embedded in international discourses about sustainable forest management. The interlocking of all these factors has ushered in forestry legislation reform in China.

The imprint of history on legislation

After its establishment, the People's Republic of China espoused the virtues of socialism, taking the Soviet Union as a model. If we trace back, we will find that many characteristics of China's forestry sector still reflect strong influence from former Soviet Union models. So far, China's forests still maintain strong characteristics of a planned economy. As evidence, we find that quotas for timber harvesting must be approved by forest authorities, under the central control of the national forestry body called the State Forestry Administration (SFA), although the discourse of this control is not for production but for controlling harvests, which guarantees the amount does not exceed annual increment.

State Forest Farms[1] are the best example of its controlled economy. China has established about 135 national key state-owned forest farms[2] for harvesting natural forests, mostly located in North East and South West China where large areas of virgin forest are located. Xiaolongshan State Forest Bureau[3] is subordinated to the provincial level authority but it is the largest collection of local state farms. Before the 'open and reform' [4] policy took place, state forest farms made high economic and material contributions to the state as well as to local development. The early 1980s was a

[1] State forest farms are categorized as national key state forest enterprises called the State Forest Bureau, and local forest enterprises.

[2] Usually a national key state forest farm occupies about 200,000 ha of forest land and has about 10,000 employees.

[3] As for its management orientation, Xiaolongshan State Bureau, my research area, is an exception. It was established on a North European Countries model like that of Finland, focusing on restoration of secondary natural forests. Xiaolongshan State Forest Bureau is accepted by SFA to be the largest collection of state forest farms nationwide and treated as the equivalent of a national key state forest bureau. Thus, Xiaolongshan, with a few exceptions, is among local forest farms, a key region for the NFPP.

[4] It started around 1980 as China's economy was in backwards comparatively.

turning point. Most of the farms began to suffer a so-called resource crisis, succeeded by economic crisis. Until early 1990s, two thirds of key state enterprises were in deep depression and suffering these two kinds of crisis. The average income for state forest farm employees went down to less than half the national average, which became a national hot issue in the forest sector. In a few cases, employees did not get paid for more than a year. Acts and official policy documents from central government relevant to forestry have usually been to highlight the importance of state forest farms.

Before the founding of the People's Republic, three forms of forest ownership existed, namely, state, public and private in 1950, the new Chinese Government enacted "the Land Law of the People's Republic of China". Under this law, a large number of state-owned enterprises were established in northeast, southwest and northwest China for harvesting virgin forests, and in central and south China for afforestation and forest management of barren mountains and secondary natural forests. By 1953, this land reform had led to a resolution that of all forest areas, the state would own 38.4% and the collectives 61.4% (Li, 1996). Over the last half century, China has been defined as a country with frequent policy fluctuations in land tenure. However, forest land tenure policy has not changed in state owned forests, though in collectively owned forest regions, it has undergone significant modifications four times:.

1. Confiscation and redistribution: 1950-1952. During this period, forests owned by landlords, forest enterprises rented-out by rich peasants, or occupied by special groups such as religious groups, were confiscated and redistributed to poor farmers. All rights, including utilization and management, were transferred to the new owners. Forest land owned by ordinary farmers and small forest owners was not subject to confiscation (Liu, 1998).

2. Emergence of collectives: 1953-1956. Apart from small subsistence plots and scattered woodland, all private forestlands were forcibly merged into small-scale cooperatives. Forest owners were provided with a fixed compensation payment.

3. Communization: 1957-1980. From 1957-1961, the nation embarked on what is widely known as its 'Great Leap Forward', a mass mobilization campaign mounted by the government to develop its industrial and agricultural base. The rural economy was organized into large-scale communes to maximize the productivity of rural resources to support industrialization. Both state forests and emerging collectives were targeted for 'communization'. Forests were viewed as key natural resources that could be drawn upon to support industrial development. The country entered its first wave of forest degradation. From 1961 to 1965, private plots were restored, and farmers were once again permitted to own trees around their houses and in private plots. However, this policy change did not last long. The Cultural Revolution, which was initiated in 1966 and lasted for ten years, led to the re-establishment of communes and the reclamation of all private plots. All private production was banned. Forests underwent rapid destruction.

4. Decollectivisation: 1980 to the present. Decollectivisation in China's rural areas officially started in 1978. Since 1980, when rural policy was reformed and the 'household responsibility system' was introduced. Under this policy a large amount of collective forest was decollectivized and placed under private management. In the early 1980s, a major movement called the 'three fix'[5], resulted in about 11 million hectares of forestland in the South China collective forest area[6] being distributed and handed over to household management. In Huaihua Prefecture of Hunan province, 82% of the forestland was managed by rural households (Li, 1996). After that, a large amount of forest land owned by the state or collective was transferred to the private sector, including farmer cooperatives and foreign investors, through contracting, auction, and lease. Due to a number of reasons, including the lack of confidence of farmers regarding private control over forests over the long term, and soaring market prices of timbers resulting from free market reform of timber products, China entered a second wave of forestry destruction, in particular in collective forests. So far, according to the national forestry inventory, about 12.5% of forests owned by the private sector have become one of the main forces for forest development.

China's forests have continued to decline over the centuries, and rapid decline led to unpopular forestry policy and poor enforcement from 1960 to1990. Accordingly, forest related acts and policy documents largely focuse on balancing exploitation with sustainable harvesting levels, stepping up reforestation, diversifying forest production and liberalising commercial activities.

Legislation in the reform era of contemporary China

Over the past two decades, discourses of 'reform' and 'openness', linked to 'development' have been overwhelming in many arenas in China, and China has remained in a stage of socio-economic transition, with rapid growth in GDP averaging about 10% annually. Over time, China has moved from a system where the government controlled most social and economic activities, to one called a 'socialist market-economy'. While reform has progressed step-by-step, the cumulative change has been significant. All these changes in turn have had tremendous influence upon legislative reform in forest management.

However, discourses of reform may be translated into contradictory orientations in many arenas, for instance, centralization vis-à-vis decentralization, free marketing vis-

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[5] March 8, 1981, the State Council issued a provision called 'the Provision of some issues for forestry protection and development" which focused on collective forest areas. The principal item widely accepted was known as the "Three fixes", meaning the stabilizing of the land and forest tenure, the dividing of the forest into individual management lots, which was for self subsistence ('self subsistence hills'), and the implementing of household responsibility for forest management ('household responsibility hills').

[6] In general, South China's collective forest area and state forests are the main base for commercial timber products in China. The south China forest area includes Guangdong, Fujian, Zhejiang, Hunan, Anhui, Jiangxi, Guangxi, Hubei, and Guizhou Provinces.

à-vis quota control/production control, privatization vis-à-vis massive government intervention in plantations. The government sector is reluctant to lose the power gained under the planned economy, but is happy to take on the power given them by market based development. In the past 20 years, for instance, private forests have been promoted with favourable legislative policy, such as free barren land, and long term use right contracts. However, on the other hand, government and forestry authorities have strengthened their powers to intervene in forestry management, such as in the turnover of forest land, in young forests, in harvest rights to mature forests, and increasing the cost of making deals. Many taxes and charges and direct levies on timber and bamboo products are collected through the application of harvesting quota certification and forestry insect and disease quarantine certificates, with the purpose of saving government collection costs. But nobody takes account of the application costs of the foresters for such quota and quarantine certificates. In the Forestry Law of China, government provides favourable credit for afforestation but this has not functioned well since at the same time the process of reforming the banking system towards a market economy has been underway. China's policy reform for promoting private sector participation in forestry management is not complete and has still a long way to go.

As such, the line of 'reform' taken in forestry development discourse does not mean actions or understanding for reform only. Sometimes, it may mean something else, nothing relevant to the 'reform' at all, such as strengthening sector power, and getting rid of difficulties such as the financial burden of state enterprises. That is also the line of fundamental strategic instruments for many sector ministries: direct regulation; centralized goal setting and planning; and state-coordinated implementation, standard-setting, and promotion of advanced technology.

Over the past 20 years, China's forestry laws have been developing very fast, given the space provided in the era of 'policy reform'. Seven sets of national statutory laws, including the Forestry Law, and the Law of the P.R. China on the Protection of Wildlife have been passed, promulgated and amended. The State Council has issued and implemented a total of 12 sets of forestry-related executive regulations in sequence such: "Regulation on Forests and Wildlife Protection Area Management", "Pamphlet on the Implementation of the Forestry Law", "Regulation on Forest Fires", "Regulation on Forest Pests and Disease Prevention", "Regulation on Implementation of Continental Wildlife Protection", "Regulation on Plant Quarantine", "Regulation on Nature Reserve", "Regulation on Wild Plant Protection", and "Regulation on the Implementation of Forestry Law".

In summary, framework conditions for forest-sector development have been marked by dynamic change and far-reaching reforms over the past two decades. These reforms coincide with what has been summarized as the establishment of a 'socialist market-economic system' and 'China's opening to the outside world' – a program of political, economic, and social liberalization and reform. While this development has by no means gone unchallenged or proceeded in a linear manner, it may well be considered irreversible today – particularly after China's accession to WTO.

Legislation over natural forests and the needs of forestry development

In recently formulated official documents discourses of 'increasing forestry resources', 'controlling resource consumption', 'ecological rehabilitation and improvement' and 'accelerating forestry development', dominate. This can be traced back to the nature of China's forests and perspectives on forestry development.

China is endowed with a poor forest resource base, rich bio-diversity and a rather seriously degraded ecosystem. China has 263 million ha of forestland and 159 million ha of forests, which ranks it 5th in the world for forest acreage. The total stand stocking volume is 12.5 billion m^3 ranking it the 7th in the world, China has 46.7 million ha of plantations with only 1 billion m^3 of timber stocks (SFA, 2000).

China's forest resources are not only small relative to its area and population, but they are also small relative to demand. In 2002, China spent about US$10.9 billion on imported logs, saw wood, plywood, pulp and paper products. China is now the second largest timber and related product importer in the world, slightly behind Japan. Even with significant imports, a relatively high percentage of the rural population suffers fuel shortages, some for up to 6 months a year and the timber-using industries have increasingly turned to non-wood substitutes (Liu et al, 1988). Imbalance in supply and demand has worsened following the government's imposition of a logging ban in large areas of the natural forests in 1998 under its Natural Forest Protection Program.

Existing pressure on China's forests and other natural resources is enormous. Thirty-eight per cent of the country (about 367 million hectares) is affected by soil erosion, while desertification is prevalent in 27 per cent of the nation and is expanding annually by a quarter of a million hectares (SFA, 2000). About one third of grasslands are degraded. Biodiversity is also under threat with 15-20 per cent of fauna and flora species threatened with extinction. A World Bank report in 1994 estimated that about 200 species of Chinese plants have recently become extinct (Zhang et al, 1998). Deforestation and conversion of fragile lands for agriculture are thought to be the most serious causes.

In addition to their protection of biodiversity, forests are thought to play a critical role in preventing soil erosion, desertification and flooding Currently, it is estimated that about 3.7 million square kilometers of land are affected by wind and water erosion and about 2.6 million square kilometers are desertified (SFA, 2000). A dramatic reminder of the economic and human costs of flooding was given with the recent flooding of the Yangtze River in Central China and Songhua River and Nenjiang River in the Northeast China. The floods killed over 3,000 people, affected a fifth of the total population and led to over US$12 billion in damages and lost output (The Economist, 2001).

For administrative purposes China's forests are split into five categories: timber production forests, protection forests, economic forests, fuel wood forests and special

purpose forests (Article 4, Forest Law, 1998). Timber production forests are themselves split between timber and bamboo production forests. Protection forests cover all those areas where forests are protected from harvesting to ensure that they can act as barriers to erosion and to ensure watershed protection. Timber production, bamboo, fuel wood and economic forests (used for non-timber forest products) are used for extraction purposes and, in the 1990s accounted for over 80 per cent of the total closed forest area and increased dramatically to about two thirds of total forests in official documents issued after 2000. While this system of categorization still applies, the government has recently initiated research into a new 'classification-based forest management' system. The proposed system - which is still undergoing trials - replaces the five classes used today with three classes, commercial, non-commercial or mixed forests, and develops clearer criteria for classifying forests into these classes. Whereas commercial forest land is intensively managed to produce forest products for exchange in the market, non-commercial forest land is managed to promote, maintain and improve forests' ecological functions with support from government and society as a whole.

These threats are not new. Since the foundation of the People's Republic of China, the government has placed great emphasis on forestry development and invested significant sums in forest resource expansion through afforestation and natural forest regeneration aimed at environmental protection as well as forestry resource recovery.

Discourses arising from being wedded to SFM

As explained in the above context, China's normative domain for forestry development when it was adjusted, aimed at forest protection, and since the 1990s, after the Rio Earth Summit, at sustainable development.

Consequences of the 'open' policy in China

The past two decades constitute the era of 'reform' as well as 'openness'. Open policies required that China became a member of international treaties or conventions. Until 2002, China had signed eight multi-lateral and bilateral international agreements: multi-lateral agreements such as the "Convention on International Trade of Endangered Wild Species Fauna and Flora", "Wetland Convention", "Climate Framework Convention", "Kyoto Protocol"; and bilateral ones such as the "Sino-Japanese Migratory Birds Protection Agreement".

China's forestry legislation is gradually integrating into international standards. Particularly after entry into the WTO, China has become very active in borrowing and absorbing successful international forest protection and management experience, take, for example, the going-to-be-promulgated "Forest Harvest Regulation", and the national standard - "China Sustainable Forestry Management Standard and Indicators".

More importantly, China has pledged to contribute its own efforts to the common goals for international society, such as global issues concerning 'environment' and 'development'. China highlighted the importance of the Rio Earth Summit, and the former Prime Minister chaired the large Chinese delegation attending this summit in 1992. Afterwards, China's central government officially announced that 'sustainable development' and 'science and technology, and education' were to be adopted as two pillars of the national development strategy.

Political struggles for reinforcing the importance of the forestry sector

The forestry sector used to be considered as part of the 'mining' industry, and generated huge government revenues (Liu, 2002). In some years of the 1950s, output from the forestry sector ranked second in all industrial sectors in China. The forestry sector contributed to China's economic development and industrialization by producing low priced timber, fixed within the planned economy (Li, 1996). Then in the 1980s, the state released the control of timber pricing, resulting in a large increase in the price of timber. Thus the e forestry sector enjoyed a short period of prosperity in late 1980s. But, with the sharp decline of available natural forest resources for harvesting, the sharp reduction in customs duty for imported timber and processed products, and influenced by the variation in timber demand resulting from the macro economy, the forestry sector quickly fell into a period of depression. Most state-owned forestry farms suffered an economic and forest resource crisis. Overstaffing, a high proportion of retired staff and many other problems were discovered which were masked during the prosperous era (Liu, 2002).

With the rapid growth of other sectors, forestry as a sector of production gradually declined in importance in the national economy year by year. The forest sector was blamed by society and other sectors of government due to the lack of success of forest reforms, the loss of forest coverage and standing volume, and degradation of the environment. The forest sector responded by launching a number of campaigns to restore its reputation and improve its importance in society with campaigns such as "greening maintenance and hills campaign" in the early 1990s', and every year a "planting day campaign". But it could not halt this trend, which ended in the disbanding of the Ministry of Forestry, which in the mid-1990s became the State Forestry Administration, the SFA.

UNCED highlighted forestry as one of the most important issues of environment and development, and launched a great debate on forestry issues in international political circles. Yet, although it did not end in a legally binding resolution at the Rio Earth Summit in 1992, it did produce a "non-legally binding authoritative statement of principles for a global consensus on the management, conservation and sustainable development of all types of forests". China's forest sector of course could not lose this opportunity to restore its importance in China's own political community and thus formulated a strategic sector document "China Agenda 21: Forestry Action Planning" (1994), which became the first national strategic government sector document. In this

document, production, including logging, processing, and forest related products and processing industries in the forest sector was likened to some manufacturing or chemical industry, with government providing support for state enterprises to operate these businesses, which were still under the control of the former Ministry of Forestry. These were given great importance, and came under the umbrella of 'sustainable forest development' in the Chinese lexicon[7]. All sorts of political efforts were amounted to stop the disbanding of the Ministry of Forestry, in the round of administrative reforms that began in the mid 1990s. Following the political/ administrative reform, the forestry sector had to give up control of most forest products. This situation brought deep depression in the forestry sector.

But 'crisis' in Chinese consists of two words, *Wei* and *Ji*, the first meaning 'in danger' and the second 'opportunity'. Thus China's forestry sector quickly armed itself for a new era, for yet another turning point for the sector, namely environmental construction[8]. In the summer of 1998, China suffered from heavy floods along the main river courses, where highly populated areas and most industrialized and commercial centers are located and in particular in their downstream regions. Thus a huge program called the NFPP (Natural Forest Protection Program) 'landed' on China[9]. Following this, the term 'environment' was placed at the centre of sustainable forest management in China's forest sector, with fewer and fewer voices calling for sustainable development of forest production. Hence, 'environment for SFM' became the bandwagon for fur fund raisers and in large measure from investment from government public accounts.

As explained above in an early context, the State Forest Bureaus had also faced economic crisis, and there had developed strong links[10] between these bureaus and

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[7] It is quite easy in China, to recognize sustainable forestry development and sustainable forest management as the same things. But, in fact, their actual meanings are different. Sustainable forestry development, I think, can be translated into 'sustainable development of the current forestry sector in China' which to some extent attempts to resist reform.

[8] So far, there is little high level academic opposition in China to the notion that ecology cannot be constructed by humans. Nature is nature, deterioration of the ecology can be restored through and lies in natural processes. The discourse in academic opposition is not relevant to the wording of Shengtai Jianshe (ecological construction). It includes both man-made and nature-made entities and combines these two forces.

[9] In 1998, crisis in the East and South East Asian Economies led to worldwide economic depression. At that time, China was highly committed to a strong set of financial measures, including the expansion of domestic consumption for driving economic progress, a great increase in national debts for infrastructural input and environmental protection, as a means to offset Asia's economic crisis. In other words, the NFPP and the WDS, the world development strategy, do share some symbolic political meaning as well as the requirement to support the wider international economy.

[10] Take Xiaolongshan State Forest Bureau as an example. In the early 1980s, the Ministry of Forestry intended to regain direct management of this bureau, and sent two dozen employees to work there for a year. Although it failed to regain direct managerial authority over this bureau, today the staff who used to work in the bureaus have mostly been promoted to important position in the SFA, including a few at the Director General level.

bureaucratic representation in the SFA. Most of the funding in this program was distributed among these bureaus, partly solving their economic crisis and at the same time creating a restoration period for forest resources.

The meanings of SFM discourse constructed by the forestry sector

SFM discourse in China, though deriving connotations from SFM internationally, has acquired its own specific meanings that are adapted to and shaped by the forestry sector's own political and social struggles, as well as by its economic situation, history, and domestic social and political changes, while of course being subject to changes in political, and economic conditions at the macro level. It has a strong sector orientation.

The SFA is the highest government department responsible for forestry affairs. Created in 1999 to replace the Ministry of Forestry, its main functions are to implement forestry policies and regulations issued by the State Council. Major areas of work for the SFA in recent years have been afforestation and the expansion of China's resource base, forest utilization control and forest protection. Unlike the old Ministry of Forestry, the SFA is no longer responsible for forest industries. It has, however, gained more responsibility for promoting environmental services. Poverty reduction, tourist industry promotion, rural development, indigenous knowledge protection, culture and historic heritage of forests, and other such issues are excluded from the mission of SFA, and beyond its power.

There are a large number of sector ministries involved in or related to forestry management. Take, for example, the "Conversion of Farmland into Forest program", at central government level. The implementation of this program involved six ministerial agencies, including SFA, Ministry of Finance, National Development and Reform Committee, State Grain Reserve Bureau, and many associated ministries, such as the Ministry of Agriculture, State Land Administration, State Finance Administration, Ministry of Water Resource, and State Environment Administration. Not surprisingly, coordination and harmonization among the sector ministries has proved hard to achieve (Liu, 2003). Interpretation of the different discourses of SFM at central government level never went beyond the powers of the SFA. Challenges to the authority of the SFA from civil society, and NGOs has been gentle. Meanwhile, the SFA and local forestry agencies do not always sit in the same boat. The SFA has dramatically lost direct control over the low level forest line agencies. This has been attributed to decentralization in decision making, to production and marketing control, and resource deployment. That has provoked the upper level sector authorities to compete with each other for the allocation of government revenues. Thanks to strong economic progress, as well as fiscal policy reform starting from 1994, funds allocated from central fiscal accounts have increased strikingly since 1998 and central governmental has enlarged its revenue share of GDP, from about 6% to 14% in 2004. In the meantime, this trend has been reinforced by the needs for macro-level economic development and this was driven by the expansion of domestic consumption for economic progress leading to an increase in the national debt, exacerbated by inputs into infrastructural development

and environmental protection. The forestry lobby can partly regain its power through a redistribution of funding for forestry development.

Sector driven acts, legitimization of administrative power inherited from the planned economy, and gained in the market orientated economy, in appeals to central authority were no longer possible. Issues of SFM have been fragmented into various laws and acts, and in addition legislations developed by different sector ministries often did not take existing and related acts into consideration. This has led to an overlapping and contradictory body of law.

Thus, the discourse of SFM implies the following slogans or meanings: 1) "great program, great leap" - that is, it requires more resources from central government; 2) "ecological construction", that is, through engineering and natural processes, planting and natural regeneration; 3) "strict protection of forests"; 4) "enlarging forestry protection areas"; 5) "reforming commercial forests with market based instruments; 6) "enhancing administration and unified leadership"; 7) "enhancing international cooperation".

Poverty is excluded in the discourse of SFM in China

In the Brundtland report, "Our Common Future", 'sustainable development' is defined as a type of development that "meets the needs of the present without compromising the ability of future generations to meet their own needs" (1987, Brundtland Report: 8). The official documents issued by SFA adopted this definition as a standard, but this definition does not explicitly declare poverty to be at the core of sustainable development. However, the metaphor of sustainable development is "many development paths of the industrialized countries are clearly unsustainable", thus, "developing countries should not follow the same course". The definition was later shifted to "secure livelihoods, that minimize resource depletion, environmental degradation, cultural disruption and social instability" for the world's poor (Barbier, 1987, cited in Pearce et al., 1989: 173), which implies that poverty alleviation lies at the core element of achieving sustainable development. Similarity to this, the metaphor of SFM also targets poor populations struggling to better their livelihoods, in this case connected to forest resources. SFM attempts to achieve a 'win-win' strategy for the sustainable use of forestry resource and livelihood improvement in practices through formulating pro-poor policy in managing forests.

Poverty in forest regions as compared to developed regions in China is severe and the gap is growing. China has the largest population in the world, but most reside in the less forested regions. In recent decades, China has been reforming its economy away from the planned model. GDP per capita (US$ 1050 in 2003) ranks very low in the world, but has grown very rapidly in the past two decades, 9.3 % between 1980 and 2004. Although there are no relevant statistics available, it seems evident on the ground that economic progress in forest regions lags behind the national average. The top five provinces in the category of rich forest regions in China are found at the bottom of the

ranking list for economic progress. About 80% of the absolute poor identified by central government live in the forest regions. The average income for employees in the state forest farms in 1999 dropped to less then 50% of the national average, and the unemployment rate in towns in forest regions increased leading to high social tensions.

Although in economic terms it accounts for less than one percent of GDP, forestry is an essential source of energy for 40 percent of the rural population and supplies virtually all the timber input for the construction sector. In addition to timber products, economic trees, bamboo and fire wood forests are highly valued as a source of non-timber forest products (NTFPs). Apart from bamboo and wood fuel, important products include nuts, fruit, oil, industrial materials, medicinal herbs, spices, edible fungi and chemicals such as tannin, rosin, shellac and turpentine oil. NTFPs provide an important source of livelihood for rural households. Fire wood is thought to account for about 30 percent of total annual energy consumption and over half the population is estimated to rely on forest-based traditional medicines for at least some of their health needs. Some data and evidence has shown the contribution of forests to well-being, but the forest sector's contribution to economic and social well-being, communities' culture and daily life it is still underestimated. Forests provide multiple ecological, economic and social functions that are not directly sold in markets, yet which underpin human well-being and a number of their economic activities. All these forest related activities are important to the poor and a potential contribution to poverty reduction.

Take eco-tourism as an example. China's forests are also increasingly valued for their beauty and amenity potential. With rising disposable income, eco-tourism has grown rapidly. The State Forestry Administration estimated that from 1994 onwards, forest landscapes attracted visits of between 50 and 60 million person a year, generating between US$30 to 50 million. It is estimated that the number of person visits will rise to 100 million by the year 2000 and to 200 million by 2010, including 2 million foreign tourists (Zhang et al, 1998). Although state forest farms and local communities in recent years have been widely involved in the fast growing eco-tourism business, which has great potential and is a major countermeasure to achieve a win-win strategy, the discourse of SFM in China does not include ecotourism.

China in comparison with international norms of SFM

As discussed in the above context, China's government has a strong commitment to SD. Its 'open' policy provides a positive image for supporting the mainstream international discourse of SFM, and its 'reform' era provides the space to embody these discourses into the Chinese context. As explained earlier, an interlocking legislative system has been established within the last two decades to govern forestry development, but how far have international norms of sustainable forest management been embodied in legislation?

Although there is no legal binding international standard to interpret norms of SFM, I would like to select two of the most influential international documents as a general

standard against Chinese legislation on forest management: 1) the 'Forestry Principle' adopted at the Earth Summit in 1992; and 2) "proposals for action to promote the management, conservation and sustainable development of all types of forests" through the Intergovernmental Panel on Forests (IPF) and its successor, the Intergovernmental Forum on Forests (IFF) under the United Nations Commission on Sustainable Development.

By means of hierarchical structuring, these widely adopted documents have been boiled down, shortened, simplified and re-phrased where appropriate. The results of this exercise are shown in the form of a tabular matrix (Table 3-2). Using the matrix as an assessment tool, one can begin a simple screening of Chinese legislation for relevant references. Where these can be identified in Chinese legal texts, such findings can then be successively 'enriched' with 'qualitative' information with respect to defining conditions, implementation strategies and outputs.

This assessment approach enables a differentiated analysis of Chinese legal texts with respect to the following aspects: 1) Existence of references; focus of national legislation; gaps and omissions; 2) Operationalization of norms, by means of subsidiary legislation (down to the level of benchmarks, performance standards, prescription of silviculture interventions, etc.); 3) Coherence of national legislation (are national norms mutually coherent, and vis-à-vis international standards, are national interpretations / adaptations free of contradictions).

As far as it was possible to gather official legal documents, I selected those that to the best of my knowledge had been enacted by national level authorities. These source documents were first read completely, and subsequently analysed using the tabular matrix as an examination tool. Findings were directly recorded in the Table, by means of the following encoding system:

XY = letter code indicating source document

12(3) = Article/section 12, Subsection/paragraph 3; ***a*** = Annex

XY12- = negative, counterproductive to the intent of the international norm

$\boldsymbol{XY_{12}}$ = limited relevance

Using an encoding system provided an additional measure of systematic and structured analysis to the legal assessment. Also, the use of the tabular matrix greatly facilitated the identification of issues, in respect of which an interlocking legal framework compatible with international standards has already been put in place, and other areas, where appropriate legislation has yet to be developed.

References in the Chinese legislation were selected as relevant, and listed in the tabular matrix, were not listed simply for matching 'catchwords' or phrases, such as 'ecosystem', 'biodiversity', or 'integrated development', but in each case the context of a passage was considered before it was listed. While this procedure might be criticized for being 'subjective', it appears nevertheless justified and favourable on grounds that a more 'objective' listing of matching terms and phrases would very likely have produced many artefacts, that is, 'results' out of context.

The complete findings can be obtained from Table 3-1. It provides a basic for me to interpret the following results.

Table 3-1 Laws and regulations relevant to forest selected for legal assessment

No.	Title of selected legislation	Enacted	Coding
1	Forestry Law	1998	FL
2	Law on the protection of Wildlife	1989	WL
3	Regulations for the Implementation of the Forest Law	2000	FR
4	Regulations on Wild Plant Protection	1997	WR
5	Management Measures for the Forest and Wildlife Type Nature Reserves	1985	MM
6	National Code of Practice for Forest Harvesting in China	Draft, 2001	NCP
7	Environmental Protection Law	1989	EL
8	Decision of the State Council on Several Issues Concerning Environmental Protection	1996	DEP
9	Regulations on Environmental Management of Construction Project	1998	EMR
10	Circular on Strengthening EIA Management of Construction Projects financed by International Financial Organizations	1993	CFO
11	Provisions on Guiding Foreign Investment Direction	2002	PFI
12	Measures on the Popularization of the National Key Practical Technologies of Environmental Protection	1999	MPT
13	Measures on the Management of Environmental Standards	1999	MMS
14	Measures on the Certification Management of Products Bearing Environmental Labels	1994	MCM
15	Regulations of the People's Republic of China on Nature Reserves	1994	RNR
16	Measures on the Administration of Interpretation on Environmental Laws	1998	MIR
17	Criminal Law of the People's Republic of China	2001	CL

Interlocking forestry legislation

When examining the formal aspects and characteristics of the Chinese legal framework, one firstly observes that statutory laws are comparatively less specific, and somewhat more programmatic than one would commonly expect from sector legislation. Statutory Laws tend to resemble policy documents, in that they prescribe long-term strategic objectives, or 'visions'. For instance, Article 5 of the Forestry Law:

> "*The guiding principles for forestry development are: put emphasis on forest management, protect forests everywhere, vigorously promote afforestation, coordinate felling with cultivation and ensure sustained utilization of forest resources*".

This cross-cutting characteristic of the statutory legislation firstly necessitates a tightly woven network of subsidiary legislation and administrative directives (regulations, measures, circulars, officially approved plans etc.), and secondly it leaves ample room for interpretation and administrative action for the competent branches of the executive. This, of course, is consistent with the constitutional order, attaching a very prominent role to the executive.

Hence, long term plans formulated by competent branches of the executive (and formally endorsed by a legislative body at the national level, or below – such as the five-year plan, or national action plans[11]) not only represent technical guidance for state departments and authorities, but sources that must be considered legally binding and enforceable – directly governing the actions of various stakeholders in the sector (such as rural collectives).

It would nevertheless be false to interpret forest sector development as being entirely driven by top-down decision making of the purely sector national authorities. Despite China's principally centralist set-up, the constitution holds prescriptions and arrangements for self-governance and self-representation at provincial level and below – including the establishment of autonomous regions and municipalities (directly under the central government; Sections 5 and 6 of the constitution).

Also, the relevant statutes (Forestry Law, Law on the Protection of Wildlife) assign clearly defined implementation roles to people's governments and forest authorities at the level of provinces, autonomous regions and municipalities directly under central government. However, many key-decisions, by virtue of the relevant statutes, are to be taken (or endorsed) not by sector authorities, but by the upper levels of the central government (state council, standing committee of the National People's Congress, People's Congresses at lower levels).

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[11] China's strategic vision for forest sector development is put down in the "forestry action plan for china's agenda 21".

The legal-administrative set-up might best be described as a system of state-dominance and shared responsibilities between the central government and decentralised government structures. In this arrangement, central government exercises supervisory powers, formulates rules and defines the political agenda. The authority to manage and implement has been devolved to provincial, municipal, and local levels of government – which enjoy limited budgetary independence (collection of taxes, fees, revenues, etc.).

Compliance and compatibility with international norms of SFM

Firstly, what becomes evident from the findings recorded in Table 3-1 is that in China, there exists a tightly woven, interlocking net of sectoral, environmental and cross-cutting legislation, which together governs forest sector development.

Secondly, looking at the dates of promulgation of the legal texts selected for the assessment, it becomes equally clear that while a limited number of documents pre-date the UNCED/Post-Rio era, the lion's share of both sectoral and environmental norms has been developed parallel to international processes following the 1992 Rio Conference. It is apparent that the development of the legal framework gained considerable momentum during the latter half of the 1990s.

Thirdly, browsing the table, one notices that references have been recorded for every single compartment of the tabular matrix. Thus it follows, that indeed all of the *major issues* (marked by italic and bold heading) have been addressed at least once in the relevant Chinese legislation. However, it becomes equally obvious that the references found are clustered around certain focal issues, and that some other areas tend to be 'under-represented'.

Using a minimum of at least one reference in three different legal sources as a criterion for the identification of those issues, which appear to be most prominent in the examined legislation, the following aspects come into focus.

Strengths of Chinese legislation towards SFM

Sustainability as a concept that cross-cuts development is indeed reflected in Chinese environmental legislation. This translates into the acknowledgement of multiple forest functions, benefits and uses (manifest and potential) in the relevant sector legislation. Accordingly, production, protection and conservation are cited as national forest objectives. For this purpose, China maintains and protects a Permanent Forest Estate, and pursues reforestation, afforestation, and forest protection. In the legislation the concept of multiple forest functions translates into a functional categorization of 'classified management'. The legal framework makes reference to China's role and obligations in international processes, and under relevant legally-binding international instruments.

The examined documents provide for an interlocking institutional framework, with a clear and transparent assignment of tasks, and shared responsibilities between central-level institutions and decentralized branches of government. Tasks and responsibilities are spelled out in detail in various pieces of subsidiary legislation, down to the level of technical guidelines.

The findings underline the dominance of state-institutions for both forest-sector development, and environmental management/administration. Many references were discovered stating the universal applicability of legal norms, which means that a more or less uniform level of professionalism and performance is required from all actors actively engaged in forest-sector development. Directly related to rules dealing with the institutional framework, are references to funding arrangements, investment in the forest sector, and the use of financial instruments. Funding arrangements include shared public funding by central and local government, private sector investment, and overseas development aid (ODA).

Despite the fact that production, conservation and protection are cited as forest-political objectives - to be pursued in parallel - the Chinese legal framework was found to be heavily preoccupied with forest protection and nature conservation, and with the enforcement of controls and restrictions on access to, and use of forests. This includes legal provisions against illegal logging, as well as provisions against illegal trade in forest products.

Forest protection builds mainly on the establishment of protected areas (including references to state-of-the-art concepts such as ecosystem-protection and in-situ as well as ex-situ conservation of rare and endangered species, also with a view to biodiversity conservation). References to the protection of soil and water indicate concern about the causal relationship between forest degradation and desertification. In this respect, legal provisions for the identification of vulnerable/endangered areas have been put in place, as well as procedures for planning, implementation and enforcement. The Chinese forest-protection approach further emphasises strict, interlocking administrative control mechanisms, restrictions against illegal exploitation and encroachment, and strong law enforcement capacities. Taken together, these features reflect yet another topic in international forest dialogue - Forest Law Enforcement, Governance and Trade (FLEGT) - which is the subject of recent international initiatives, and will in due course be incorporated into the international forest regimes. The aforementioned examples together illustrate vividly the successful integration of cross-cutting environmental issues (many of which are related to multi-lateral Environmental Agreements (MEA), such as biodiversity conservation, the struggle against desertification, protection of wetlands, FLEGT, etc.) into the national legal framework of the forest sector. This must be considered a particularly noteworthy achievement with respect to the "substance of internationally acknowledged standards and guidelines".

The legal framework was also found to provide for (environmental) monitoring and evaluation of protective measures, as well as for precautionary approaches and instruments such as Environmental Impact Assessments (EIA). A particularly noteworthy feature of the Chinese EIA concept (which is of recent origin, and has not yet become effective in its entirety) is that river-basin development projects, re-cultivation of waste-land, large-scale afforestation projects, and large-scale harvesting/transport operations are also subject to EIA requirements.

Rules concerning forest management chiefly deal with maintenance / protection of forest environments on one hand, and reforestation / afforestation / rehabilitation measures on the other. The findings suggest that the tendency is mainly to preserve existing natural forests, and to establish or extend planted forests for their commercial value as suppliers of forest products, and for the employment they provide.

Despite the state's apparent dominance, the examined legislation holds references in respect of the rights of the indigenous minorities, forest dwellers, and forest-dependent fringe-communities. While all land-ownership rests with the state or collectives (reflecting the nation's principally socialist set-up), access and use rights (including ownership of revenue and planted trees) of private individuals and groups (including private sector investors) are expressly protected. Private initiative for tree-planting is encouraged.

That does not suggest, however, that private individuals/groups or civil-society actors would in any way be formally involved in decision-making processes.

The above observation receives additional backing from findings regarding the promotion of science and technology, and capacity building. While the relevant legislation addresses the need to promote/develop, document, and disseminate scientific discovery and advanced technologies (also by means of education and training), it remains noticeably silent on, traditional forest-related knowledge (TFRK) issues, such as indigenous silviculture systems.

Weakness of Chinese legislation towards to SFM

In a similar fashion, the tabular matrix enables an analysis of the 'gaps' (none, or very few references) or 'weaknesses ' (references which have been listed as contradictory to international standards/norms).

The assessment has thus far shown that active participation of non-state actors in forest-sector development and environmental management is recognized and encouraged in the examined legal documents. However, the level of participation is limited to the implementation of norms and plans, and does not extend to agenda-setting / decision-making processes (such as definition of strategic objectives, policy formulation). Furthermore, civil-society groups such as NGOs or community based organizations (CBO), who - in western societies - often act fairly independently as

'watchdogs' and outspoken critics of the state's actions and policies, do not play a similarly significant role. Where national Chinese NGOs exist, they have frequently evolved out of the structural framework of the State or Party, and are officially considered the government's 'partners for implementation'. This is why consultative processes and forums – which, for example, must be considered determining factors in the context of National Forest Programmes (NFP) – do not exist in China. Where far-reaching political, legal, economic, and social reforms have taken place in China over the past 15 to 20 years, they have not been the result of public demand, civil opposition or environmentalist initiatives, but have been initiated and shaped by the state's top-level institutions. There are basically non-institutionalised arrangements for public representation, or political participation *outside* the – decentralised – system of People's Congresses and People's Governments. Implementation of public plans, programmes and projects does not require, or depend on, the consent of the governed.

For this reason, one may hardly speak of a NFP-process (the core-instrument for implementing the IPF/IFF Proposals for Action) in China, despite the fact that most 'NFP-elements' (such as, for example, a National Forest Statement, Policy / Legal / Institutional Reform, Strategy Development, Investment Programmes, Action Plans, etc.) have been put in place.

The apparent lack of official recognition of TFRK and traditional forest management / land-use systems points in a similar direction. While on the one hand China attaches much emphasis to the protection of minority rights, and actively promotes the expression of their ethnic/cultural/religious identity, their traditional land-use practices are generally considered underdeveloped, primitive, and irreconcilable with the state's 'modern', science-based bureaucratic and technological environment. This becomes apparent from directions such as Article 22 of the "Regulations for the Implementation of the Forest Law", stipulating that:

> "Hillsides with a slope of over 25 degrees shall be used for planting trees and grass. Cultivated land on hillsides with a sloping field with a slope of over 25 degrees shall, in the light of the plan formulated by the local people's government, be withdrawn gradually from cultivation and be used for planting trees and grass".

However, hillside farming on terraced fields has been practiced by ethnic minorities for centuries without disastrous consequences, and may hardly be condemned *per se* as detrimental or unsustainable.

Despite various references to the forest resources' multiple ecological and socio-economic functions and benefits, the concept of multiple-use forestry has been found missing in the examined legal framework. The Chinese system of 'classified forest management' does in fact contradict multiple-use forest management (which is defined as the pursuit of multiple management objectives in one place, and at the same time). In comparison, the Chinese system of 'classified management' is noticeably rigid, as it

categorises forests permanently as shelter forests, timber forests, economic forests, firewood forests, and forests for special uses (national defence, environmental protection, and research). This means that at FMU-level, a single management objective is chosen, and adhered to throughout the planning cycle (which arrangement not only has serious implications in respect of poverty alleviation and rural development, but must also be considered prone to conflict).

Closely related to the difficulties associated with the 'classified management' system, is the apparent spatial / functional separation of management / utilisation and protection. Natural forests are generally earmarked for protection / species conservation. On the other hand, planted forests are designed and managed entirely for production purposes, which means that the concept of "protection through sustainable management and utilization" is not reflected in the Chinese legal framework for the forest sector.

Similarly rigid and state-driven is the legally prescribed way of determining sustainable harvesting levels (i.e. the 'annually allowable cut'- AAC). According to the forest law, the AAC is to be centrally determined (and subsequently endorsed by the state council) on the basis of a 'sampling system'. This means that sustainable harvesting levels are not determined individually at the level of individual Forest Management Units (FMU) as the result of careful inventory and management planning (in which case a 'national logging quota' would be determined ex-post, as the sum-total of individual planning results). In China, logging quota are extrapolated, either from reference data of a single state-owned 'enterprise, institution, farm, factory or mine' (in the case of state-owned forests), or from reference data of a county (in the case of forestry-collectives or private tree-owners). Once logging quotas have been determined at the level of provinces, autonomous regions, or municipalities directly under the central government, they need to be endorsed by the People's Government at the respective level of the executive, before they are submitted to the State Council for approval. Besides the system's obvious rigidity and its technical weaknesses, it also seriously curtails the capacity for decision-making and objective-setting of the individual forest farms and tree growers.

In a similar manner, national afforestation targets (as determined by the State Council), by virtue of Article 24 of the "Regulations for the Implementation of the Forest Law" are to be broken down and enforced by people's governments at the county-level within their respective jurisdiction. While coordinated afforestation efforts deserve much praise in countries with a forest cover as low as in China, the top-down approach stipulated in the "Regulations for the Implementation of the Forest Law" is hard to reconcile with the concept of bottom-up, integrated participatory rural development (which, according to the logical hierarchy of sustainable development, is closely related to sustainable forest management).

Whereas forest certification has only recently been introduced to China (and presently remains at an experimental stage), some national rules for environmental labelling and certification have already been developed. Dating from 1994, the "Measures on the

Certification Management of Products bearing Environmental Labels" are listed as 'on trial' in the national Chinese codex of environmental law (published by the State Environmental Protection Administration - SEPA - under State Council). However, while certification universally is considered a non-state, market-based instrument, the freedom of action for certifying bodies (such as, for example, the Forest Stewardship Council - FSC) is restricted considerably by the rules of the above mentioned 'measures'. This means that while applicants may voluntarily apply for certification, certifiers and certifying bodies must conform to state-specifications and are subject to state control. Article 13 even stipulates that the inspection of the applicant's business operations shall be done by a state-run inspection group under the directions and on behalf of the State Certification Committee's secretariat. It remains doubtful whether independent certification by an internationally well-established, non-governmental certifying body such as FSC would at all be possible under these circumstances. This would depend mainly on whether Chinese authorities interpret the "Measures on the Certification Management of Products bearing Environmental Labels" as applicable only to national Chinese labels, or as applying uniformly to all kinds of certification and labelling procedures.

While the rather detailed discussion of 'weaknesses' and 'gaps' might suggest that a lot of serious contradictions and incompatibilities exist between the examined Chinese legislation and international standards and guidelines for sustainable forest management, such a conclusion would nevertheless be exaggerated. A closer look at the 'weaknesses' and 'gaps' discussed reveals that Chinese rules do not actually contradict relevant international standards, but that those standards in China have been interpreted in a different way, and from a different view-point than that of many other countries.

Table 3-2 Assessment of the Chinese legal system vis-à-vis SFM.

Forest Principles
National sovereignty over non-destructive management, development and exploitation of (natural) forest resources (1a, 2a), • Non-harmful to neighbouring states (1a) • Appropriate protection of forests against abiotic and biotic (including man-made) risks (2b) ***FL1 / EL1,2 / DEP6(1)*** • National policy and legal frameworks for the protection of ecologically viable representative / unique examples of primary / old growth, cultural / spiritual / historical etc. forests of national importance (8f) *FL24 / EL17 / RNR* • National policies providing for EIA where actions taken within the national authority may have significant impacts on forest resources (8h) ***WR13 / EL13 / DEP3(1,2) / EMR$_{2,6,3,13,16,31}$a / $_{PEP}$ / PED3,10 / CFO*** • Access to biological / genetic resources must observe national sovereignty of countries of origin, and fair sharing of profits / technology transfer in respect of bio-technological production (8g)
The **concept of sustainability**, extending to **social, economic, ecological, cultural an**

Forest Principles
d spiritual needs of present at future generations, in an integrated and comprehensive manner (3c) ***EL4,19,22,23 / DEP(preamble) / PED$_{10}$ / RNR5,14*** • Recognition of multiple ecological / environmental benefits and uses of forests, specifically (4) o protection ***FL4(5),24 / WR$_3$,9 / EL17 / RNR2,10*** o Watershed / freshwater protection ***FL4(1) / DEP$_{2(1)}$*** o Biodiversity conservation ***FL4(5) / WR1 / DEP6(2)*** o Photosynthesis ***FL4(5)*** • Promotion of the conservation, sustainable management and use of natural forests as a source of goods and services (6e) • Promotion of planted forests and permanent agricultural crops as sustainable / environmentally sound sources of energy / raw material as well as a means of providing employment / development opportunities (6d) ***FL26,27 / FR22,24,25,26,27$_{CFI}$*** o because they help reduce pressure on remaining natural forests o with appropriate participation of local inhabitants ***FL11- / FR24-*** • Recognition and support of identity, culture and rights of indigenous peoples / communities, and forest dwellers in general, as incentives for SFM in national policy frameworks, specifically in respect of ***FL9*** o land tenure arrangements, in respect of (5a) ***FL3,27 / FR3,6,7,15 / WR4*** o economic stakes and activities ***FL7,$_{26}$,27 / FR4,5*** o social organization and well-being ***RNR5,14*** • Public / Multi-stakeholder participation in respect of planning, development and implementation of national forest policies (2d) • Recognition, documentation and integration of indigenous TFRK into national forest related programmes (12d), in respect of o Active collaboration o Financial support o Institutional support o Equitable benefit sharing • Active promotion of the full participation of women in all aspects of SFM (5b)
Promotion of SFM, based on / carried out in accordance with • National development policies, guidelines and priorities (8d) • Strategic / policy frameworks in support of SFM, including (3a) o Institutional strengthening o Programmes for SFM / SF-development o Recognition of relationships between sustainable forest development and production, consumption and disposal/recycling of forest products (6b) ***FL29-,30 / WRM*** o Comprehensive consideration of influencing factors outside the forest sector, as well as inter-sectoral approaches and solutions (9c) ***EL$_7$*** • Integration of policies for forest conservation and sustainable development with econ

Forest Principles
omic / trade policies (13d) ***PFI / CFI*** o Avoidance of fiscal, trade, industrial, transportation etc. policies, where these lead to forest degradation – provision of incentives for SFM (13e) ***FL8(2),38*** o Removal / avoidance of unilateral measures with restrict trade or contradict to relevant international obligations / agreements (14) ***WL40 / WR31*** • Integrated with adjacent land uses (8e) ***FR12(3) / EL22,23*** • Agreed international methodologies and criteria • Promotion of ecologically and socio-economically sound efforts to maintain / increase forest cover and forest productivity, (8b) ***FL5 / DEP6(1)*** o Through management of existing forests (8a) o National level action towards reforestation, afforestation and forest conservation (8a) ***FL1,5,11 / FR22,24,25,26*** o Through rehabilitation / reforestation of unproductive, degraded, deforested lands ***FL8(1),26,28*** • Addressing urban and rural poor dependent on forest resources, and providing alternative options (9b) • Promotion of controls / reductions against (airborne) pollutants responsible for forest degradation / endangering forest health (15) ***DEP1$_{(1,2)}$,2(2),4*** • Conversion of forest land only in accordance with strategic socio-economic development plans and land-use policies (2a) ***FL18,$_{23}$ / FR$_{16,17,18}$ / CL342*** • Deliberate promotion of fuel-wood as a renewable source of bio-energy (6a) specifically in developing countries, through ***FL4*** o SFM of all types of forests o Afforestation, reforestation o Recognition of the potential of plantations (indigenous and induced species) to supply industrial wood and fuel-wood ***FL4(4)*** • Provision of accurate, reliable and timely information as a basis for decision making and public awareness creation (2c) ***DEP10*** o Appropriate valuation of forest resources and assessment of costs and benefits related to forest products and services - supported through development / improvement of valuation methods – as a basis for planning and decision-making (6c) o Promotion of multi-factorial, comprehensive scientific research, forest inventories and assessments, including research in respect of / development of sustainably harvested NWFP (12a) ***FL6,14 / WR5,11 / DEP$_{9(1)}$ / $_{MPT}$*** o Strengthening of inter-disciplinary institutional capacities in science, technology, education and training (12b) ***WR6 / EL6 / DEP9,10 / MPT***

IPF/IFF – PfA

National Forest Programmes such as planning and implementation frameworks for SFM
• Integration of conservation and sustainable use of forest resources and values ***EL*$_{19}$/ *DEP*$_{6(1)}$**
• Holistic
• In accordance with the national/sub-national policy framework (policy coherence)
• Multi-stakeholder participation in decision making and implementation
• Building on international expertise
• Monitoring and evaluation, reporting – using C&I in support of SFM
• High priority for SFM/rehabilitation of forests in environmentally critical areas
• Implementation of IPF/IFF Proposals for Action
  o Participatory assessment and prioritisation of the PfA
  o Coordinated, integrated, participatory approach for the implementation of the PfA, in accord with other international instruments (policy coherence) ***EL*$_{4,8,19,22,23}$**
  o Report on assessment and implementation of PfA

Development of a political/legal framework conducive to SFM
• Combination of legislation, economic instruments and tax policies in support of SFM ***DEP*$_{7}$**
• Development and implementation of integrated policies, strategies, economic instruments and mechanisms addressing deforestation and forest degradation ***EL*$_{22,23}$/ *DEP6,*$_{7}$**
• Development of policies and mechanisms in support of the access and secure tenure of local communities / indigenous peoples in support of SFM ***FL27 / FR3,*$_{4,5}$*,6,7,15/ WR4***
  o Multi-stakeholder participation (indigenous peoples, forest owners, women, local communities) in decision making ***FL*$_{9}$**
  o Development of national policies/legislation to respect, maintain, protect and apply TFRK (including intellectual property rights)
  o Development and implementation of policies and mechanisms to support traditional resource use systems
  o Development and implementation of policies and mechanisms to support equitable benefit sharing with local communities/indigenous peoples, including benefits from the use of genetic resources ***FL27,32***
• Development of codes of conduct to encourage private sector activities in support of SFM
• Development and implementation of policies (public and private sector) to meet increasing demand for forest products and services through SFM (including fuel-wood/wood energy) ***FL8(3) / CFI***
• Promoting linkages between policy formulation and science/research ***DEP9(1) /*** $_{MPT}$

Involvement of countries in international programs • Support to forest related work of international and regional organizations on the implementation of the outcomes of UNCED and the IPF/IFF process

IPF/IFF – PfA
○ Under relevant international instruments ***FL38 / WL40 / WR31 / EL46*** ○ Promoting the forest policy dialogue ○ Promoting inter-agency cooperation ○ Promoting clarification of the forest-related roles of international institutions and instruments to improve integration and coordination and eliminate duplication of their efforts ○ Promoting international cooperation in respect of long-range air-pollution • Strengthening of national arrangements providing guidance for multi-lateral organizations ○ Support to the international development of global guidelines for consistent national interpretation and implementation of IUCN categories of protected areas • Facilitation of work under CBD and other relevant organizations, to recognize, respect, protect, maintain TFRK, including application of intellectual property rights • Contribution of national data to the FAO Global Forest Resource Assessments • Contribution to a global and regional assessment of protected forest areas ○ Comprehensive, ○ Current status ○ Promotion of bio-geographically balanced protected area networks ***WR_{11} / $MN_{4,5}$ / RNR4,10(1)***
Information and Knowledge Management in support of SFM • Establishment of information/data collection mechanisms in support of SFM ○ Forest resource assessments ***FL14 / FR_{10},11 / EL11,12*** ○ Statistics on forest products and services ▪ Demand and supply ▪ Prices ▪ substitutes ○ Valuation of forest products and services ▪ Analysis of full life-cycle costs and benefits (incl. environmental impacts) of forest products and their substitutes ○ Assessment of environmental and social impacts associated with forest uses/their change ***EL_{13} / $DEP_{3(1)}$ / EMRa / CDE2(1a,b,d,e),3(1,2)AppendixBatch1/ PED10*** ○ Stakeholder consultations on forest goods and services and other forest-related information ○ Analysis of historical and present causes of deforestation/forest degradation ▪ Pollution (incl. trans-boundary) ***EL_{14},10 / DEP1(2),9*** ▪ Poverty ▪ Forest uses (e.g. fuel-wood collection) ▪ Factors outside the forest sector • Awareness creation about ***WR_6*** ○ Deforestation/forest degradation ***DEP_{10}*** ○ Multiple values of forests ***RNR_{29}*** • Forest Research and Development FL6 / WL4 / FR19,20 / WR5

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- Identification/prioritisation of research needs
  - Promotion of research into rehabilitation and extension of dryland-forests
  - Traditional forest related knowledge (participatory)
  - Increasing sustainable use of lesser-used species
- Promotion of conducive framework conditions for research (policy formulation, programme and strategy development, coordination)
- Capacity building
  - Provision of resources
  - Promotion of public/private sector cooperation
  - Institutional strengthening
  - Networking, involvement of all relevant parties
  - Improvement of accessibility of research and information systems $_{MPT}$
  - Coordination of planning, implementation, monitoring and evaluation of forestry research
  - Coordination of/collaboration with indigenous peoples for the documentation, analysis and promotion/application of TFRK
- Development, implementation, testing and promotion of C&I for SFM, including
  - TFRK
  - Air pollution ***EL$_{16,28}$ / DEP1(1,2,4),3(1,2)/ PED$_{25,30}$/ $_{MMS}$***
  - Coordination and harmonization of associated concepts and definitions
- Promotion of research in respect of forest inventory, monitoring and valuation tools, including the assessment of costs and benefits of SFM
  - Promotion of methods for the full cost internalisation of forest products/their substitutes
  - Dissemination of related information
- Promotion of dissemination of TFRK and its inclusion in management training and extension

Forest Protection and Conservation

- Representative protection and conservation of the full range of forest values on an ecosystem basis (ecosystem approach) ***FL24 / WR9 / EL17 / RNR2,10***
  - Development and implementation of planning and management strategies ***EL4,12 / PED3,10 / RNR4,14 / NCP***
  - Development and implementation of participatory protected area planning and management, involving forest owners, private sector, indigenous peoples, local communities ***FL19,$_{24}$ / MN7,$_{11}$,12(1,2-),14-,15/ RNR5,$_{7,8}$,14***
  - Enhancement of donor-coordination in support of cross-sectoral policies for forest conservation
  - Development and implementation of methodologies and criteria to evaluate the effectiveness of protection and protected area management ***WR$_{12}$ / EL9,11,14/ RNR$_{22(3)}$***
  - Establishment of joint protected areas / guidelines for collaborative management of unique trans-boundary forests
  - Development and implementation of strategies in respect of forests in environment

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ally critical areas ▪ Analysis of trends in dryland-forests (biophysical, socio-economic, institutional factors) ▪ Integrated and coordinated action in respect of dryland-forests at all levels ▪ Development of partnerships/participatory arrangements (including traditional land uses) in support of SFM/rehabilitation of dryland-forests ▪ Enhanced cooperation and coordination of activities (including data collection and analysis) ▪ Awareness raising and dissemination of information on the multiple contributions of planted and natural forests in SFM/rehabilitation of forests in environmentally critical areas ***FR24,$_{26}$ / RNR$_{29}$*** o Issues related to Airborne Pollution ▪ Promotion of national assessment and monitoring ***EL14,27 / DEP1(1,2),$_{2(1)}$,3(1,2) / MMS3,7(2,3),17,18*** ▪ Application of a preventative approach ***EL14,24,25,26,$_{28}$,$_{29}$,30,$_{32}$,33,$_{34}$ / DEP4,7,$_{9,10}$/ PED27,28,29,30,31 / MMS3*** • Promotion of plantation forestry, in order to reduce pressure on natural forests • Specific action required of countries with low forest cover o Specific analysis of socio-economic and environmental implications, costs and benefits of non-wood substitutes and imports of forest products ***FL8($_3$)*** o Reforestation, afforestation, conservation ***FL11,26*** ▪ Using native species ▪ Regeneration of degraded forests ***FL$_{28}$*** ▪ Management of plantations ***FL27*** • To boost supply of forest goods and services • In consideration of social, cultural, economic and environmental aspects in the selection of species, areas and silvicultural systems ▪ Expansion of protected areas ***FL24 / WR11 / MN5,6,$_7$ / RNR1,4,10***
Trade and environment in relation to forest products and services • Measures to improve market access for forest goods and services o Reduction of tariff and non-tariff barriers in accordance with existing international obligations o Improvement of market transparency o Implementation of policies to facilitate trade in forest products from sustainably managed forests ▪ Promotion of voluntary certification and labelling schemes ***MCM1,3,4,5-,9-,13-*** • Support of accessibility, credibility, equivalence, cost-effectiveness, transparency, participatory concepts ▪ Analysis of their linkages with C&I systems ▪ Information exchange o Implementation of policies to promote sustainable use of all economically viable lesser-used species in domestic and international markets ***FL$_{8(3)}$*** • Measures to counter illegal trade in forest products ***FL38,42,43 / WL22,23,24,35,36,***

IPF/IFF – PfA
37 / FR34,35,36,37,40,44 / WR18,19,20,21,24,25,27 / CL155(2),345

CHAPTER 4

Changes in Tenure, and Conflict before the Recent Rural Reforms

This chapter is divided into three parts. The first provides a series of historical vignettes of the history of forest areas in China and especially of the Xiaolongshan forestry region. Much of this is built upon reflections of past events and patterns of social and economic change provided by official documents and as recalled by a number of elderly informants of the region. The historical account starts with the creation of the People's Republic of China and the early 1950 reforms. It maps out the shifts in policy and economy during the periods of collectivization of agricultural production and the household responsibility system, leading to the 'opening up' of China in the 1980 and 1990s and the impact of the changing relations between the state and the increasingly commercialized market economy. Changes in forestry policy and practice are the focus of this first part.

The second part delves into the details of the administrative structures affecting forest management and development. Here I explore how the State Forestry Administration System, the SFA, intersects and may conflict with county and local level government institutions and practice. This discussion leads into the examination of a series of case illustrations to trace the types of conflict and negotiation that occur at particular junctures.

The chapter concludes with an appraisal of the present-day sets of socio-political and economic relations surrounding forest management and access. At this point we come to understand the contradictory outcomes of forest use and development.

Reconstructing forest history in the Estuarine Village

The perspective of two elderly residents of the Estuarine Village

Lao (old) Jia is 75 years old. Before 1950, his family was one of the richest in the village, with a whole 'mountain' of forest of about 120 hectares opposite the river, and around 10 ha of farm land, one third of the arable land of Estuarine natural village. At that time there were six members in his family, one of the largest in the village. His main income was from renting out his lands. The forest had been passed down from his ancestors. After the 1952 Land Reform, it became public property. Families were categorized as poor, middle, and better-off peasants and landlords according to the proportion of each family member's income in respect to total income. Jia's family was

categorized as part of the landlord group. His land was expropriated and divided among the families in the village. Now, he lives alone. His wife passed away decades ago. He has two daughters who married and live separately. Traced back, Estuarine Village started from five families, including Jia's ancestor. He did not know where his forefathers came from, but his family had been living in the village for over 10 generations. They had pedigree, but lost it in the Cultural Revolution.

Lao Wang is over 60 years old. He has one son living in the village. Before 1949, he possessed a whole 'mountain' of forests at the back of the village amounting to about 30 ha. He also had several Mu of farmland and was regarded as a middle farmer in the Land Reform. Now, he lives with his son. His wife passed away about ten years ago.

We met Lao Wang and Lao Jia in the centre of Estuarine Village under a tree. The following is recorded from their story about the forests at Estuarine Village.

Before 1950, all the forests were privately owned and all the mountains belonged to villagers except forests on a hill lying to the west of the village. The mountains could be sold at that time. Usually it was only those villagers who were addicted to drugs who would sell their forests when they had spent all their money. At that time the mountains were not valuable, but the black sheep[1] of the family would nevertheless sell their land and forests. Wood markets did not exist and nobody sold wood at that time. Broad leaf trees such as oaks were collected for firewood, as people here thought pine and cypress trees were too smoky and hard to burn.

There had been a Buddhist temple in the village, but it collapsed from neglect in 1957 or 1958. Every lunar calendar year on September 9th, all the villagers had gathered in the temple and played the sheepskin drums (a traditional musical instrument), which was a most important collective activity. Since the temple itself could not make a profit, the villagers had always made it a donation. After its collapse, the villagers abandoned this religious event. Now, none of the younger members of the village can play the sheepskin drum and none has been bequeathed to the village.

During the Land Reform, an implementation team arrived to organize a farmer association among the villagers, and to elect a leader who had not to be the relative of any landlord or rich farmer. In 1952, there were over 370 people in Estuarine Administrative Village. Most of them lived in Estuarine Natural Village or hamlet, with between 70-80 families, which were later divided into two production groups or teams, Jiangxi and Jiangdong production teams. Later it expanded at a rate of more than 20 new born babies each year. During the Land Reform, the mountains became collectively-owned. No individual owned the forests, and nobody took care of them. There were no sales of timber.

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[1] It is a very traditional view. One who sold off property passed on from ancestors would be considered a black sheep.

In 1958, during the steel-making period, all the male villagers went to work in the steel mills, leaving the women, children and the sick behind. They worked in Jialing Township of Stamp County, 50km away from Estuarine Village. There were 30,000 people participating in the steel-making project. Old Wang also took part and he worked from August of the lunar calendar till February of the next year without going home, not even for the Spring Festival. Together with his team members, old Wang cut the trees to burn coke and they ate their meals together. Old Jia suffered from a tumor so he did not attend. He said: 'Now when I recall this, I think it was such a pity to cut the big walnut trees simply to burn them.'

1960 to 1961 were very hard times since they received only a fixed amount of food. Old Jia said, 'A lot of people starved to death. We even dug out the wild vegetables to eat. Nobody ate wild animals, not because we did not want to, but because we did not have the energy to chase and hunt them.' In the past it was a common occurrence to hear of people being hurt by wild animals, such as wolves, but now they have all disappeared.

From 1958 to 1961, Estuarine Village began to make saltpeter, so this time they cut down all the forests previously belonging to the temples. It was virgin forest with very large conifer trees. The temple-owned forests were near the village and nobody took care of them.

In the 1960s and 1970s, they planted paddies near the river, so they needed to cut the trees to set up a dam for lifting up the water table for irrigation. And each year they had to repair the dam seven or eight times for one season of rice. Later they cut trees on the hill on the other side of the river.

During the 1950s and 1960s, they were all very poor and villagers seldom repaired their houses. If they wanted to build houses, they had to make an application to cut trees. With the support of the village and the approval of the township government, they could get 1 m^3 of wood for each room.

Around 1966, they needed to get the approval of Elm Forestry Farm for building houses. The village is very far from the farm offices. It would take one-day's walk to get there and two days to return. They usually took food with them and stayed at a small hotel, costing two Yuan a night. Older Wang said, "we had to get approval otherwise we would be fined if any villager reported it." 1 m^3 would cost six Yuan, which was equivalent to the cost of 37 kg of wheat at that time. But they did not need to get approval for public use such as when wishing to cut trees for building and repairing the dam. The rules were strictly applied to villagers but were violated in the interests of the community. Nobody questioned the unreasonableness of the policy.

At the beginning of the 1980s, the 'Three fixes'[2] policy was launched, which will be explained in detail later. Some of the state-owned forests were given over to production team ownership. But this was done in an ad hoc fashion, merely distinguishing what belonged to the state and what belonged to the collectivity, without determining clear boundaries.

In 1985, the government began to open up unused barren or waste land. Here there was no need to apply for formal permission to cut timber as long as villagers paid over a logging charge. After the 'Three fixes' forest policy, they did not need to obtain approval for building houses. They were able to cut collectively-owned trees for this purpose and the money would be paid to the administrative village authorities and nobody would interfere. The state-owned forestry farm covered a large area so everyone cut trees from its forests, whenever and wherever they wished.

Two older citizens said that forests were better managed when they were privately owned. "In the past each family cared for its own forests and they were very responsible. 'But in the community, everybody seemed to take charge of them, while no-one actually cared for them. If somebody looked after them, it would offend others and nobody liked to do this. Rules and regulations were always needed if the forests were to be managed by the community."

The two older men said that "so far, life at the present time is the best! The economy has developed quickly. We can enjoy freedom in speech and action'. Regarding the difficulty of forest management, they both stressed that 'It is very easy to manage them now. Fewer people build houses and the young generation are now grown up and have left for work outside. Some families now have an empty house.'

Interview with Wang, Party Secretary of Estuarine Village

The collectively-owned forests were managed by the heads of natural villages/ production teams. These heads used to receive between 60 to 80 Yuan a year between the late 1990s and the year 2002.

Between 1973 and 1984, 60% of the white bark pine trees were cut, mainly for house building. Secretary Wang said he harvested 300 trees for building five rooms for his family. At that time, it was common that villagers claimed they used they used up to 250 trees for constructing one house for substantial purpose, and nobody checked the truth of this. Those people who had relations with the forestry farm might harvest 3-5,000 trees named for the purpose of house construction. They would then sell some of this in order to cover the various other costs of building.

From 1984, people began to protect the pine trees, but there was only a ban on white bark pine and cypress. After the introduction of the NFPP, over 10 species of trees,

[2] Fix forest ownership, Fix private ownership of mountains, Fix responsibility for forest management.

such as the alder and oaks and more, were also included in the ban on cutting. Hence, nowadays the white bark pine grows much better than before.

The History of Forests in Yaozhuang village

Yaozhuang village is located in the upper reaches of the Yongning River, which runs through Willow Township. Estuarine village is also located along the Yongning River between the township headquarters and Yaozhuang village headquarters.

At the house of the Yaozhuang village party secretary, we met a number of villagers' committee members. Li, the village head, Gao, amanuensis, and Zhou, party secretary, and we sat together to talk about the history of their village forests.

Profile of Yaozhuang village

The administrative village of Yaozhuang spans 10 km from east to west, which takes four hours to walk. From north to south, it covers 20km and takes six hours of difficult walking. In 1950, there were 200 people in the village. Nowadays there are 92 families and 446 people. It is divided into five natural village areas, and 16 residential locations, with six hour's walking distance between the two farthest residential sites.

In 1981, when the village implemented the Household Responsibility System, there were 200 hectares of arable land, including 30 hectares of good flat land and land on the hill slopes. In 1991 and 1992 villagers began to open up the unused land, but these were not in virgin forest areas. The secretary said, 'Here we have plenty of land, with few people. Some of the land was located 5 km from the village/residential areas. So this land was not farmed and was taken over by natural vegetation when it was allocated to individual households in 1981. Now the trees have grown up to a diameter of more than 20cm'.

History of the village and population changes

Yaozhuang came into being after the Qin Dynasty. The earliest families like Li and Wei have lived there for more than 10 generations. Family Chen has lived there for six generations, having migrated from the place named 'Dahuaishu' in Sichuan Province, but nobody knew where Dahuaishu was exactly. Up to 1949, there were 10 extended families in the village amounting to some 150 people. They included the Hu (30 people), the Li (30 people), the Wei (20 people), and the Chen families (10 people), all the rest were cottiers, or tenants. The villagers had to go to Yongning for shopping, about 25km away. It was a five-hour walk. Rich families lived in tiled houses and the poor in thatched houses.

Between 1962 and 1963, the population rose dramatically to 500. This was mostly due to immigrants from Xihe, WeiYuan and Lixian Counties of Gansu Province. More than 100 people moved from Xihe County, but then in the 1970s most of them migrated out.

Today there are 13 cottier families from various places with 50 or 60 people settled permanently.

In 1980, the population of the village reached its highest point of about 550. After the implementation of the Household Responsibility System, four to five families moved in from Lixian County[3]. The common practice was that one member of the family would come first to use the former landlords' land without paying rent, only pay the agricultural tax, and he would probably work there for about two years until he was able to build a simple house, at which point the whole family would move. If the immigrant had better choices or felt uncomfortable being there, he would move on. Then newcomers would live in the abandoned house, pay rent and work the land. If the former tenants agreed, the village cadres would then transfer the title to the new immigrant, who would pay the agriculture tax according to his area of land directly to the collective, and then he and his family would be officially registered in the village, sharing equal rights and responsibilities as any other village member.

In 2003, the population of the village dropped to 446, mainly caused by the reduction of population in Tongzhong and Guanyinsi natural villages because of inconvenient transportation and poor water due to a lack of iodine. Because of this, some villagers moved to other areas of the administrative village or joined other administrative villages.

An older inhabitant, father of the party secretary, said "this village could always supply itself in terms of food. Whenever the population increased, they went to find a hill, burned it and made it into farm land".

Changes in forest rights

Within the boundaries of the administrative village there are about 15,000 hectares of forest. Before 1949, when they were owned by the four biggest families, the forests flourished. They took good care of them so that there was plenty of wild life, bears, boars, leopards, goats, elks, urchins, jackals and so on. In the 1950s, during the commune period, the private forests became collectively owned until 1964 when Elm Forestry Farm was created and the collectively-owned forests then became state-owned. In 1982, the forest 'Three fixes' policy was implemented, whereby five pieces of forest, about 160 hectares in total, were given to the five natural villages as collectively-owned forests.

After the implementation of the Household Responsibility System in 1981, some individual farmers contracted slope land and land difficult to access and gave up farming in favor of forests. In 1999, the 'Conversion of Farmland into Forest' program was implemented in the village and to date 150 hectares of farmland have been converted.

[3] It is about 300 km away.

Forest management

After collectivization, the state forests of the village continued to be administered by the collective. Collective rules continued to function, and until the 1980s, the villagers had to get the approval of Wang Wangcai for cutting trees for house construction. He was nominated by Willow Township officials and paid by Elm Forestry Farm to promote forestry policy and collect fees from forest users. Around 1984, house building in the village reached a summit. Building four rooms needed about 10 m^3 and villagers had to pay 170 Yuan (value of about a half a ton of wheat at that time).

In 1990, a wood checkpoint was set up by Elm Forestry Farm in Willow Township, so that the villagers no longer had to look after the forest. As one villager said, "if we found people from other villages cutting trees in the forest, we couldn't stop them. We would be regarded as meddlers and would be told they were cutting state owned forests."

After 2000, state forest policy became stricter. In 2002, the state farm assigned three staff members to look after the village forests. The secretary said, "Our village covers a large area, and we have more than 100 catchments. Farm staff come from far away and are not familiar with the names of these catchments. When villagers report someone cutting trees somewhere, without the help of the villagers, the staff were unable to locate the place." Cadres in the village stressed that if they funded the villagers' committee one third of the cost of these three staff members, the forests would certainly be managed well.[4]

Forest destruction

Before 1980, generally speaking, the forests were seldom destroyed, despite some cutting. In 1966, Willow Township village[5] began to build a water pump-house, so they needed big trees to block the river for irrigation, thus they cut trees for three years and destroyed some forest area. Apart from this, no other destruction occurred. The ruin of the forests began in the 1980s. First it was because a large number of villagers built houses when their economic conditions improved with the implementation of the Household Responsibility System. In the 1980s almost all the villagers built new houses and they cut about ten thousand m^3 of wood from the forest. The most popular trees for building houses are pine and cypress trees.

70% of the village's forests were destroyed in the 1990s, when the road connecting the village was completed, leading to the sale of timber. The secretary said, "There was a

[4] The secretary complained that due to the low population in his village compared to other villages the subsidy for the leader was also less. So they wanted their subsidies to be raised through participating in the protection of natural forests.

[5] Both Willow Township and Yaozhuang are located beside the river; Willow Townshipis in the downstream area. They usually use the river to transport wood.

mess in the 1990s, so many people from other administrative villages came to our village to cut trees and it was hard to protect the forests. So we followed suit. The logs harvested from forests were mainly for sale." He said frankly that he had also cut trees to sell to people from other villages for building houses and that "at that time, a rafter of 7-8cm diameter and four meters in length would cost 2 to 3 Yuan. Now, it can reach 12 to 13 Yuan."

When the NFPP was implemented, logging was banned. A villager with the family name of Wei was jailed for 13 months when he cut a tract of woodland (all together 22 trees) for a villager from Miaoping village.[6] It was discovered by staff of the Supreme Forestry Protection Station where these logs were shipped out, and Wei was put in jail. Another case happened in a nearby village. A farmer lost control of the fire caused by slash and burn farming in 2000. Tens of hectares of forests were destroyed. This caught the attention of high level officials from the Xiaolongshan Forestry Trial Bureau and from Stamp County, and as a result all the households in this village were fined 800 to 2,000 Yuan for illegally destroying forest. The third case was from Yaozhuang village. A villager accused another villager of something illegal and he was seized. But later it was found to be because of a disagreement between them, and the accused was innocent. The secretary said, "He had to return on foot from the police station which was 50 km from his village even though his detention was actually illegal." These cases frightened the villagers and since 2000 there has been no case of illegal tree harvesting.

Now, the government has dispatched documents to the effect that if villagers are seized by forestry staff, the village leaders will be held responsible. The villagers find now that it is very risky to move anything on the hill and thus the destruction of forest has stopped.

From private to collective ownership

In order to understand the changes in forest tenure and forestry management regimes, we must examine the history of land tenure, forestry management practice, and related policy practices in the field.

Before liberation

Before the foundation of the People's Republic of China, during the long feudal period,[7] the forests of Stamp County were mostly privately owned. In 1912, the government put forward 'Forest Authorization and Regulations' which stated that all forests must be given to the people except for those already belonging to the state. In 1914, the 'Forest Law' ruled that forests without owners would all be regarded as state-owned. In Stamp County, most of the forests belonged to the landlords and rich

[6] 4 km away from Yaozhuang village

[7] The feudal history of Stamp County lasted for more than 2,000 years.

farmers, except for those in high mountain areas, and a small proportion of temple-owned forests, *Fengshuilin* (holy forests), and some family forests.

From self-help group to cooperative

1951 was a year in Stamp County for promoting self-help groups among rural farmers, under the principle of voluntary organization, with exchange of labor among members. Stamp County records show that among 692 natural villages, grouped into 172 administrative villages, 1,298 self-help groups were set up with 18,965 male laborers (estimated about 25% in total) and 1,505 female laborers. Female farmers were encouraged to go out to farm and join the self-help group, induced by a slogan 'work is glorious'. Until mid-1955, about 70% of households were in self-help groups and cooperatives, which were beginning to be promoted. A record from the county archives of a meeting of June 5, 1955 for No. 1 District of the 7 Districts of Stamp County, reads:

> *About 70% of households in total, numbering 3506 households have been self organized, including 131 fixed self-help groups participated in by 1117 households, and 230 seasonal and temporary self-help groups participated in by 1532 households, 24 farmer cooperatives participated in by 357 households. From December 1954, the number of farmer cooperatives increased by seven with an increment of 124 households.*

This record criticized the *Ganbu* (leaders or officials) for "emphasizing too much the establishment of cooperatives and neglecting to promote self-help groups", and less responsibility and accountability for working with farmers. A case selected from the record of the meeting told a story about Sunjiabian hamlet: "12 households out of 16 are rural farmers, and are not yet organized into self-help groups. At the end of 1954, with intensive mobilization and education, the farmers were forced to form a self-help group but it collapsed three days after establishment. Officers returned to the village and called a farmers' meeting and said that 'tonight's meeting will be over only after a self-help group has been established'". Of course, after the *ganbu* left, the self-help group collapsed again.

1955 shows a focus on cooperatives. An official document titled 'suggestions for rural cooperative development and agriculture development' clearly defined a plan for promoting rural cooperatives with a movement from central government called 'reconstructing the rural to socialism': "there were 38,174 households in Stamp County and by the end of 1955, 10.5% had been grouped into cooperatives. By the end of 1956, 1957 and 1958 respectively, households in cooperatives numbered 53.8%, 84%, and 91.8%."

Forest policy practices in the years 1950-1956

I carefully examined official records but found no evidence in the years 1950-1956 of any shift in the ownership of private forests. The official historical records show that farm land and livestock were most important at that time and that forests were neglected. However, in 1950 in Stamp County, a new Forestry Act was enforced, which read:

> *"It is essential first to protect forests for conserving water and preventing soil erosion. Fire in the forests and denuding of forests are prohibited. Places for fuel wood collection and grazing must be clearly defined in particular regions. Village regulation of forest protection is encouraged. Individual farmers are welcomed to plant trees in common barren hills and will receive ownership titles after planting. Clearing forests in hills for farming is prohibited and terrace practices are encouraged on existing slope farmland".*

In 1951, the Stamp County government stated "there has been a massive movement for afforestation under the slogan 'everybody plants a tree'", and asserted that "in forest regions, village regulations for forest protection have been generally adopted, and 24 forest protection associations with 215 members have been established". The Stamp County forestry administration station, subordinated to the Stamp County government was established with four staff.

After 1952, access to forests was restricted. However, official documents reminded *ganbu* that they "should take care of rural people's livelihoods with a special policy for free logging for self subsistence with approval, planned fuel wood collection and grazing". Private forests could be harvested with no restriction but leaving 900 middle-aged live trees per hectare after logging for sustainable use was encouraged. Households which made charcoal had to register and sign contracts with the county forestry administration or district government (a level between township and county, which was cancelled during the commune period). Households that intended to collect non timber forest products (NTFPs), such as tree saplings, mushrooms and bamboo cane, had to report to the township forest protection authority and get approval with endorsement from the community forest protection group.

In 1953, Gansu Provincial Agriculture and Forestry Department enacted a provision for "forest fire prevention, and maintaining closure". Official documents said: "due to poor enforcement or ill implementation of the policy, the masses have worried about and misunderstood this policy: "forest protection equals mountain closure, and mountain closure equals no access to forests". To encourage this policy the county forestry administration suggested approaches such as: 1) mass publicity for the objectives of the policy regarding mountain closure, and patient explanation and discussion with rural farmers; 2) making social surveys through individual interviewing and small group farmer meetings to understand village situations, to gather opinions, and identify

backbone farmers for implementing the policy; 3) calling farmer meetings for discussion. The decision of whether or not to participate in mountain closure lies with farmer meetings for community forestry, and meetings with owners for private forests. Compulsory closure was prohibited. Village rules regarding forests, closure periods for a particular piece of forest, periods for grazing and fuel collection were all to be decided at farmer meetings in the village. The official report revealed that due to fear of discontentment among private owners, championship for mountain closure focused on community forests. However, in fact, the majority of forests applying for closure were privately owned.

The official reports reveal problems in 1953 waiting to happen. For example, forests were greatly destroyed, in particular private forests, for three reasons. Firstly, although advocating clear policy that private owners had authority to benefit from their forests, they worried about their security of tenure and destroyed their forests for cash. Secondly, there was a great demand for logs between competitors at the beginning of the log harvest season, which led to oversupply at the end of the season, and lastly decline through poor harvests caused by natural calamities. A story told is of an old family head waiting for cash to buy food for his family, who heard of a company collecting logs in a township ten km away. He then carried stored logs from his yard to the town, but was told that the company only collected newly harvested logs. So he returned and mobilized his family to log oaks in the hills. This time, he was told the company collected pine only. Again he returned and this time harvested pines, and the old man was told that his pines did not fit the standard the company wished to collect. In this way the forests were destroyed.

Starting in 1953, upper level authorities ordered planting tasks to be carried out, which have continued to the present as a major task for county forestry authorities. Unfortunately, Stamp County did not fulfill the assignment set, although the county made great efforts to do so. It was asked to plant 4000 Mu, but only 1,246.4 Mu (30.9% of the amount assigned) was planted in 1954. Of this, 524.9 Mu was planted by the private sector, 687 Mu by private and public shareholding arrangement, and only 34.5 Mu of land owned by the state.

However, mass destruction of the forests was even more severe in 1955, and fulfilling the assigned planting left more headaches. Due to the start of railway construction from Baoji to Chengdu, which passed through the mountainous regions in Stamp County, the demand for logs and wood for fuel soared. An official report reveals the case of Jialing Township signing a contract with a railway construction company to supply 6000 logs of cypress of over 60 cm diameter without permission. Another case told how Mr. Zhang from Anhui Province, 1300 km away, signed a contract to supply 330 tonnes of charcoal to the railway company. This was the first case I found in the historical records of people from outside the county being involved in destroying forests. The survival rate for trees planted was shown to be extremely low, with given causes: 1) poor understanding of the policy “those who plant, are those who own”, along with recognition of planting for the public as fulfilling a task assigned by the

government; 2) no tending after planting and inappropriate sites for trees planted; 3) degradation by grazing; 4) farmers had an unclear understanding of forestry policy with ubiquitous worries about what would happen to their private forests after joining cooperatives. Finally, the report recommended a solution for tackling the mass destruction of forests:

> *"The key mode for improving survival rates for plantation is to implement well the policy of 'who plants, who owns" and a fair and rational benefit safeguard system".*

The report recommended three models for promoting this: 1) people giving labor for planting could come from collective income from farming, with close accounting among members annually; 2) converting labor for planting to a share of the plantation; and 3) clearly defining it as the common property of farmer cooperatives.

From cooperatives to communes

Very little information is available in the official records for this period. It is hard to say how and when private properties were turned into communes in Yaozhuang. The earliest official document shows it was between December 1958 and mid-1959 that the commune started. It seems there was no transition period from cooperatives to commune in Stamp County. All developments associated with the macro political and economic situation in the country gradually became more aggressive, with top down edicts such as advancing the "Great Leap Forward" movement, advocating that within a few years, production of iron and steel targets should exceed those of the UK, then the USA, and stressing the great movement to become communes instead of cooperatives. From 1958, the official documents no longer state that private properties are to be protected. Very few cases are quoted of farmers who were against these measures and were forced into communes. One reads only of all the good cases - which great progress was being made in terms of grain and timber production. As a result, farmers lost their private property, whether farming land or forest. I did not find any evidence to show how many privately owned forests were taken, although from sentences in the official documents I gathered it was a great percentage.

Forestry policy practices during 1957-1963

This period was chaos in China. Stamp County was no exception, although it lies in the hinterland in a mountainous region. The county merged with a neighboring county and became Chenxian, and then Huicheng in mid-1958.

Starting from 1957, based on the timber regulation enacted by Gansu Province, only the County Timber Collection and Supply Company was authorized to collect timber. This company had responsibility to collect timber based on the need of consumers, to assist rural farmers to conduct rational and scientific logging, and ensure forest protection. The company had to collect timber on a contract basis, from remote

mountains hardly accessible to the transportation system. By mid-1957, staff employed in the forestry sector in Huicheng had increased to 42, with a forest management station, five district forest working stations and four state-owned nurseries.

However, an official document strongly acknowledges the great failure of forest work in the first half of 1957, with seedling production, forest tendering, maintaining closure, and planting respectively achieving only 15%, 26%, 4.4% and 49% of assigned targets. The report criticizes the leadership of the counties, the staff working in forestry sectors, as well as low level government authorities for the failure of forest protection. It states

> *"In the first half year of 1957, the number of trees destroyed by forest fires increased eightfold compared to the previous year; 90% of charcoal sold at the fair was made from oak trees with large diameter trunks, of which 70% was made from red oak, a high quality timber."*

About 23,000 tons of wood estimated went for making charcoal. A few collection units were continuing to collect wood in forest regions, competing with the County Timber Collection and Supply Company. It was estimated that some sorts of timber products increased with 'the Great Leap Forward', for example, shoulder pole production increased 160 times as compared to the previous year.

This messy situation led to the large-scale cutting of forests. The majority of forestry *ganbu* in the county were assigned to Yushu District, but even so, the destruction of forests there was the most severe with the highest frequency of forest fires (next section for details). The official report concludes by suggesting the following measures:

> *"A large campaign meeting will be organized in the next half year; 1500 Yuan (at that time equivalent to about 25 tons of wheat) will be allocated for the upper level authority; a Stamp County Forestry Working Committee will be established to counter the complaints from upper level authorities about the failure of performance of Stamp County forestry; a hierarchical forestry administration system will be established with a working committee in each township, a forest protection committee in administrative villages, and a protection team in production teams; clearly defined boundaries between private and public forests with differential management methods; firm and unified timber protection rules and, except for the Stamp County Timber Collection and Supply Company, no company will be allowed to collect timber without permission".*

The report stated that the collection of forest products such as mushrooms, hunting, harvesting bamboo, dead stock for home purposes and wood fuel would not be subject to restriction, and these would no longer be issues dealt with by the forestry authorities. However, charcoal making, shoulder poles for commercial purposes, and mass production of some farming tools and mining tools would not be allowed.

From 30 October to 14 November, 1957, a joint team composed of six members from Huicheng County People's Committee (administrative body) and Tianshui Prefecture Agriculture and Forestry Bureau investigated charcoal production for iron and steel production. The report said:

> *Since the response to the mass movement for iron and steel making for the energy requirement for iron and steel production, the approach of "rely on the masses, mobilize the masses, organize the masses" has been followed and a great amount of charcoal production has been produced with timber from forest tendering. The good cases have illustrated that production of charcoal can be increased and the quality of forests improved. However, there exist many cases where great destruction of forests has occurred. The people from two townships of Ganguo County Iron and Steel production group (150 km away from Stamp County) clearly harvested over 60 ha of forests in 2 days. The largest tree had a diameter of 55 cm. People from Qingan County (250 km away from Huicheng County) cut all the economic trees of Baojiagou Commune of Stamp County, such as chestnut, persimmon, walnut, and mulberry. More serious, these people took the stone roller for threshing grain from the commune, which has a low content of iron and steel, instead of mining it. In the place where new furnaces were constructed for iron and steel production and charcoal, and residences for tens of thousands of people, the region no longer looked like a forest region but instead an arid region. 700 people from Shaanxi province, about a hundred km away, were organized to cut trees without any permission the first time and forced entry to the forest to cut the trees later in Tieshan Township of Huicheng County, which was owned by the commune. Farmers started to complain: "we protected the forests for decades, but they cut our trees in days, why did we protect them?" and "we protected forests, we planted trees, now they have harvested them all."*

In the spring of 1959, the game for making iron and steel was over. By the mid-1960s, no official reports directly criticize forestry, and since then I could find no official document to criticize the county's own work. Discourses of fire control, maintaining closure, forestry protection, forest environmental service for farming, NFTP gathering, was replaced by comments about fastening plantations, benefits from closure, money from the forests, more logging, more factories for forest product processing (including plywood, broad boards, resin). The report illustrates that by May 5 of 1960 newly planted areas reached 106,388.5 Mu, which is 80 times the amount planted in 1953. China was in the era of boasting, and nobody can understand how they came up with such figures.

State owned forests

I have tried hard to make clear how state owned forests came to be. During this period of chaos, without any provision and rules, large area of forests were declared to be state owned, which now make up about 60% of forests in Stamp County.

The beginnings of state owned forests

With the provision of "who plants, who owns", every year starting from 1952, Stamp County organized *ganbu* to plant trees on barren mountains. However, as explained in the above, the area was relatively small, about 30 hectares in the 1950s. According to the provision enacted by central government, forests without any declaration of ownership by any group should be declared as state forest. But, as far as I could tell, no official historical documents talked of state forests as such, though there are a number of references to "public forests', (which has an ambiguous meaning), to commune forests, or holy forests, or forests owned by religious bodies. No document implicitly states how much forest was publicly as against privately owned. The old foresters estimated that in Stamp County, about 90% of forests were privately owned. However, as one official document said, no clear boundaries existed for the ownership of forests. In the heart of an uninhabited hinterland, a new immigrant would ride his horse to search for a piece of forest and would then declare private ownership of it. With inheritance passing from generation to generation, or bestowed to friends or relatives, overlapping of boundaries and shared holding of forests were quite common in communities with a long settlement history. Although the need to clarify forest boundaries and ownership was addressed, it was never acted upon before the Xiaolongshan Forest Bureau started up. A report released on April 30 1958 introduced a case conducted by Stamp County forestry authorities for clarifying ownership at the Miling Agriculture, Livestock and Forest Cooperatives (equivalent to an administrative village). It states:

> *Private forests of an area of 46,943 Mu were joined to the cooperative. And the forest land without any declaration by a private owner, which has an area of 12000 Mu, should be declared as state forest. Due to the dispersed nature of the large scale forests covered in the territory of Mayan, Huguang and Jiangluo Townships, the County forestry authority decided to shift the ownership of all these scattered forests to the ownership of the Yushu Forestry Management Station. However, due to the lack of human resources and poor transportation, these forests were delegated to be managed by the cooperative.*

This official document indicates that forest fires led to great losses. An incomplete survey in the first four months of 1958 shows that 3109 Mu of forest were lost through fires. The report strongly criticizes the poor leadership of officials, g*anbu,* and gave a number of cases. An official from Jiangluo Township was assigned to work in the Daguo Cooperative, where forest fire lasted four days and three nights in mid-

November 1957. Yet he did not go to fight the forest fire nor gather the masses to control them, and said loudly: "oh, that is the stuff for forest *ganbu*, how can I do it?" That is a last official document to criticize *ganbu* for being responsible for the destruction of forest. This report disclosed a few cases of backward farmers who resisted shifting private ownership of forests to state ownership. An old lady, on March 27 1958, took a chance when she visited a grave to cherish her memory of the dead, and as is custom, burnt paper resembling money as an offering to the dead. She caused a fire in the forests that used to be in her family's private ownership that destroyed 280,000 trees. Her family had earned a great deal of money from forests before and even after liberation, over 100 Yuan (equivalent to about 1.5 ton of wheat). In the meeting to discuss shifting ownership to the state, she said: "I will never again get gain from my forests, but neither will you!"

This report concludes by recommending a way to shift private forests into state ownership, and a policy to work with rural people. The objectives of this turnover were not very clear but it emphasized: "unified planning, and unified management, which is good for long term benefits from forests, good for protection of farmer interests, as well as interests of the state". The report implicitly called for people to stick to the principle of "rural livelihoods backed up by maintenance, and for future livelihoods to be backed up by maintaining the mountains", thus requesting reliance on the masses to manage the forests well, to respect the wishes of farmers, to follow the customs of local people in forest usage, and to support rural communities to diversify their income resource from forests. This report tries to convince everyone that the present actions are different from the old land reform, and to assuage farmer's worries that this time they would not categorize local residents into groups of landlords, and rich, middle, between middle and poor, and poor farmers. This report declared that from now on the forests would not be registered as privately owned but would be registered in the name of the cooperatives.

Starting up Yushu Forest Management Station

In February of 1956, the Yushu forestry management station was established in Yushu Township, about 50 km from county headquarters. There were 19 staff in the initial stage, composed of *ganbu* and forest technicians selected from Stamp County, foresters transferred from the army and recruits from educated youth. The report revealed that officials did not willingly work and tended to drift along. Technicians were assigned to live with villagers for administrative work, and foresters were assigned to organize farmers meetings, which bore no relevance to their forest technical work. Those who transferred from the army were not accustomed to living in the forests. Hence the majority of staff showed little dedication to the job.

The mission of the station was very confused. According to the "Act of Organizing the Forest Management Station" enacted by the Ministry of Forestry, the forest management station was given management rules that were to be applied in state forest areas. However, the official report states that:

> *"State forest areas are extremely dispersed in their location, with the majority being barren mountains and degraded secondary natural forests of little economic value. The majority of forests in the region are private or cooperative-owned".*

The tasks implemented in 1956 in state forests was said to be "regeneration of 55 Mu of state forests by thinning". However there was a long list of tasks to be performed with rural farmers: "educating farmers in new planting technology; 240 forests planted from seedlings; 1,078 Mu of forests thinned; a massive campaign for preventing forest fires and destruction of forests; assisting farmers to organize a forest management committee". This report explicitly says:

> *"We have a small proportion of tasks for state forests, and a large proportion with farmers. The staff will live in the cooperatives and work with farmers. Thus, we recommend changing the name of Yushu Forestry Management Station to Yushu District Forestry Working Station."*[8]

Expansion of state forest enterprises

Yushu Forestry Management Station did not change its name and the establishment of new ones continued until the end of 1959, by which another six forestry management stations were established, staffing also increased to over 300 state employees. Until the mid-1960s, the forestry management stations expanded their business activities into processing industries - five resin factories, one for balmy oil extraction from resin, one sawmill, and two broad board factories, although all were small scale. This was the start of multi-industry in state owned enterprises. But, in the four state forestry farms, processing industries did not exist. The processing industries were streamed up to higher level authority headquarters. The separation of rural and urban was tied to the distinction made nationally between rural and urban identity and citizenship and the economic between them has been enlarging ever since. When I was a child in the village, I thought that people living in the urban areas all worked for the government.

In all seven state forestry management stations, the total target timber production assigned by upper level forestry authorities amounted to 13,200 cubic meters in 1960. The mission of the stations had narrowed in terms of logging, nurseries, seed collection, and forest tendering was submitted to extremely aggressive planning for industrial expansion. Production exceeded target planning which was fleshed out with political study. Forestry management stations were requested to self supply grain with enforced

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[8] The working station has a mission to work with farmers as a government forestry agency, while the management station requires management through self finance in the longer term with insecurity of government finance. Yushu district at that time covered a number of townships, including Yushu, Jiangluo, Gaoqiao, Mayan, and the north part of Stamp County territory. Four out of 22 state forest farms subordinate to the Xiaolongshan state forest Bureau originated from the Yushu forestry management station.

self subsistence of grain in the year of 1960. Then most of the staff were told to clear the forests for farming and raising livestock. But this was not as successful as reported. Take Xiaolongshan Forestry Management Station as an example. Their report to the county forestry authority declares:

> *Under the strong leadership of the County Communist Party Committee and forestry authority at the upper level, given a complete victory over the fight against rightists, and on the basis of the great leap forward achieved in 1959, in the first 9 months of 1960, 4,820 cubic meters were cut down, and 2,887 cubic meters were delivered, 2126 Mu of forests were tended, 12.5 tons of seeds were collected, no forest fires occurred, 1.8 tons of resin was produced, 224 Mu of land were newly cleared for farming, 428 Mu of land were planted with corn, sweet potato, buckwheat, beans, vegetables with predicted yield of 15 tons of grain, five swarm collections of bees were reared, and 13.5 kg of eggs were sold to the state, etc. However, there could be great improvements. Part of the corn plants were destroyed by wild animals, and part of the corn fields were wasted and covered by grass vegetation. A great waste of labor existed and staff reduction campaigns took place. There were 135 staff in total with 13* ganbu *and 122 forest workers, including 32 from families of staff before reduction. 40 forest workers were reduced and no* ganbu. *Those dismissed were persuaded to go back to where they came from, except 16 staff plus 8 family members who were categorized as 4 landlords, 1 rich farmer, 1 reactionary, and 10 unwilling workers.*

Shifting to state ownership did not stop the destruction of forests. A report entitled "Investigation into the massive destruction of forests in Jiangluo and Shuiquan communes (equivalent to a township)", revealed a large number of cases with abstracts as follows:

> *Firstly, organized action of the ganbu. Jiangluo commune leaders arranged to cut trees on both sides of roads providing a wrong signal to lower level officials. Shuiquan commune committee looked at forests owned by the commune and decided to establish, without permission, a commune forest farm. The party secretary of Huangzhu production brigade (equivalent to administrative village today) told foresters from Jiangluo forest management station that "the Party Committee has made a collective decision that all mature trees could be harvested either private or state, either grown in private yards or village edges, and mountains, except for cash crop trees." Secondly, timber consuming units involved in massive destruction, include schools, and the iron and steel company. And individual farmers followed in the massive destruction of forests. As a farmer said: "we did not dare to cut trees, and were requested to protect trees year by year, but look, it was nearly finished, so why not cut some before the clear out?"*

Establishment of the Xiaolongshan Forest Trial Bureau

As a flagship achievement, the new Chinese government built the Baocheng railway from Baoji city to Chengdu around the 1960s. This strategic railway connected central China to southwest China across very mountainous regions for nearly 1000 km. Every sector had to support this construction. In the mid-1950s, a famous scientist who chaired the Ministry of Forestry - not a party member - led a team of intelligent, young, and well educated people across the Xiaolongshan regions in search of railway sleepers. These intelligent young academics later started Chinese higher education and scientific research in forestry. My generation of forestry academic fellows, genealogically, are their students' students, and share their honorable reputation. Mr. Wu Zongren, who graduated from the USA, and chaired the Chinese Forestry Science Society for a long period, has been in charge of scientific research in our academy, the Chinese Academy of Forestry, for most of his life, except during the period of chaos in China. He and his supporters proposed to the State Council through the Ministry of Forestry that a state forest institute be established as a centre for learning and research into the technology of forest management, especially forestry rehabilitation and the improvement of secondary natural forests from western countries, and in particular the forestry management model of the North European countries, Norway, Sweden and Finland. This model was different from the model used to establish the state forestry bureaus[9] in North China in the 1950s, which copied the former Soviet Union's state model. This coincided with deteriorating political relations between China and the Soviet Union and the proposal received the approval of the State Council. Then a technical team led by the Chinese Academy of Forestry, joined by local technicians, worked on putting together a technical proposal called 'Ten years Task Planning for Xiaolongshan Forestry Trial Bureau' [10](XSFB). Starting in 1962, a joint team from the Ministry of Forestry and the Gansu Provincial authority was established to start the Bureau. Seven forestry management stations were established in Stamp County, which was by then subordinated to the XSFB. Here it should be pointed out that the name for approval - the Xiaolongshan Forestry Trial or Experimental Bureau – did not count on being a part of the state. Academic proposals are very much technically orientated, with their western forestry science background, and different from anything China had learnt from Former Soviet Union. The academics proposed a center for testing alternative approaches to forest management and a technical learning centre for demonstration, and did not intend to construct a state owned enterprise for timber, which is very different from the state forestry bureaus

[9] By the mid-1960s, China's central government had established a total of 135 state forestry bureaus in Northeast and Southwest China. Xiaolongshan is not included in the 135.

[10] The official approval title of the bureau was "Xiaolongshan Forestry Trial Bureau" with the objective to establish a learning centre for secondary forests management. For this sake, this bureau initially was not considered as an timber producing enterprises, for instance other state forestry bureaus in Northeastern or West part of China. But this objective was not carried out after establishing the bureau. To be easily understood by readers, I used a name, Xiaolongshan State Forestry Bureau (XSFB) to replace this official name.

established in northeast and south western China in large virgin forests without inhabitants. There is no record to say how the shift of the seven management stations took place. Around 1962, Huicheng County was again divided into the two original counties - Stamp County and Chengxian Counties.

Forests from the commune to the reform period

Forests in the commune

From 1964-1975, forestry does not appear to have been a contentious issue and official documents are silent on the matter except for recording the year's planting tasks handed down from higher level authorities, usually 2000-3000 Mu. The species for planting are mentioned as chestnut, walnut, mulberry, apple, persimmon, gingko, and bunge pricklya. Tree species for timber seem to have been included but are not to be found in the official documents. An official report for promoting multi-products in 1975 includes no forest products or policy concerns, except for a sentence declaring that 'those who plants, who owns'. But individual farmers were allowed to plant trees surrounding their houses and on their subsistence plots, which were granted after the terrible famines following the 'Great Leap Forward'. All forestry sectors, including the state-owned forestry enterprises had responsibility for assisting farmers and collectives to carry out forest tending as well as the collection of NTFPs. Clearing forests for farming and the destruction of forests were prohibited.

In 1975, the Stamp County Revolutionary Committee (equivalent to Stamp County government at that time) created a file entitled "Notice to establish a forest protection advocacy and inspection station" – some 15 years earlier than the similar 'quota' and "timber transportation inspection station' policies created by the central forestry authority. Five such stations were established, including one in Willow Township with three staff for each station selected by the farmer commune party committee. Apart from advocacy of forest policy and regulation of forest protection it had a daily role to register and check all means of transportation as it came in and as it went out. The annual salary for each staff member was given as 39 Yuan, which was paid by the State Forestry Farms. And staff were required to hand over 10% of their income to the production team they came from. Everything gathered was handed over to the county forestry bureau. This file shows that the county authority still had tangible control over the county state farms at that time.

Forests in 1980

China again started a new era in the rural areas. After a long dormant period in official records, Stamp County forestry bureau started to awake. Since then forestry has been an important issue in their official documents. An official report of April 8 1980 illustrates a few tendencies: 1) tasks assigned by upper level authority include about 600 ha of mountain closure, and 2 million trees planted on both sides of the

river, roads, and surrounding sides of house and village, instead of a mono task plantation area; 2) timber or trees for ecological purposes were included in the list of tree species for planting, popular and acacia; 3) reinforcing "who plants, who owns"; 4) shifting a part of forest land from rich villages to those with none; 5) agro-forestry - intercropping encouraged, which is a new initiative technology.

The Stamp County government enacted a number of policy documents in 1980, including "Notice to resolve issues of tree and land tenure in non-forest regions[11]", "Notice to strengthen forest protection", "Notice to protect and prohibit destruction of forest". These policy documents illustrate many new initiatives, of which I have selected the following as relevant to my research topic: individual farmers can own forest if planted on barren unused areas; a hierarchy of organizations to control forest fires was established, from county to township to village; transportation of timber and timber related products was strictly controlled; any individual and product group had to apply for written permission to testify the approval for sale of any timber or timber related products. Amounts exceeding 10 cubic meters were subject to approval by the County government. All logging for subsistence was subjected to approval by the ownership of forests. Any timber processing conducted by an enterprise had to purchase raw materials from the County Material Supply Authority. Logging and collection of raw materials for self processing was prohibited as was making charcoal. No enterprise or government unit could collect timber without a certificate for timber transportation issued by the county or above. Forest protection advocacy and inspection stations were endorsed with powers to confiscate the forests of anyone violating fire regulations.

Practices of the 'Three fixes' policy

From late 1981 to early 1983, a special team of 100 *ganbu* was formed to implement the "Three fixes" policy in Stamp County. The *ganbu* were assigned to a group of villages to carry out this policy, with four missions: 1) collecting information about confirmed and titled collective forests since 1965, and those orally confirmed but without title; 2) changes of forests in the village, in particular, those lands and forests taken over by the state forest farms; 3) destruction of forests since 1981; 4) awareness by farmers and *ganbu* for the need for forestry policy, and clear outputs: to clarify location of collective forests; to transfer so-called 'three waste lands' [12] to individual equal use rights; to establish forest household responsibility; and finally to investigate and punish cases of forest destruction.

This provided an opportunity for the county authority to even out the occupation of forest lands between villages, and for the first time to join the efforts of the county authority and the XSFB. Youlong Township used to claim about 0.8 ha per capita of forest land, abut the village *ganbu* reduced this to 0.18 ha per capita. The rest was

[11] It refers to those areas with non forest ownership shifting to the state owned in around 1960.

[12] It refers to "waste (barren) mountains, waste banks of water courses, and waste slope lands".

claimed by the Bureau. One village in this township which had two hectares of its land taken over by the County State Owned Herb Company, endorsed a title of 27 ha of forests for collective ownership, which was claimed by the state forestry farm. In the villages located in regions with less forest as in Jiangluo Township, all state owned forest land scattered in the village, and thus hard to manage, was shifted to collective ownership and distributed to individual households. In the dense forest regions, the principle agreed by the state forestry farm and township, and endorsed by the county, was to transfer 6.5% of state forests to collective ownership. In official documents, individual contracts for forest management were encouraged, but had not been acted upon. This work, as shown in the cases, usually started with skepticism from the masses, using a discourse of "too late to clarify the ownership of forests, as forests have gone", or "redundant work as there is no way to shift ownership of the forest back to the cooperative", or "always changes after clarifying the ownership of forest, who dares to believe it?". A few commented that "now farmland has been distributed, this should be done also with forests."

However, forestry policy turned to tightening production and transportation in late 1982. In the official Stamp County Communist Party document entitled "Provision for implementing the 'urgent prescription to stop destruction of forests' by the Central Committee of Community Party (CCCP) and State Council", it states that the party leader of each township would be held responsible for any destruction; 'three-waste' land had to be planted within three years and a fine imposed of 20 Yuan per Mu fee per year for land "lying waste"; each piece of forest had to be assigned to a household or household group to be cared for, and any destruction by animals by person or household would be fined accordingly. Harvesting needed approval from the county forestry bureau with endorsement from the village and township; all free timber and related product markets in the county were to be closed; households with a member employed in any government or related institution should heat and cook with coal instead of charcoal; timber or related products without an official transportation document would be confiscated; before rural households obtained approval for house construction, timber resources had to be checked.

All these strict regulations were never implemented since they quickly became outdated as China moved on the high speed train for economic development under the discourse of "development is the end objective". Overall, 1982 was a turning point from the state and collective, to the private orientation of forest use rights.

Shared administration with unclear boundaries

The last two decades have been an era of economic reform accompanied by great economic progress. However, located as it is deep in the hinterland, Stamp County, as many other counties in western China, shows a different side to the story of economic progress. Pressures to secure economic growth and gathering government revenue to pay for the ongoing growth of staff in the government sector have

continually risen. The people feel a second government in their territory exists, the forestry hierarchy, which occupies over 60% of the county territory and has authority over good resource assets for economic progress. Although in the last two decades political reforms have been initiated a number of times, and in many arenas related to rural affairs, overall, the administrative system remains the same.

The forestry administration hierarchy

Over the past decades, the forestry sector has established a centralized administrative and technical extension system from the state down which still functions in spite of the re-structuring and an open policy towards markets. The forest authority in the 1980s lost control of the marketing of timber and timber processed products and more recently, it has begun to consider private commercial forests as totally 'free' from government control. Yet, despite ongoing reforms, the government remains the most important entity involved in the forestry sector, controlling almost all forest management activities, including pest and disease control, forest fire control, seedling raising and distribution, forest tendering, harvest quotas, turn over of forest land, log quality and quantity checking etc.

Hence, the forestry authority is responsible for overseeing forestry sector activities and ensuring the achievement of national standards. To achieve effective oversight of forest utilization in such a large country, the government operates a complex and extensive hierarchy (Figure 4-1). There are five levels of forestry administration, with the State Forestry Administration (SFA), formerly known as the Ministry of Forestry ranked highest, followed by provincial, and prefecture forestry departments, then county forestry bureaus down to town and township forestry stations.[13]

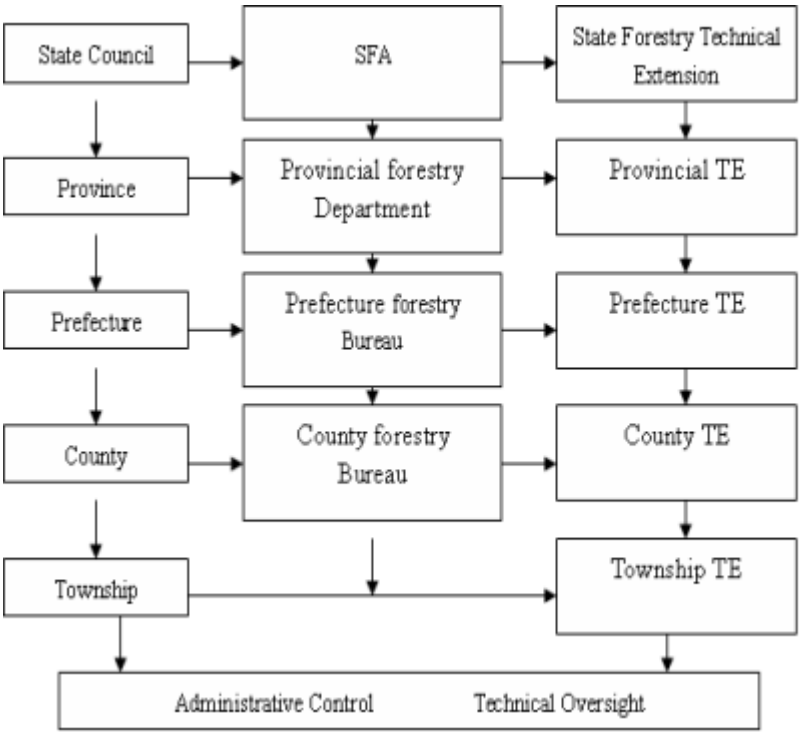
Major areas of work for the SFA in recent years have been afforestation aimed at expanding China's forest resource base, and controlling forest utilization and protection. To implement its mandate, the SFA works with provincial, prefecture, county and township authorities. All forests are managed according to a centrally determined 'annual allowable cut' system and the Forest Law (1998). The Law, however, allows for significant flexibility of interpretation in that with the approval of the SFA, provincial regulations may be introduced to suit local conditions (Liu *et al,* 1988; Young, 1998).

Yet, while the SFA supervises the implementation of central government forestry laws and policies, it does not have the direct authority to enforce them (Figure 4-1). This lack of administrative authority is often reinforced by a lack of financial power. While local authorities receive some project funds from the SFA, they depend on local

[13] It should be noted that while the SFA is the principle government institution responsible for forestry, other central institutions with interests in forests include the Ministries of Agriculture, Water Conservancy and the State General Environmental Protection Agency. In certain areas, mandates overlap and conflicting regulations and/or guidelines have been issued.

treasuries as well as their own revenue from local charges and taxes to cover recurrent costs such as staff salaries. In certain instances, central government, through the SFA, will fund large-scale programs such as afforestation or infrastructural development. Moreover, the SFA has technical supervisory powers that enable it to recommend actions if lower levels of government are failing to implement national policies and laws. In addition, the SFA controls the State Forestry Technical Extension Centre, which also supervises provincial technical extension entities. Ultimately, enforcement is implemented through local level executives, who direct the local forestry department (provincial level) or forest bureau (county level).

Figure 4-1 SFA structure and lower level government authorities



Over the past two decades, the number of internal agencies in forestry authorities has continuously increased, along with a concomitant increase in staff. In this period, China initiated reforms four times to fit the need for market orientated economic reform and to reduce overstaffing in government sectors as one of its major goals. But looking at the forestry sector, the number of staff and institutions has soared. Many internal new agencies have been created: the township forestry technical extension station (1987), a timber checking station (1987), and the forest police sector (1989). Furthermore, associated with domestic and foreign forestry development projects, a large number of agencies have been created such as the

recent nationwide agencies and offices for management of the NFPP, the natural forestry protection program, the 'conversion of slope farmland into forestry and pasture', and for 'ecological forest compensation benefits'. These newly established government agencies and enlarged staff in current institutions are largely self- or semi self-financed, which has resulted in an increasingly heavier burden on government revenue collected from the forestry sector. In 1982, the Stamp County forestry bureau had some 25 staff on full payment, and most of them worked in the State Nursery and the Timber Distribution Company. Now, the state nursery and the timber company are both bankrupt, but even so the number of staff on full payment had increased to 135 by 2004.

Administration of Xiaolongshan Forestry Trial Bureau

On February 2 1963, following an order of approval from the State Planning Committee and Ministry of Forestry, the Gansu Provincial Government declared a list of forest management stations that they were now under the administration of the Xiaolongshan Forestry Trial Bureau. The order came in one statement with no clarifications or boundaries. The XSFB has since developed into a large and complex economic unit that includes tourism, industry, commerce and logging, with over 6000 employees and 800,000 ha of forests distributed in eight counties, including Stamp County. Forest Management Stations were renamed State Forestry Farms in the early stage of the Bureau, and five such farms were set up. Elm Forest Farm is one of them, even though part of Elm Forest Farm is located in Liangdang County, adjacent to Stamp County.

China has a hierarchical linear system of officialdom, from *Ke,* the lowest level, through *Chu, Ting,* and *Bu,* to *Zongli,* the highest level. *Zongli* is Prime Minister; *Bu* is at minister level, the same level as governor of a province. *Ting* would be the title usually given to the governor of a prefecture level city, such as Tianshui or Longnan cities, or to the director of a provincial department such as forestry. Officials such as a divisional director of the SFA, or forestry department of Gansu Province, or a county governor would be given the title *Chu*, and *Ke* would refer to a person such as the director of the forestry bureau in Stamp County or head or party secretary at township level, such as the secretary of Willow Township. At each of these levels there is the position of deputy, with its own title. Through the application of these status titles one can easily recognize the level of any particular state institution. For instance, Stamp County government is a government institution at the *Chu* level, and its subordinated institution, the county forestry bureau is an institution at the level of *Ke*.

The Ministry of Forestry proposed establishing the Xiaolongshan Forestry Trial Bureau, but it was implemented by the Gansu Provincial Forestry Department as a subordinate institution at the level of *Chu*. Around 1972, the Bureau was subordinated to the former Ministry of Forestry, and promoted to *Ting*, the same level as the Gansu Provincial Forestry Department. But a few years later, the Bureau

shifted back to be managed by Gansu Province, and technically supervised by Gansu Provincial Forestry Department, where it now carries the status of Deputy *Ting*. As shown in Figure 1-1, the level of Bureau Director is higher than the level of the Stamp County Governor. And head of a state farm is a deputy *Chu*, the same level as the deputy governor of Stamp County and higher than that of director of a county forestry bureau.

Two masters over the same piece of forest

Given this hierarchy of positions and associated salaries and status, it is not surprising that there can the confusion, disappointments and disturbance of social and political ties and relationships, when there is a change of status either through the promotion or demotion of an official or when an institution is moved to a new administrative institution or level. For example, in 1982, Stamp County was shifted to the leadership of the Longnan Prefecture from the Tianshui Prefecture, where the XSFB was headquartered, and so the personal and political relationship between the leader of the Stamp County government and the XSFB started to deteriorate.

Conflict begins between the two masters

The first national forestry inventory took place in Gansu Province in late 1974. The Stamp County authorities and the XSFB had to clarify the boundaries of forest locations for the inventory in order to avoid overlaps or omissions. Stamp County found a large discrepancy between the area of state forest declared by them and the XSFB. Table 4-1 identifies the differences attached to a report handed over to higher authorities for arbitration. The Stamp County authorities agreed that it was not clear how large an area had to be shifted to the XSFB but they were able to estimate the area that the XSFB could declare and manage from statements in an official document approved by the old Ministry of Forestry dated June 20, 1963 to be "forests in Mayan, Gaoqiao, Yushu, Taibai, Dahe communes and Yuersantan of Jialing communes[14]" (no mention was made to Willow Township).

The Stamp County authorities appealed to the Prefecture three times between late 1974 and mid-1975. Their arguments were supported by a list of policy documents - "Collective ownership can never be encroached" in "Notice to enhance management of forest and stop destruction of forests and trees" enacted by the CCCP, State Council under Code (1967) 305; "All lands owned by the production team, …forests too…, are owned by the production team" in "Provisions for Rural Communes" dated September 27 1962. The County requested 1) that the forest area claimed by the XSFB could not be accepted arguing that the interests of the rural people of Stamp County had to be taken into account; 2) that forest ownership, which had been claimed by the state forestry farm in 1967, should be returned to Willow,

[14] Commune was a level of administration under the authority of the county in the period after the "Great Leap Forward" (1958) and before the rural administration system reform (around 1984).

Youlong and Lichuan townships; 3) that those forests that used to be in private ownership before the land reform of the early 1950s, and claimed as state forests afterwards, should be returned to their respective collective owners.

But Stamp County failed to win its case, which was blocked at prefecture level. The prefecture has in any case no power over the XSFB as the bureau falls under the Gansu Provincial authorities.

Table 4-1Differences between areas claimed and those approved by the XSFB

(Unit: ha.)

Name of commune	Total forest area	Area actually taken by the XSFB	Area declared by XSFB upon Approval	Difference
Total	279532	226089	156464	69625
Chengguan	6685	592		592
Yingxin	9972	893		893
Shuiyang	7066	1882		1882
Fuzheng	10892	0		0
Nichuan	6101	2143		2143
Jiangluo	18973	18645	14983	3662
Youlong	12665	12665		12665
Niyang	6031	0		0
Mayan	29634	29634	23627	6007
Gaoqiao	25160	25160	19664	5496
Taibai	19586	19586	31857	-12271
Yushu	38658	38403	30370	8033
Yongning	8351	0		0
Willow	18372	18372		18372
Jialing	24429	22012	19864	2148
Dahe	21998	21144	16099	5045
Yuguan	14959	14959		14959

Appeal in 1984

On December 15, 1984, the Stamp County authorities appealed to the Gansu provincial government over this ownership dispute, backing their appeal with an official document coded (1984) 210, sending copies to the provincial forestry authority and the prefecture government. Three more arguments were added to the appeal. Firstly no official procedure had taken place to change the ownership of forests in Willow, Youlong and Lichuan Township. Secondly, negativism towards the "cultural revolution" should include rectification of misjudged cases. And lastly, the state farms had never planted trees in the territory of these three townships (and it was thus barren land not forest). According to the "Provision of policy to perfect the household responsibility system and secure forestry development" enacted by the Gansu Provincial Forestry Department, Item 2 declared that "barren mountains

owned by state forestry farms that did not have the capacity to afforest them, should shift to local government to be contracted out to individuals or joint households to be afforested."

This appeal was backed up by a story. In 1982, the Communist Party General Secretary, Hu Yaobang, repeated the Long March and arrived at KangXian[15], which is in the Longnan area of Gansu Province. The local people were very poor, but the forests there were in good condition and he asked the local leaders why these forests could not be given to the local people? The leaders said, 'these forests are owned by the state and managed by the state-owned forestry farm.' Then Hu suggested that the forests be given to the local villagers. And they did by turning the state-owned forestry farm into the 'Timber Distribution Company'. Many the other Gansu counties followed suit, and asked the provincial government to distribute the forests of the XSFB to local villagers. When the leader of the XSFB heard of this, he immediately reported it to the Ministry of Forestry as it then was, which in turn reported it to the State Council. The State Council asked the Gansu authorities to stop the distribution. But in order to concur with the General Secretary's directive, they approved a local policy that required the XSFB to transfer the forest property rights of 7% of land without forest, and 4% of land with forest to the collective. At the beginning of the 1980s, when the 'Three fixes' policy was implemented, the XSFB had distributed some of the state-owned forest to the people as collectively-owned forest, but in the documents the boundaries are not clearly defined, they simply state ' from such a place to another place, *Si Zhi*.

The 1984 appeal was instigated by personal disputes. I was told another story by a senior official of the XSFB. Around 1983, the Governor of Stamp County was promoted to be manager of the XSFB. His successor in Stamp County had poor personal relationships and a development orientation for the county that was different from his predecessor. Thus, although the appeal case was raised on behalf of the Stamp County authorities, no response arrived from the central authorities to end this dispute.

Prospecting forestry and enriching farmers

Two years later, on April 28-29, 1987, delegations from both authorities gathered for a two-day meeting in Stamp County to discuss "prospecting the forest and enriching farmers". The meeting concluded with agreements to collaborate in the following areas, with a joint report distributed to all the concerned subordinate institutions and higher level authorities.

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[15] Stamp County belongs to the Longnan area. Kangxian is 200km away from Stamp County. But both towns were passed by the Red Army during the Long March in 1935. In that same year, the army of the Communist Party was defeated by the Kuomintang army in Jiangxi, which became an important event in history. After the Long March, the red army moved to North Shaanxi and North West Gansu.

1. Harmonizing coordination between townships and the state forest farm. Heads of townships, and villages had a shared responsibility to protect the forests from fire, destruction, and clearing for farming, backed up by an award and punishment policy.

2. Contracted out state forest was to be managed by individual or group households for forest sideline production, with the possibility to collect a fee for administration. If this was simply for forestry protection, for instance caring for young plantations, then the state forest farm could pay individuals to be forest guards.

3. Cooperative planting by state farm and rural village was encouraged.

4. Seasonal labor required by the state farm must give preference to those living in the forests.

5. The state farm must provide technical assistance to villagers for forest related activities;

6. The state farm must work with the township located in the forest region to make a plan to give farmers preference on timber needs for farming tools, furniture, housing, coffins, etc. An afforestation fee could be collected. However, it could be waved for extremely poor farmers;

7. State farms should offer to help a few poverty stricken villages with a plan made jointly by corresponding township and farm to be handed to Stamp County and the XSFB for approval. The development activities could cover the construction of rural roads and bridges, funding for schools, promoting energy saving stoves, water sanitation, a TV signal receiver, assisting an open cinema in the village etc.

8. Stamp County offered to enhance social services and infrastructure development in the forest regions. These activities included road construction, access to electricity, education, culture, and health care.

The two-day meeting ended with a new coordinating body with the name "Leading Group of Stamp County and XSFB Prospecting Forestry and Enriching Farm Cooperation", signed and sealed by leaders from both parties.

Conflicts continue

The minutes of these meetings reveal that the institutional coordination between the XSFB and Stamp County was far from harmonious, and they highlight disagreements over resource management. Mistrust and conflict dominated the rural reform era, which led to massive destruction of forests, until the NFPP intervened.

Here I present a few cases of such conflicts, with more details in the following chapters.

The Chestnut Case

In 1992, the Stamp County forestry bureau implemented a project financed by the Province, called "grafting good varieties of walnut onto wild walnut trees", which according to the plan would involve 400,000 wild walnut trees. Most were grafted onto wild trees grown in the area claimed by the Elm State Forestry Farm, without giving the farm prior notice. This action was strongly supported by community leaders and farmers. But Elm State Forestry Farm declared that these wild trees had been planted years ago and were already of a good variety and they raised a case to challenge the Stamp County Forest Bureau. The Stamp County bureau was aware that if this case was sent to arbitration by provincial authorities, then they may send it on to yet higher authorities. Thus a joint meeting involving the county authorities and the XSFB was called to settle the dispute. The minutes of the meeting record that the county bureau admitted its mistake and promised to discuss first with the state farm any future actions in respect to state forests. Both sides agreed that they should help communities with their economic development. For those grafted walnut trees owned by the forestry farm but contracted out to the community for management and benefit, farmers would pay a fee.

A Mining Case

In the 1990s, mining developed very fast. However, most of mining spots were located in state owned forest areas. Staff from the state farm told me that local government did not care where the mines were located. For Stamp County the mines were an important source of revenue. In 2004, the 60%-70% State and local tax revenue of Stamp County came from exploiting mines and associated processing industries.

In Willow Township, mining became the most important economic activity. In Luoba Village of Willow Township, a new mining site was discovered and the villagers' committee[16] declared that this site was owned by the village collective. But Elm state forestry farm insisted that this was the state forest area. Then a joint meeting was called by senior leaders from Stamp County and the XSFB and representatives of all relevant parties. This meeting was heated, with the villagers' committee insisting that their land certificate for collective forests indicated *Si zhi* (between such a place and such a place). The director of the forest farm did not accept this and argued that:

[16]To be exact, the conflict was between local government and the XSFB. The farmers actually had no power to claim the land ownership rights. If they did, they must have had the unofficial support of local government.

> *"If such is the case, where is the forest land owned by the state? I am responsible for managing a certain area of forests. I would not dare to report to my boss that my forest land was missing, or had moved to the moon. According to what we agreed for implementing the Three fixes policy, 4% of forest land with forests and 7% of forest land without forests be shifted to collective ownership in each village. If we measure how much area you have according to your opinion, then where is the land that the state forest must program? How am I going to handle that?*

The county governor suggested exchanging collective forest land for the mine site but the forestry farm objected. The meeting ended without a solution or any compromise from the XSFB. But afterwards, a deputy manager of the XSFB in charge of administering forest land visited Stamp County. He had strong personal relationships with the Governor of Stamp County after the NFPP was implemented and had been a classmate in the provincial party school for further education with him. The result was that the XSFB claimed the ownership of most mining sites but Stamp County took charge of managing them. The deputy manager said: XSFB gave the Stamp County a favorable deal as it could have charged the county a fee in the name of 'vegetation renewal'. This could be a large of amount as the fee was calculated on the basis of the number and value of the trees over time, as well as for renewal of other vegetation.

Since there are many sectors[17] involved in the application process and fee collection for operating a mining site, newly opened mines in 2000 seldom made a profit, and this affected local economic development, which was of great concern to the county government. It therefore invited public bidding for all controlled mineral spots and divided the income between the relevant departments proportionally. However, control of mining by county government did not do much for the interests of villagers.

But villagers have their own way to protect their interests. Take Xiakou Village of Willow Township as an example: Xiakou spent about 260,000 Yuan to build a new school and villagers' committee office. They obtained 90,000 Yuan from selling the old school and office, 20,000 from the Education Committee, 20,000 from selling land to a mine exploiter, 70,000 from donations by three mining companies, and they still owed 60,000 Yuan. The village director Mrs. Wang said, 'We cannot collect any more money from the companies this year. We will do it next year.'

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[17] To work a mineral spot one must deal with the following sectors: 1) Forestry sector dealing with the Occupying Forest Application, and collection of forest recovery fee. If the forest belonged to the collective, the county forest bureau would collect this fee, and if it belonged to the XSFB, the bureau would collect it and 70% of the income would be shared with the provincial forestry department. This is the largest expanse for operating a mining site. 2) The environmental sector - traffic sector, taxation sector and industrial commerce sectors, and others subordinated under county government. Besides, the mining company or investors must pay the exploiting right fee to county government.

The county needs more donations. This spring, in the People's Congress meeting of the county, the Luoba Corporation donated 300,000 Yuan and other companies donated flour and edible oil. Thus the problem of meeting expenses was settled.

There were still some leaders insisting on '*Si zhi*" as written in the land titles of collective ownership. They always mentioned that the collective-owned forest had clear areas, but they were often contested or ignored by the forestry farm.

A case of competing for the 'Ecological Compensation Fund'

In 2005, a new issue arose. Central government doubled the forest ecological compensation fund, and Gansu Province which had not been eligible in previous years for NFPP funding was now included. But the rule for this fund said that not all forest areas in the NFPP were eligible, and there were a few such cases excluded in Stamp County. Both the XSFB and Stamp County applied to the fund, but when the forestry investigation and design team checked out the data, they declared a ten percent overlapping, giving as proof, readings from the new GPS and GIS systems for location analysis. This time, Stamp County actively called for a meeting with the XSFB to settle these issues. However, I was told by officials in charge of the XSFB that "dominion over forest land cannot be compromised". Just a day after I left the XSFB for fieldwork, there was a meeting planned between Stamp County and other counties to discuss the same issues. The XSFB invited the Gansu Provincial Forestry Department and institution responsible for checking assignments of the SFA to be present at the meeting. It looked as though Stamp County might lose yet again, as they have never won the battle over official tables.

Another side of striving

Let me now provide a picture, built upon small cases and disputes, of how forestry issues impact on the everyday lives of villagers and front line officials.

Elm forestry farm decided to log nearby a particular village and delivery of the logs had to pass through the village. Before logging started, the village head had asked for money to repair the village school and the farm refused. When the logs were ready for delivery, the road out was cut off by an excavated ditch across the road. The farm assigned people to repair it in the daytime but it was dug again at night. The farm was thus unable to deliver any logs until it made the voluntary donation for repairing the village school. I was told by employees of the farm that "rural farmers would not dare to do this without the backing of township officials".

In the period of mass forest destruction, before the NFPP, senior XSFB officials often visited county officials to discuss issues, but were told "farmers here do not have money to buy salt and oil for living, so what matter if they cut a few trees?" In extreme cases of unwillingness to help stop the destruction, a township official might be called by the state farm to resolve the problem and would visit the village

with people from the forestry farm. They would call a farmer meeting and talk loudly about the importance of forests for environmental protection, and their responsibility to protect such an important state asset and request a stop to 'illegal' logging. However, when the forestry staff left, nobody knew what they had been talking about.

The production of Jew's Ear - A case for cooperation

At the beginning of the 1990s, the County called on villagers to cultivate the fungus known as Jew's Ear. The state forestry farms and the county government worked together to keep records of the amount planted by each family. They set the unit of measure as one cart of harvested fungus. For each cart a 30 Yuan afforestation fee was payable and the county collected five Yuan as an agricultural special products tax from the proceeds of the harvest. In terms of this, the relationship between forest farm and county was easy to handle. When the villagers harvested the second batch, forest farm and county came together to collect all the charges and taxes. This activity required broad leaf trees for its cultivation and as a consequence the oak trees became fewer and fewer in those years until there were none left.

Before daybreak

I lived in the Louba forestry management station for most of December 2004 to June 2005. Tang Hongwei was one of active staff in this station. The next chapter provides more information about him, here is his story during his working period at Elm Forestry Farm.

Avoiding illegal forest destruction and stolen cutting

The Elm Forest Protection Station, subordinated to the Elm State Forestry Farm, was set up in a rather desolate place, but it was an important traffic intersection. The most severe forest destruction happened before the spring festival. Usually at that time people sold corn and pigs so they could have extra money to build houses and purchase furniture. At spring festival, the forest farm gave its leave and many employees left to visit their families for the celebrations, leaving the forest with only loose protection. At that time, two logs stolen for rafters were equal in value to a month's salary. It was also easy for villagers to gather a lot of young people[18] to team up for stolen cutting, as people had not yet started to take off-farm jobs outside. Since the forest farm took full responsibility for its own profit and loss, employee salaries mostly depended on income generated from production. Every employee had tasks to fulfill but only if they could collect penalties from thieving etc., worth twice their salaries, could they hope to receive a full salary, otherwise they received only a proportion of what they should receive. During the harvesting season, the farm could count on less income from fines

[18] In China in the late 1960s the population growth reached its highest point in history. Therefore from then until the 1990s, a large majority of the population was between 20-30 years old.

due to their work loads. The aim of linking profits from production to employees' salaries was to motivate them to work hard.

The main culprits in wood stealing were actually those from the forestry farm, that is, their own employees. Usually when someone cut a tree on the hill, everybody knew it, and before the wood was dry, nobody would touch it[19]. In Xiaolongshan forest, people would get timber for making furniture or charcoal without approval, except for house building, which required a large amount of timber. The farm managers realized that it was actually hard to prevent logging for farmers' self subsistence. Thus, they put the stress on preventing commercial logging activities.

Penalties

According to 'Forest Law', anybody caught stealing and cutting timber would not only have the wood confiscated but would fined three to seven times its value. Mules were used to carry timber and they could carry 0.2 m^3 of oak, valued at about 100 Yuan. If villagers are caught with timber on a mule cart, the staff would usually give the mule back to the villager but take the cart. If they kept the mule, they would have to feed it to prevent it from braying. However a cart was worth 300-400Yuan and villagers would usually pay 200 to 300 Yuan to get their cart back. In order to collect fines and thus cover their salaries, employees would go to the forest at 4:00 am to catch timber thieves. Since the working station is located at the bottom of the mountain while the checkpoint is on the upper part, the thieves have to pass the checkpoint first before they arrive at the station. But according to regulations, if the thieves have already been fined by the checkpoint staff then the working station staff cannot fine them again.

In 1996, four-wheeled vehicles started to be used for transporting timber. Sometimes employees would meet to organize whether they could catch vehicles on a particular night. Usually they would go to the forest to organize ambushes at possible spots in groups of four chosen at random. Generally speaking a four-wheeled vehicle can carry 10 logs, with a value 500 Yuan. The vehicle is worth 6,000 Yuan. They take the wood and vehicle back to the station and wait for the culprits to pay their fines amounting to about 2,000-3,000 Yuan. Tang emphasized that, "although it is very hard work, it is worth one month's salary for four people if we can capture one vehicle[20]".

The stolen timber would be sold in Fuzhan, the only town with a timber fair in Stamp County. The market is 10 km away from the Elm working station. It would take no more than one hour for four-wheeled vehicles, while a mule cart would be 2 or 3 hours. Therefore both the cost and risk of stealing and selling timber using motorized vehicles was high, but so was the profit.

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[19] That is to say in the villagers' mind. The forest belonged to them, 'to the cutter, the owner'.

[20] The average salary was 400 yuan per month, so for four people, twice their salary was only 2,000-3,000 yuan.

Conflicts over fines

The villagers used all means possible to avoid being fined and the forest farm adopted increased measures to ensure that they extracted them. This situation encouraged fighting and violence. Both sides adopted measures such as:

1. Choosing the time. Observe and investigate when the farm is not very strictly guarded, such as in the harvesting period, and at night especially when there is no moon, between 12pm to 4 or 5am.

2. Farm employees organized into groups. Usually there were only eight employed to protect a forest farm, and the thieves outnumbered the protectors. There were once four mule carts with four people on each cart that reached the farm and shouted, 'kill them!' They threw stones at the windows and doors and the employees were frightened and escaped. Then the thieves went away happily on their way. Therefore the employees made sure they were prepared with weapons such as sticks and when they knew the mule carts would be returning they organized to ambush the thieves on the hill. When the thieves came, they would appear suddenly and defeat them. Later the thieves were also armed with sticks so it was necessary to prepare and ambush more cautiously to defeat them.

3. Villagers would gang together and divide up the task. One or two would explore the road ahead with torches and use passwords to communicate danger etc.

4. Using insider information. Due to the economic benefits, there were spies inside the forest farm prepared to send messages to villagers about when the farm would be unguarded and when patrolled. The spies would share the profits. In response, the farm supervisory department would constantly change its arrangements to prevent this from happening[21]. A spy would leave a message in the appointed crevice of a rock to tell villagers about the farm's arrangements for catching thieves and villagers would retrieve these messages regularly. On one occasion a farm patrol car[22] deliberately left the forest on time, and the thieves began to carry timber from the hill. Then the patrol car turned back and caught them red-handed. The villagers would always protect spies and not report them to the farm so there was no way to catch them. The farm had regulations, if the thieves were caught and they gave information such as when and from where they got the timber, the forest protector on duty would be punished. But if

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[21] This prevented the spies from sending accurate messages and villagers from closely following station activities.

[22] The affiliated organizations (working station and checkpoint) of the farm all shouldered the responsibility to catch the thieves. The farm set up an administrative department dealing with stealing and covert cutting. In 1997, with the support of the NFPP and approval of the Gansu Provincial Government, the XSFB established a police sector. Before it was established they sent thieves with no ability to pay to the local police substation. But the substation would usually set them free. So after 1997, the Bureau had itself the right to arrest and sentence the thieves to jail.

4. they could identify the interior spies, they would terminate their work and end their salaries.

Beating and being beaten

The thieves by no means want to hurt forest protectors. They go in large groups only to prevent staff from catching them. They usually behave fiercely only to frighten staff as they pass through the Forestry Protection Station. Once, only Tang was on duty. The other had all gone to block the thieves on the hill. At the time Tang was young and inexperienced and when he heard the noise of carts he opened the door and shouted, 'what are you doing?' and was hit by a hail of stones. He locked the door and jumped over the wall to hide behind the haystack. The thieves did not chase him. They simply went on their way with the mule carts. He once caught a group of carts and as he walked behind the group and he was hit by somebody. It was not serious but they would not say who he was.

Another time, when they caught a cart and were walking back, Tang heard a sound so slowed his steps and fell about 100 meters behind the other team members. He hid near the roadside. A man came on a bicycle with some wood. Tang shouted for him to stop and then seized the man by the collar. The man was taller than Tang and he pushed the bike over and punched Tang on the chest and escaped.

Staff in the protection station were grouped in teams, and if a team caught thieves they would take them back to the forest production station where every team member would practice boxing on them. The villagers gradually knew that if they were caught they would be beaten, so they would escape first and go back the next day to pay the fines and get their stuff back.

The night is finally over

After implementation of the NFPP, the forest was much easier to manage since the villagers knew clearly what the policies were. The county would pass the information to the township and the township to the next lower level management and so on. Moreover, some of the adult villagers were now migrating out for work and had alternative ways of making an income. This was very different from the past. Tang said that after the NFPP they could all sleep easily at night.

Contextualizing macro conditions in the reform era

Government income and expenditure

Before the 1980s, China adopted a top-down planned economy with control of production, marketing, consumption, pricing, and viewed the fiscal system as a unified system of government income and expenditure. In the forestry sector, government allocated funds to the forestry enterprises required for forestry management. These

enterprises produced a planned number of logs and sold to the government at fixed prices that were rather low. The profit (fixed price and deducting for logging costs) became part of government revenue. At that time, logging was primarily in virgin forests and logging costs only included taking out logs from the forests to storage yards. The value of the resource was not a factor in pricing the logs.

Since the 1980s, the opening up and reform began with decentralizing decision making and government income collection powers. But, government expenditure remained the same, resulting in a deficit of income over expenditure. From 1984, the State Council issued a series of policies allowing local government and central sector authorities to levy and collect charges. Accordingly, these bodies set up a system of levies, including a few which barely accorded with the spirit and implications of the above policy. A few grassroots sector authorities commercialized the work involved. By developing businesses, collecting levies and fees the government service sectors shifted from agencies dependent on government fiscal resources to partly independent agencies (Li, 2000). More and more fees and funds were created, transforming government income. In 1996, total taxation income was 690 billion Yuan and government levies brought in another 600 billion Yuan (Table 4-2). Estimated government income took up 20-30% of GNP, but the actual government income in the budget (including taxation income and a few government charges listed in the government budget) took up only 11.6% of GNP (Jia, 1999). The Government income and expenditure system is formed by separating taxation from levied charges, by separating part of governmental revenue which can be budgeted by central government from rest governmental revenue which is beyond the control of the central government.

Table 4-2 Government revenue from charges and taxation in China

Year	Income from Charges (billion Yuan)	Income from Taxations (billion Yuan)	GNP	Charges/GNP (%)	Taxation/GNP (%)
1985	23.3	204	896	2.6	22.8
1990	76.0	282	1855	4.1	15.2
1993	143.3	426	3463	4.1	12.3
1995	384.3	604	5826	6.6	10.3
1996	600	690	6780	8.8	10.1

Since 1980, China has implemented continual fiscal reforms, but has not yet established a rational and complete system of central and local taxation. Most local taxation items are comparatively small, dispersed and erratic. Local authorities have no power to make taxation legislation. Many face a deficit of income from local taxation. To balance government income and expenditure and hasten local economic development, local government tends to enlarge their income by collecting charges. It was quite common to exert an irregular local tax in disguised form through levies, which in turn led to the substitution of taxes for levies (Li, 2000).

Rural taxation and levies

China still separates urban and rural areas. It is still uncommon for the countryside to share in government revenue. Formerly, income generated in rural areas and the agricultural sector was diverted for industrial and urban development. In 1993, the rural government system was reconstructed. The four levels of the fiscal sector (provincial, prefecture, county and township) were restored to complete the decentralization of the fiscal system. In the age of the planned economy, farms had no duties apart from turning over agricultural taxes to the central government. All expenditures at village and township level were managed by higher level authorities. Under the present fiscal system, the village and township government must balance their own income and expenditure, meaning that the state forestry farms need to meet all the expenses of the villages and township governments that fall under them. Many services traditionally provided by central government have now been taken on at grass roots government level, which passes the burden on to the farmers. Basic education, family planning, military training and infrastructural development are common examples (He, 1999).

China's government sectors are overstaffed. According to statistical data, there were 36.73 million employees living on government income in 1996, an increase of 82.3% on 1978. The local and central fiscal income is insufficient to pay these staffing costs, therefore the central government has had to allow sector government authorities to collect fees to feed their staff, which has placed heavy burdens alike on sector authorities, local government and the rural population, especially the farmers (Li, 2003).

Stamp County in 2004 had about 7,000 government staff among a total population of 185,800. Government sector authorities had to collect various kinds of fees to balance their budgets. This results in further expansion and overstaffing of sector organizations. The capacity to transfer central government income is rather weak, due to similar problems of overstaffing (Li, 2000).

In general, a large number of government sectors collect taxation and charges on forestry. In China, top-down state and local (province down to county level) taxation authorities are specifically designed to collect taxation separately. Three types of tax items can be categorized by ownership of revenue. At state level, these taxes include a domestic consumption tax, customs tax, and a value added tax. Local taxes include an agricultural tax (including a special agricultural products tax), education levy, urban maintenance and construction tax. The value-added tax is shared 75% by the state and 25% by local authorities. The revenues from taxation are administered by the corresponding fiscal sector at various levels from county to the state. (Li, 1999; Liu, 1999)

According to regulations, only the Provincial People's Congress and the State Council are authorized to approve the setting up a charge or levy for a particular purpose.

Revenue from some charges, such as the electricity development fund, is administered by fiscal sectors at various levels, even up to central government. Before 1996, revenue from most charges was administered by sector authorities that collected them. For instance, afforestation fees were collected by the county forestry department, and the revenue shared among the provincial, prefecture and county forestry department. The county could hand in an application to higher level forestry authorities for afforestation fees if there was a shortfall. After 1996, the revenue from official charges for administrative purposes was placed in the account of the fiscal sector concerned. This fund could be used only for specific purposes. The forestry authorities had to hand in an application to the same level fiscal sector for the use of this fund.

There are a great number of unofficial charges administered by sector authorities which are collected and controlled by government finance departments. Some of these revenues amount to *Xiaojinku*[23] (an unofficial unit account) which leads to a lot of corruption and negative impacts on sector development.

Besides the above taxation and charges, farmers must take on social burdens. For instance, five kinds of levy are collected, managed, and used at township level, such as an additional rural education fee, a family planning fee, and a rural road construction fee. Three kinds of charges are managed and spent at village level. These are for village administration, social welfare, and village development. These charges may be collected according to the number of family members or village population, but in forest communities, they are often charged on the production of forest products.

In 2002, China started a new term of rural taxation reform which attempted to wipe out all rural taxation. The privatization of education and rural health care went into reverse and central government is committed to investing more of its revenue in rural social welfare because of the conscious awareness of the growing gap between rural and urban, between the western and eastern part of China, and between the rich and poor.

Forestry taxation and charges

The existing forestry taxation and charging system was formulated after the fiscal reform of 1994. The following taxation and charges can be levied on forest land, forestry, and forest products from plantations or natural forests, whether state, collective or privately owned.

> *Special Agricultural Product Tax (SAPT). It could be levied on income from forest products including logs, bamboo cane, lacquer, natural rubber,*

[23] This is quite a common term in China. Each government sector has an account in a particular bank, which is audited and monitored and in general its fund is officially spent according to official regulation. But some government sectors might have other accounts (possible an institution or personal account) which is not open to governmental finance and auditing authorities. Its fund is sometimes spent unofficially.

natural resin, and tree oil. The producer and buyer were levied at the same tax rate, according to a table, e.g. for logs and bamboo at a rate of 8%. The revenue from this SAPT was owned by the local fiscal authority as local government income. It was abolished in the rural reforms of 2002.

Other taxes affect forestry. These include value added tax, 13-17% of added value; income tax, 33% of income; an education fee, 3% of value-added tax; an urban maintenance and construction tax, 1-7% of the amount of value-added tax.

There are a number of legal forest charges: an afforestation fee: 12-15% of the sale from logs and bamboo cane is collected for afforesting, technical extension and services. A maintenance and upgrading fee: 8-10% of sale income of logs and bamboo cane for depreciation of fixed capital of forestry harvesting and delivery enterprises, updating equipment and technological renovation for the forestry sector and forestry road construction. A forestry protection and construction fee: 5 Yuan per cubic meter of lumber sold to cover cost of implementing forest policy, forest fire protection, and road construction. The other fees, such as forestry quarantine fee and fee for vegetation recovery, were also applied. In addition, extra forestry charges were approved by some provincial authorities（Xie, 1999, 2000; Zhang 1999; Zhao and Gao, 1999）.

From forestry fees for forest development to feeding staff

Historically, there has been a shortage of public funds for investment in forestry restoration and development, resulting in this having to come from the sector's own income, which in turn led to the forestry sector's "raising funds from forests for forestry development." To some extent, this policy relieved the shortage of funds for development. It was considered a good policy that fitted in with established international practice. However, in a situation of a shortage of general local fiscal income, an increasing percentage of forestry funds were misused. For example, in 1992 in Xiushui County, Jiangxi Province, 94% of forestry funds collected in the name of various forestry charges were reinvested in afforestation and forest management, but by 1999, the percentage was down to 33%. In order to find enough funds for needed forestry restoration and development, the forestry sector had to raise the rate of forestry charges and add new ones.

The purpose of raising development funds through forestry levies in the planned economy period was very functional. During the transition period from planned to a market economy, lacking government revenue, in particular local government revenue, more and more revenue from forestry levies was used for staffing and daily expenditure than for the original purpose, which gradually became less and less important.

On the other hand, the forestry sector has over enlarged its administrative role in the name of the environmental benefits of forestry, to intervene directly in forestry management, including plantations, to delay or even refuse to reform this sector towards the market. As a result the sector has become increasingly overstaffed; administrative costs have increased resulting in more items charged and at a higher rate. In Stamp County, staff numbers have increased fourfold in two decades and this is now the core problem in the rural region, as Du Qinling of the Ministry of Agriculture puts it: "too many staff to be fed and not enough people to feed them." Although government has made great efforts to relieve this burden for the farmers it has had less impact in its implementation. The government realizes that to achieve its policy goals to release the rural tax burden, then reforming rural institutions and reducing the staff fed by government revenue must be a precondition.

Overlapping powers and responsibilities of two masters

In 1989, the XSFB established forest police to protect the forests. Before the late 1990s, the XSFB had no supervisory or legal powers. Any cases for law enforcement had to go through the local legal system. Staff in the farm complained that any illegal loggers arrested and sent to the county court, might be free the next day. Thus they wanted a way to deal with these loggers themselves (next chapter).

According to the provision for forest fee collection, as the XSFB is subordinate to the provincial forestry bureau, it is authorized to collect forest fees and report back to the latter bureau, which shares a percentage of this income. Thus, backed up by the provincial authority, the XSFB could issue a legal document for harvest and transportation, after which the county authority could not levy these charges again, which damaged relationships with local government that brought additional difficulties to the state forestry farms. The XSFB established its own school for staff children, even a polytechnic forestry training school before 1994 for further training future staff after middle school. It established its own hospital, and shopping place. However, it could not solve all its social service needs alone, as subordinated state farms are hundreds of miles distant. The residences and offices need access to electricity, communication lines, and clear water supplies. All these depend on local government. Without their support, they feel besieged in a small camp.

Conclusion

Thus we see how forest tenure shifted frequently and how each shift was followed by a new turn of the mass destruction of forests: From December 1949, when the land reform was launched in Stamp County and 'fragmented pieces of forest to citizens, together with the surrounding land and houses and large areas of forests became state owned; to October 1955, when central government declared that 'both large and small areas of forest land should be community managed; to 1958 with the 'Great Leap Forward' and the 'Commune' movements when all the forests were given over to collective ownership. Serious destruction of forests and forest resources occurred

during all these years, especially during the steel-making and communist canteen movements, when people cut huge volumes of timber to fuel industry and the massive road building program.

In 1960, the forest management strategy changed to the policy of 'who plants, who owns. Then, in 1965, an effort was made in Stamp County to organize, clean up and register all temple and some state-owned forests, and to transfer ownership to the county's financial department. From 1981 to 1982, an ownership steering committee was created in Stamp County and the 'Three fixes' forest policy was implemented. This led to fixing of the ownership of 'collective' forests and to the clarification of the location of *Si zhi* in the official forest ownership documents. After the 'Three fixes' policy in Stamp County, each person was allocated an average of 0.8 ha of forest and 0.45 ha of barren land.

Reflecting on the miscellaneous and at times complex material presented in this chapter, I draw the conclusion that the data strongly illustrates how forests became critical arenas of struggle and conflict (Ho, 2005). Access to and the use of trees galvanizes the interests of both outside groups represented by state and authoritative non-state actors, as well as inside groups such as forest residents and user groupings. The outcomes of these contestations are multiple and often difficult to predict and to solve, as the many changes of policy demonstrate. Though, like many other similar cases, the Chinese one brings out the extent to which unresolved issues continually raise their heads whatever the precise policy interventions and politico-economic transformations take place. In the chapters that follow I will revisit many of the central themes and processes identified here.

CHAPTER 5

Changes in the State Forestry Sector and the NFPP

The last chapter described historical changes in land and forest tenure, strategic approaches, and the practical measures taken by different actors - the Xiaolongshan State Forestry Bureau (XSFB) and local government, community leaders and farmers – in respect to forest use and policy. It highlighted the fact that both villagers and forests always seem to be the 'losers' in the continuing tempestuous political, social, economic, and administration changes of the last 50 years, no matter how good or bad the orientation of these changes. In 1998, the Chinese government initiated a huge natural forest protection program, the NFPP. As the implementation body of the NFPP, the Xiaolongshan Forest Trial Bureau (XSFB) was given a very visible and influential role. This chapter focuses on an analysis of the effects of this on state forestry farms with varying degrees of forest reserves, and on the staff in different positions in the Bureau. I also analyze changes in the XSFB's forest management and its adjustments in human resource organization, financial systems, organization of afforestation, and industrial structure consequent upon the implementation of the NFPP.

Forest management before the NFPP

The current status of state-owned forests in the Xiaolongshan area is the result of a number of system reforms. After 1949, the nationwide Land Reform Campaign nationalized large areas of privately-owned forests. This brought into being a twofold land ownership system: that involving direct control by the state and that based on collective affiliation. Hence, the forest system in the Xiaolongshan forest area was established with the state-owned forests taking first place and collective and private forests taking a supplementary role.

Since 1949, the ownership and demarcation of forest areas have experienced many changes. Each demarcation has targeted the boundaries between the state-owned and collective forests. Efforts were made to define visible border lines between state-owned forestry farms and local rural communities in order to separate the two physically, and thus deprive the rural communities from utilizing and running the state-owned forests. This kind of demarcation was the consequence of frictions between state-owned farms and rural communities for control and power. On many occasions, state-owned farms have sought to resolve actual and potential disputes by exchanging forestry land so as to ensure the safety of forest resources through better forest management; and under increasingly acrimonious disputes the state has had to concede and decentralize forests to nearby villages. That is, cooperation, rather than aggression, has been adopted to lower the costs of state-owned forest management.

Since the time of the Bureau's establishment, forest management objectives have focused upon improving secondary forests and then, on the basis of the experience gained, to extend this to larger areas. This did not change until the establishment of the NFPP.

The ultimate purpose of secondary forest improvement was to provide commercial timber for the country; that is, to maximize timber output. Yet even those forests that were principally commercial in nature had also to follow rigidly the national forestry guidelines. Hence the richness of forest resources was directly linked to the Bureau's fate, to staff support, and to the Bureau's achievements. Eventually, however, management diverted its objectives away from the forest areas per se and its original intention of developing them, to the difficulties of handling a 'double crisis', namely, that of resource conservation and economic viability in forest regions.

Under the original forest management system in China, once management objectives were decided, then institutional or non-entrepreneurial management modes were strictly applied. This required setting up an institutional framework with personnel administration, wages and salaries, production (afforestation, secondary forest improvement, timber harvesting etc.), sales and funding etc. all decided by upper-level administrative bodies. The XSFB simply passively accepted and implemented the plans and tasks delegated from above.

Changes of regime have always followed the route of hierarchical administrative intervention. What they have tried to resolve is who precisely administers the activities of the Forestry Trial Bureau. The Bureau itself is seen to lack the ability and power of innovation - an unavoidable consequence of previous top-down political orders. At the nucleus of the administrative regime concerns the right to verify and approve plans vital to forest area development. For a long time, China has adopted the model of a planned economy and the country still suffers its consequences. Under the administration of such a management regime, higher hierarchically bodies are, theoretically, responsible for decisions; and ought to shoulder the direct consequences, though, in reality, it is precisely the other way around. It is the implementers who suffer most of the consequences.

The Forestry Bureau, with secondary forest improvement as its main activity, inherited this institutional top-down management mode and its methods. This has some theoretical justification, and is closely related to the nature of the forest area itself. For instance, with ecological protection as its main objective, output is hardly likely to match the costs of the necessary inputs. Hence government has an obligation to make up the difference. Moreover, developing timber reserves as a main income-earning activity requires that the debts incurred are expected to be paid off by the returns from timber or other profit-making activities. For these various reasons, the critical causes of crisis in forest areas can mostly be traced to messy objectives, vague responsibilities, and the failure to clarify the roles of government, collective and private enterprise and local institutions.

The consumption of forest resources in the Xiaolongshan forest area can be divided into two types: profit- and non-profit-making, of which the latter is by far the larger. Before 1995, the average net annual increase in forest area was 2.18%; whereas after 1996, as the share of plantation increased, it rose to 2.83%; and the annual stocking volume increased by 570 thousand $M^{3,}$ with an annual consumption volume of 580 thousand M^3. Of this yearly consumption volume, profit-making consumption made up less than 250 thousand M^3, that is, 44%, while non-profit consumption (consumed by the residents within the forest area and its bordering area for their own consumption purposes) was more than 330 thousand M^3, i.e. above 56%.

The impact of the NFPP on the XSFB

In 1999, during the pilot phase of the NFPP, the Xiaolongshan forest region was listed as a program area. The focus proposed for the XSFB covered the following aspects:

First, it changed the forest management target, thus adjusting the direction of forest resource composition. The XSFB had focused on secondary forest improvement and plantation development in order to develop back-up timber resources. But, after implementation of the NFPP, the focus changed - at least nominally – to ecological conservation, water and soil erosion prevention. In this connection, the forest resource composition under the Xiaolongshan Bureau was realigned to include an increased acreage of Essential Ecological Conservation Area (which now comprises 87.2% of the total forest area), and a decreased acreage of Commercial Forest Area (only 5%). The NFPP project proposed the following forest categories.

The forest area in the XSFB was categorized into 3 types:

1. Essential Ecological Conservation Area covering a total of around 8.4 million Mu, 87.28% of total forest land. Within this area, all kinds of cutting activities are forbidden in natural forests. This area shall be completely enclosed and treated as a key target area for the project. For the open forests and barren land suitable for plantation within this area, forest closure and planting measures shall be taken to restore forest;

2. Ordinary Ecological Conservation Area occupying 735,000 Mu, 7.63% of the total forest land. In order to adjust forest structure, to facilitate forest growth, to increase the resistance of the reserved trees, in this area, only low-intensity thinning shall be allowed to transfer those pure conifer forests into mixed forests with both broad-leaved and conifer species to improve the stability of the forest, and to improve ecological conditions;

3. Commercial Forests Area totaling 490,600 Mu, 5.09% of the total forestry land. This will be mainly distributed in the valleys and at the foot of mountains which enjoy convenient transportation conditions, slight slopes,

> *good site conditions, and deep soil. Commercial forests shall be market-oriented, and intensive management shall be applied for targeted cultivation in order to satisfy society's demands for industrial raw materials and timber.*

A second important dimension of the NFPP concerned giving priority to the political target of guaranteeing the cessation of illegal activities. A complete ban was issued for all kinds of cutting activities in the Essential Ecological Conservation area and this was treated as a fundamental precondition for any planning exercise. The third element was aimed at grasping opportunities and strengthening existing resource management methods, at developing the ecological forest and expanding back-up resource storage. During the 11-year project implementation stage - 2000 to 2010 - a total of 6.822 million Mu of forest lands were to be put under protection and another 1.642 million of ecological forests established. It was expected that the rate of forest coverage would increase by some 7-8 percentage points, and that stand timber volume would be increased by approximately 6 million m^3.

The following text is taken from the NFPP project proposal summary:

> *NFPP Planning Program coverage will incorporate 21 forestry farms and 16 institutes directly under the Bureau's administration;*
>
> *Program period: 11 years divided into 2 phases: Phase I: 2000-2005, Phase II: 2006-2010;*
>
> *Main Activities: forest resource management and establishment of ecological forest areas:*
>
> *Protection of 6.822 million Mu of forests including 5.525 million Mu forested land, 1.278 million Mu of bush and shrub and 19 thousand Mu of young forest;*
>
> *Establishment of ecological forest of 1.642 million Mu including 42 thousand Mu forest closure, 600 thousand Mu by aerial seeding, and 1 million Mu by plantation. Total target of Phase I: 887 thousand Mu, including 42 thousand Mu forest closure, 300 thousand Mu by aerial seeding, and 545 thousand Mu by plantation. The target of Phase II is 755 thousand Mu, including 300 thousand Mu by aerial seeding, and 455 thousand Mu by plantation.*
>
> *Program objectives: to strengthen the protection of natural forests. By 2010, the time when the program is to be concluded, the environment in the program area shall be further improved and the contradictions among the population, economy, resource and environment shall be further alleviated.*

Finally, the focus was to urge reform and institutional reconstruction, to properly deploy redundant staff and to treat the employment and re-employment of its own employees as the main measure for ensuring social stability in the forestry area and the implementation of the NFPP.

The above data depict the official rationale and implications of the NFPP vis-à-vis the XSFB. I now wish to synthesize several other dimensions of the process.

Probing other dimensions of NFPP in XSFB

The income source shifted from forest resources to NFPP funds

Even before implementation of the NFPP, the XSFB was finding it difficult to support its staff due to the constraints of limited forest resources. Over the past 20 years, adjustments in the industrial structure of forestry had proved extremely inefficient, and have brought nothing but over-staffing and a large quantity of non-viable properties. This situation was similar to other state-owned forest areas under the NFPP.

By the end of 1998, the XSFB had stopped commercial logging completely. The financial income of its enterprises depended on NFPP special funds rather than the previous forest resource outputs. During the first 3 years (1999-2001) of the NFPP implementation, the state distributed a financial allocation of 105.65 million RMB, including 87.08 million RMB from central government revenues; and 103.675 million RMB from national debt funds, out of which 84.03 million RMB was ear-marked for the establishment of ecological forest areas, 17.77 million RMB for tree seedlings, 1.575 million for fire prevention, and 0.3 million RMB for technical support.

This enormous input by the NFPP alleviated the increasingly worsening financial situation in the Bureau. An important consequence was that the Bureau changed its previous strategy of trying to generate its own earnings to cover expenditure to that of the simply waiting for financial inputs from government. A positive result of this is that the number of beneficiaries in the Bureau has never been so large since its foundation.

The plight of the staff varied in relation to their work assignments

In the light of NFPP's guidelines on expenses, all of its subsidiary units are now organized according to their tasks into institutes with *full* financial support (i.e. the headquarters administration, police, school, and research and survey teams); institutes with *partial* financial support (i.e. the logistical infrastructure of the Bureau, hospital, botanic garden, and the infrastructure management center); units *without* financial support or taking care of all of their own expenses through the earnings they gain (i.e. transportation services and others related to the sale of timber); enterprises who self-manage their own businesses and are thus responsible for any losses or gains they make (i.e. those enterprises under the Bureau); and forestry farms whose employees' salaries are sourced from the NFPP.

Hence, XSFB's staff has been re-arranged in accordance with NFPP targets and other requirements based on specific indicators: 2,825 persons were allocated for forest maintenance, 1,655 persons for afforestation, 412 persons for forestry police, 537 persons for schools and hospitals; and 1,613 persons were eligible to receive retirement payments, and also a further 527 persons in the Re-employment Center waiting for new assignments (Table 5-1). The rest, 730 persons were not re-employed, though some may have received a pension or been placed in the re-employment centre 730 persons were not re-employed.

Staffing is subject to funds being available. Relatively adequate funds are available for almost every staff member to seek alternative employment. In short, the NFPP turned out to be a life-saving stimulus for maintaining the old system.

The NFPP had a differential impact on staff working in different jobs. Those who worked as loggers, or who were engaged in operating timber harvesting equipment and other such technologies, were made redundant. They had to search for new livelihoods that could support their household needs. Other manual and semi-skilled workers were similarly affected. As for those staff involved in transport services, they had the possibility of finding similar work in the region, although by doing so they added to the increased competition for local transport and marketing work. And finally, one needs to emphasize that the families of forestry farm staff continued as direct users of forest resources: they collected wood for fuel and wild fruits, and hunted game.

Table 5-1 Number of Staff in the XSFB before and after the NFPP

(Unit: person)

Positions/activities		Before NFPP	After NFPP
Silviculture	Logging	2010	0
	Sale of timber	437	0
	Forest maintenance	1229	2825
	Seedling raising	743	1655
	Sub-total	4419	4480
Forestry industry, services		1497	403
Schools & hospitals		551	537
Forestry research, survey, pest & disease control		262	276
Forestry police		68	412
Headquarters and logistics		165	124
Totals		6962	6232

Enterprise debt crisis worsens as business environment deteriorates

The NFPP implementation led to the failure of its enterprises to pay off some of their overdue payments, leading to a decline in their reputations, which, in turn, damaged the business environment. There were plenty of 'chain debts' among these enterprises, which, together with the logging ban, caused credit rights to turn into bad debt, thus

worsening the financial crisis. Its forestry enterprises were especially hit badly since their financial shortfall could not be shouldered by the NFPP. This was often considered discriminatory by those affected most.

Further enquiries suggested that the majority of enterprises in debt had been established during the period when forestry was integrated into the wider industrial economy. Under the planned economy prices were distorted, such that timber processing achieved a large margin of profit. This meant that whoever gained the right to engage in timber processing had the advantage of making excessively high profits. Driven by financial interests, forestry enterprises were tempted to prolong the forest industrial chain in order to increase profits. However, under the new competitive market conditions, it was difficult to predict the trend of average profits and therefore many enterprises could not survive large losses. Thus, without reforming the traditional regime and dealing with the new business environment, it was difficult for forestry industries to improve their competitive capacity.

Induced changes by NFPP

After three years of implementation, a team was organized, involving I and three other academic researchers, to survey what changes had taken place as a result of these NFPP interventions.

Changes in management objectives

Since its establishment in 1962, the XSFB experienced the following four major stages in its development:

Stage 1: 1962-1966, the starting period for the forestry industry. This stage was mainly concentrated on timber production. During this stage, two timber-processing grass-roots factories were set up in its subsidiary forestry farms. Timber production at this stage was based on the exploitation of the entire forest area. At the time of its establishment, production was less than 30,000 m^3, but by the end of 1964 it amounted cumulatively to 127,029 m^3, and, in 1966, it climbed to 98,000 m^3.

Stage 2: 1967-1976, the initial development stage of the forestry industry. Some forestry farms started processing forestry side-products. In 1973, Xiaolongshan Fiber Board Factory was planned and begun operation in 1976. This reflected the tendency towards urbanization and the centralization of forestry industry and its expansion in scale. This led to a sharp increase in staff under the state-owned forestry regime, which risked the over-consumption of forest resources, and the possibility of heavy financial burdens.

Stage 3: 1977-1994, the comprehensive development of the forestry industry. During this period, a Forestry Industry & Commerce Company was established that combined timber extraction with the production of a variety of wood products such as wood

panels, furniture, bamboo and wooden agricultural implements. It also engaged in plus animal husbandry, tourism, trade, mining and food processing.

Stage 4: 1995- to the present, the stage of comprehensive planning, structural adjustment, capital re-combination, and the re-organization of the forestry industry. By the end of 1998, when the NFPP was established, the Bureau had produced 4.145 million m^3 of timber, with total forestry production valued at 675.89 million RMB, and a commercial turnover of 189.59 million RMB. Correspondingly, its incumbent staff reached 7,666 persons, including 744 management staff, and 6,109 wage workers (3,482 permanent wage workers, 2,627 contract-based workers), and 813 technical staff. Its retired staff amounted to 1,166 persons.

A central feature of the NFPP is the complete enclosure of forest resources. With its implementation, forest management objectives were fundamentally changed. The previous resource-consumption style was replaced by the principle of natural forest protection.

Figure 5-1, depicts the pattern of historical change for wood panel production in the Dangchuan Timber Processing Factory, which more or less represents the development of timber production in XSFB. The period from the end of the 1970s up to the 1990s corresponds to the comprehensive development stage of XSFB. During this period the Dangchuan Factory reached its highest point of timber production. Under the traditional production mode, large quantities of natural forest were depleted.

Figure 5-1 Historical Changes in Lumber Production at the Dangchuan Timber Processing Factory

(Unit: m^3)

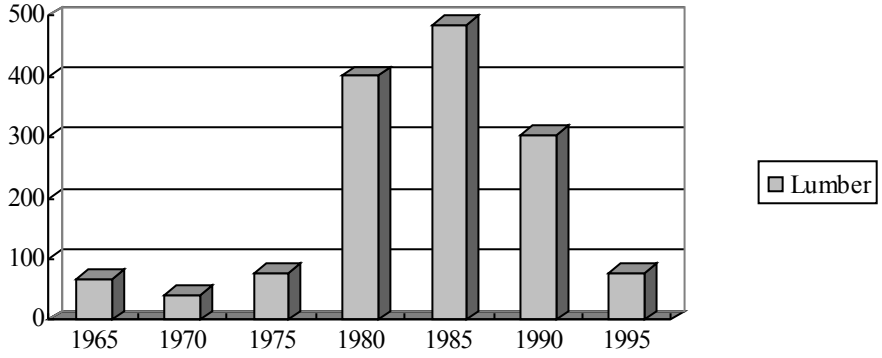

Figure 5-1 underlines the importance of the timber industry in the 1980s and early 1990s. During that period the XSFB depended heavily on this production; and at the

time of the intervention by the NFPP, it was the major source of income. According to 1997 official statistics, the XSFB produced 30,725.6 m^3 of lumber, 27,700.4m^3 of fiberboard, 3,491.1 m^3 of wooden flooring, and 115,141.9 tons of timber for transportation. Since its establishment, it had invested 106.571 million RMB in secondary and tertiary industries with total annual revenue of 105.91 million RMB, and net earnings of 34.295 million RMB at the usage rate of 32.38%. As I indicated above, prior to the NFPP, the main objective of the XSFB was the exploitation of natural forests for timber. In this way the bureau contributed to local and national economic development, though at the cost of forest depletion. However, since the mid-1990s the Dangchuan Timber Processing Factory's lumber production has declined drastically, due largely to forest depletion. After 1998, with the enforcement of the NFPP, the management objective of the bureau shifted to the conservation of natural forest areas and the development of ecological forests.

While these developments might be considered progressive and environmentally friendly, the implementation was 'top-down' with central government acting as the principal decision-maker and the forestry farms as project implementers. Thus the shift in management objectives was compulsory and enforced by national policy. The impact at the lowest implementer level was enormous. The following activities were successively shut down by the XSFB: the Forestry Chemical Factory concerned with natural forest depletion (in 1997), the Forestry Supply Division (in 1998), Commerce & Sales Division (in 1998), and the timber processing factories of 16 forestry farms. Moreover, it ceased production of 70 timber products and the staff engaged in forestry activities were decreased dramatically from 1400 to 400. So far, out of the original range of activities, only arable cropping, animal husbandry, tourism, catering and some manufactured forest by-products remain.

The bureau staff communities (and especially the forestry farms) were the most affected by these changes since they had been the major users of the natural forests before the NFPP. However, they were also the best able to benefit from the re-organization of activities introduced by the NFPP by taking on new roles. For example, they became involved in the allocation of staff to various new tasks, consequent upon the closure of the timber industry and its many derivative activities. In this way they worked on re-assigning redundant staff to new units of product manufacture. And in many other creative ways they reinvented jobs and priorities so as to match the priorities and new modes of development discourse brought by the NFPP.

Organizational Changes and Tasks

As explained earlier the NFPP shifted forestry development away from cutting forest areas for economic benefit towards the need for forest protection, forest closure and afforestation, with special emphasis on the central issue of the ecological benefits. In order to make this shift, it has had to rethink forestry development and re-combine various production elements.

In the first place, it strengthened those institutes made responsible for the implementation of the new program of activities such as the newly-opened Silviculture Division, Forestry Policy & Administration Division, Multiple Sales Division, and Science and Education Division organized to set up a relatively sound management system.

Second, it has shut down several departments/enterprises of the XSFB. These include: 16 timber processing factories, timber sales companies, and the Forestry Products Supply Division which previously focused on timber extraction, processing and sales. It has also closed 12 timber delivery outlets, and changed its timber storage platform and transportation team into a seedling nursery and a vehicle repairs and service center, and transferred the staff of its subsidiary comprehensive sales company, mineral product exploitation company, economic development company, and material supply station into the new institutes made responsible for the reorganization.

Third, it has reduced some institutes. The Management and Logistics Divisions, and Project Office have been closed, reducing the number of divisions from 14 to 10. Its forestry farms have cut a staggering total of 42 sub-divisions concerned with timber production and sales.

Fourth, it has reduced non-production staff to strengthen the maintenance team. At the bureau headquarters, 125 staff has been reduced to 90 persons, and each forestry farm has reduced, on average, its non-production staff to 15. Furthermore, in accordance with the requirement to readjust staffing levels, some 524 staff at forestry farms with less afforestation targets have been transferred to those with larger such targets and management areas. At the present, within the whole bureau, there is a total of 4,300 staff engaged in forest maintenance and ecological forest development. This constitutes 71% of total staff.

Fifth, it has led to the consolidation of the Communist Party Organization at grass-roots level. Before NFPP, most of the forestry farms and institutes were controlled by one official who acted as both the head of the farm/institute and of the Communist Party Organization. This arrangement often proved to be ineffective in terms of supervision and constraints. At the present, the total number of full-time heads of the Communist Party Organization in the entire bureau has increased from 8 to 31 persons, of whom 21 head the Communist Party Organization at the forestry farm level.

And finally, the NFPP has dispensed with the post associated with timber harvesting and sales, and has added instead those of director of forest maintenance and forestry police.

A change in mechanisms of afforestation

During the process of forest development, a good deal of discussion in recent years has centered on issues of ‘ecological benefits’. The focus of afforestation has moved from

stand improvement with economic benefits as its major purpose to plantations on barren land stressing ecological benefits. Afforestation sites are located at the edge of forest areas, on suitable barren land in low-altitude mountains, and on land with few bushes and shrub. The sites should be contiguous geographically in order to generate scale effect.

The species used have changed from Larch, Chinese and Armand pines with conifer species to the current mixture of conifer and broad-leaved species. In the project design, Chinese spruce, Faber fir, Taiwan Juniper, Black locust etc. - over 10 different species in total – were preferred. Based on the principle of "site-specific species selection", gradually purely conifer forests will be replaced by mixed forests with a combination of conifer and broad-leaved species.

Afforestation measures have also changed from the separation of planting and maintenance to considering both at the same time. Maintenance responsibilities for new plantation sites must be times specified in contracts. Moreover, the bureau has adopted a two-level (the bureau and its corresponding forestry farm) afforestation quality check and stipulates standard technical criteria and corresponding implementation methods for such quality checks. Site management has changed from previous extensive field instruction methods to project monitoring in order to ensure the survival and preservation rates for afforestation.

The field instruction described 'forest harvesters' as becoming 'forest creators' through contract-based afforestation, which connected payment with the precise amount of labor input. This, it appears, has stimulated an enormous increase in the activity of forestry workers, resulting in a marked improvement in the quality of afforestation. A set of stipulations have been drawn up and perfected such as the "Ecological Forest Quality Control Guideline", "Operative Guideline for Ecological Forest Design and Implementation", "Technical Criteria of Afforestation Design", and "Guidelines for Seedling Raising". In addition, afforestation quality-check institutes have been established by the bureau, and each forestry farm is required to ensure the quality of its ecological forest practices. Thus, from both the system and institutional set-up, the management of ecological forest development has become more standardized.

Between 1998 and 2001, the bureau established 209,300 Mu of ecological forests, enclosed 360,000 Mu of forest areas, and tended 183,000 Mu of maintained forests, artificially stimulating 17,000 Mu for natural regeneration. It also established 3.5 thousand Mu as nurseries and produced 75.87 million seedling trees. Three-year successive quality checks have revealed that the overall bureau's average afforestation survival rate has reached 90%, the average preservation rate 80%, and the area afforested 100% of that planned. Since 2002, the responsibilities of heads at the bureau headquarters and divisions under the bureau have been divided geographically in order to speed up the tempo of afforestation.

Changes in the financial management system

Since the NFPP implementation, three systems have been set up and put into practice:

The accountants–assignment system: Transparent and fair competition through examination and investigation of professional knowledge and working capacity is used to select politically and professionally competent staff to be assigned to each subsidiary forestry farm as accountant-in-charge. Such accountants are appointed for duration of three years and are placed under uniform administrative control by the Financial Management Division in order to cut off the dependent relationship that often exists between accountants and the institutes or forestry farms they are serving. This aims to diminish administrative interference and to create a favorable atmosphere for accountants to better conduct supervision in the light of relevant laws and regulations. Moreover, the previous system of *post facto* accountancy evaluation changed to one that concentrates on prevention and control in advance, so that the management of funds is disciplined at the source.

The financial re-imbursement system: All institutes and forestry farms that use NFPP funds must follow its guidelines on financial management and accounting of ecological forest areas in order to list the expenses and costs of the program. For the re-imbursement, the Financing and Planning Division is required to allocate the reimbursed amount accumulatively in light of the arrival of the NFPP fund. The allocation can be once every month or once every few months. Any over-allocated fund shall be deducted from the next reimbursement. This, it is argued, allows one to promptly identify and correct problems relating to the over-allocation of funds or the violation of fund usage such as the misuse and abuse of funds for other purposes or to conceal losses and wastages.

The internal audit system: The Audit Division was set up and granted with the right to carry out independent internal audits. It is stipulated that it must conduct audit and internal supervision of all subsidiary forestry farms and institutes. In this way, it is expected to identify problems early so that self-checking and self-correction can be promptly undertaken to ensure the smooth implementation of the program.

In 2002, an annual enforcement of these three systems was implemented. According to official's views, this exercise proved very effective in strengthening NFPP financial management, internal supervision and system constraints, thereby improving the financial staff's professional know-how and working capacity. These three systems also received the approval of the Task Force from the Dept. of Essential Program Supervision under the National Planning Commission.

Changes of forest protection system

Before the NFPP, forest resource protection of the Xiaolongshan forest region depended on rangers patrolling the area. After the NFPP, forest maintenance and protection was re- defined and the following new measures were adopted:

The forest maintenance and protection team was re-organized and expanded. The former Forestry Public Security Division under the bureau was upgraded to become the Forestry Public Security Bureau, with its subsidiary public security stations increased from 9 to 14 and its police force from 69 to 178 staff. The Forestry Policy Enforcement Supervision Team was established with 21 sub-teams and 421 staff. Its functions moved from keeping a check on timber extraction to all-around forest resource protection. This required the setting up of one professional forest fire prevention and fighting team, 23 semi-professional forestry fire prevention and fighting teams, and 22 patrol teams specializing in fire prevention. The 108 silviculture blocks under the bureau that used to be involved in secondary forest improvement were shifted to cover issues of forestry resource protection. This entailed the expansion of an original 1000 staff to about 3000. In addition, the number of forest resource protection stations expanded from 26 to 47, and 11 more watchtowers were newly erected. Some 97 short-wave transmitters were distributed to the forestry farms and silviculture blocks. So far, the forest protection system consisting of a network of three levels (bureau, forestry farms and protection stations) has been formed. This combines professional law enforcement and routine patrolling.

Secondly, the changes were aimed at strengthening specific responsibilities and improving enforcement. In line with the actual situation and *raison d'être* of the bureau, the following principles were adopted: "In the distance, forest closure, nearby, the division responsible for the forest; contracting by levels and combined professional and community management".

As for the concrete measures undertaken, these were as follows.

1. For natural forests, forest closure was applied, and a 'checking-up' (or monitoring) station was set up in order to strictly enclose the forests.

2. For forests located together with agricultural land, a system of contracting responsibility was implemented. Official documents were signed to devolve forest protection responsibility from the bureau and forestry farms, to silviculture blocks and thence to individual staff. The system explicitly stipulated that for forest resource management, the acreage, person-in-charge, maintenance costs, and contracting duration must to be specified; and proper forest resource maintenance, ecological forest survival, young forest preservation, increased forest coverage, stands and timber volume had to be ensured. Within demarcated areas, no forest fires, illegal cutting, slash-and-burn, illegal occupation of forestry land, forest pests and disease, and illegal hunting were permitted.

3. Well-managed relationships were to be maintained with local farmers involved in forestry work and the rights and benefits of forest communities honored. In the past, the bureau donated more than 1 million RMB worth of materials every year to counties, townships, and villages of the Xiaolongshan forest area. But after the NFPP, such donations decreased considerably. Instead, the bureau provided over 5 million trees of good quality seedlings to locals free of charge every year. In return, agreements on joint forestry protection were signed between forestry farms and townships inside or on the edge of the forest area, and with local villages with a view to actively gaining the support of local government for forest protection. Village regulations on forest fire prevention were jointly drawn up with the local communities.

4. In the past, illegal mining that threatened forest resources was very severe. With the NFPP, forest land management was strengthened and violations were penalized. In recent years, the bureau has shown initiative by supporting local government actions aimed at reducing such illegal activities. A total of total 360 illegal mines were closed, 78 illegal mine caves were demolished and a further 188 sealed up. In this manner, the bureau lawfully reclaimed 6,021.7 Mu of illegally occupied forest land. Furthermore, as forest protection measures have expanded over the past 15 years, so has the area been free of large forest fires. The percentage of forest pests and diseases under control rose to 60.4%, while pest and disease incidents dropped to 2.7%. Last but not least, cases of maladministration of forests have declined drastically. This can be partly attributed to the fact that the bureau has instituted regular assessments of forest management performance based on a number of 'responsibility' criteria, thus establishing an incentive and punishment system tying performance to remuneration.

Changes in the industrial structure of the forestry area

After the NFPP implementation, each forestry farm and institute – on the basis of their own experiences – ran trials designed to launch new economic activities, such as poultry and animal husbandry, tourism, commerce, and flower production. These experiments were aimed at searching for new economic growth points which might help to re-employ some of those made redundant. The bureau had re-organized and also integrated some new key projects in order to build a forestry-based industrial framework that could combine wooden product processing, forestry tourism, and flowers and bonsai as its main economic activities.

The Fiberboard Factory was set up in 1976 as a lead enterprise. Its main product was wet fiberboard. Yet, over the years, its products became out-of-date, and an additional problem was the worn-out machinery and equipment. Thus, by the mid-1990s, the factory was almost at a standstill. Then just before the NFPP, the factory had used a 39 million RMB loan to update it technically and in November 1997 it recommenced production. The factory now produces three major types of product: wood-based board, furniture, and wooden floors, which include 12 different varieties and well over 580 different products. Of these, medium-density fiberboard, particle board, dressing board, fine-layer dressing board are in constant production with an annual production of 21

thousand m^3, selling in 8 provinces/cities, and an annual sales income of over 24 million RMB.

Another recent development is the promotion of ecological forestry tourism at the Maijishan Botanic Garden, its main site. The development of forestry parks and forestry tourism date back to 1983, but the industry had remained somewhat stagnant because more attention was accorded to afforestation. Then, during the NFPP implementation stage, the Maijishan National Forestry Park and two provincial forestry parks were approved by the SFA and the Provincial Forestry Department. This enabled forestry tourism to move into a more rapid development mode. According to existing (though somewhat incomplete) statistics, the bureau has invested 13 million RMB cumulatively and has established Longlin Hotel, Maijishan Botanic Garden, and Quxi Cottage, in total making up a construction area of 11 thousand m^2 and an accommodation capacity for 800 visitors. Furthermore, the Xiaolongshan Great Nature Travel Agency has built a 50-plus Km tourism motorized route, some 60 Km of tourist footpaths, as well as some 180 scenic spots. These tourist developments combine accommodation, travel, sightseeing, shopping and entertainments. By the end of last year, the number of staff engaged in these tourist-type activities in the bureau reached nearly 200. In 2003, some 178,000 visitors and tourists visited the area, contributing over 4 million RMB in revenue.

In addition, the Forestry Research Institute promoted the production of flowers and plants. In Xiaolongshan forestry area, flora and fauna are abundant and there is a multitude of varieties of flowers, medicinal herbs and wild vegetables. In recent years, exploitation of these kinds of products has been identified as a new growth point. Out of all the projects geared to harnessing the collection of forest products, Xiaolongshan Production Base of Flowers, Bonsai, and Ornamental Seedlings was approved in 1999 by the Provincial Forestry Department, and has since acquired partial funding for construction on a loan basis. Recently it built an eight thousand m^2 green house for flower production and exhibitions, and a steel-framed shelter and 37 Mu nursery with sprinkler irrigation. It can produce more than 50 different varieties of plants characterized under four major types: potted flowers, bonsai, ornament seedlings, and turf. In addition, through public bidding, it obtains contracts for planting green areas inside Nanguosi Forestry Park in Qincheng District, and providing avenue trees along the Outer Ring Road in Beidao District, Tianshui City. At present, there are more than 420 bureau staff involved in flower and other forms of plant production that generate an annual income of over 12 million RMB.

Heterogeneous state-owned farms and differential Impacts

The richness of the forest reserve is the basic variable determining the survival and development of forestry farms. Under the traditional regime, forestry farm staff at different levels in the hierarchy were all required to follow the production plan formulated by a higher administrative body. That is, they were both recipients and implementers of the plan, with little or no stimulus to innovate. Now, after twenty

years of exposure to a more open and market-oriented economy, forestry farms have been brought together through XSFB under a new uniform administrative system but one where individuals and households are now encouraged to seek a range of livelihoods. Nevertheless, the richness of the forest reserve remains the vital resource that shapes both the financial present and future of the XSFB and the economic wellbeing of local households.

The XSFB manages a total of 21 state-owned forestry farms. They vary in geographical position, in the richness of their reserves, and are differently affected by the NFPP. In order to highlight these differences, I provide below three contrasting examples: Shanmen Forestry Farm with a poor resource base, Dangchuan Forestry Farm with a rich resource base, and Elm Forestry Farm with an average resource base.

Shanmen State-owned Forestry Farm is poor in forest resources. Its territory includes a large area of scattered barren land. However, historical records show that this area once consisted of a large secondary natural forest. Yet, because of its convenient transport connections, high population density and the geographical location of its agricultural land, it was one of the first sources of timber production selected by XSFB when it began its work.

Because of a history of over-logging, the consumption of timber had been high. By 1998, when NFPP intervened, Shanmen Forestry Farm had only 0.149 million Mu of forested land left, which accounts for 23.2% of its total property, and natural forest covered only 1/4 of the total area. Its exploitable forest resource was therefore very limited. For these reasons, the Farm was facing a serious resource crisis prior to the arrival of the NFPP and experienced difficulties in maintaining and funding its day-to-day activities.

Forestry land in Shanmen Farm falls into three categories: forested land, i.e. secondary natural forests, approximately 23.2% of the total area; bush and shrub land, around 30.5% of the total; and the third constitutes barren land, about 46.3% of the total.

After the NFPP was initiated, the management objectives of the state-owned forests shifted from logging to the maintenance of natural forests, and to the development of ecological forests, for which the Central Government provided special funds for conservation and planting. Because of the large proportion of bush, shrub and barren land, a large program of planting was planned. The work required for establishing a viable ecological forest was extremely heavy and urgently needed additional staff. Somewhat paradoxically these shortcomings made Shanmen an ideal candidate for special national funding.

Table 5-2 illustrates recent changes in the number of XSFB staff, and their salaries after the NFPP was initiated. In terms of the number of staff employed, it shows a sharp increase of 97 staff following the establishment of NFPP. At the same time, their average salary increased by 430 RMB. This suggests that the conditions of survival for

Shanmen Forestry Farm notably improved after the arrival of the NFPP. This improvement was clearly related to the various efforts made to restore the richness of its forest resources. In this way, the large area of "idle" barren land, bush and shrub land became a critical factor in the strategy to regenerate Shanmen's economy, though this could only happen through heavy outside investment; in this case, spearheaded by state funding.

Table 5-2 Changes in number of staff and their salaries under NFPP

Time	Before NFPP	After NFPP
No. of staff	183 persons	280 persons
Average salary per person	450 RMB/Month	880 RMB/Month

Furthermore, the study also revealed that the additional staff recruited-in came mainly from other farms with rich forest resources. Many of these had been made redundant following the enforcement of the ban on logging or they were transferred from forestry industrial factories (e.g. fiberboard or chemical factories) and assigned new jobs. Many of these industrial plants were shut down because of a shortage of essential raw materials. Of course, as I indicated above, it was the business of the bureau to re-deploy its staff along the lines suggested by NFPP. To some extent, it was also, then, part of a strategy for resolving conflicts over staffing and business priorities; as well as resolving the issue of balancing incomes and improving work efficiency.

However, we also need to probe more deeply certain other dimensions. A multitude of "newcomers" were simply categorized as such 'on paper' (i.e. they were included in the list of staff of particular forestry farms). In fact, forestry farms often allow newcomers to stay on at home, on the condition of payment of a basic salary (about 400 RMB a month) and receiving average welfare payments. This might seem odd but many staff, especially female workers, who prefer to stay at home supporting their husbands and taking care of the children. The reasons for this can be many, covering such circumstances as finding it difficult to obtain a suitable good job, being unaccustomed to the new environment and colleagues, difficulties in family life (pertaining for example to children's schooling, being separated from one's spouse, taking care of the elderly children etc). However, the most fundamental reason is probably the comparison of incomes.

Table 5-2 indicates the change of salaries after the NFPP. This shows that the salary at the forestry farm before the NFPP was half that received after the NFPP. This means that the implementation of NFPP brought with it large salary increases, such that some families seem to have opted for one rather than two full-working salaries, especially if the second wage earner could claim some compensation for being unemployed. Hence the statistics itself hides a variety of household decisions and outcomes.

In short, the high level of investment funds injected into Shanmen Farm allowed Forestry managers to use some of this to mitigate all sorts of "surface' conflicts that had accumulated throughout the history of the farm. Thus NFPP investment brought

with it (sometimes in rather unexpected ways) a degree of prosperity and stability, although over the longer term more 'in-depth' conflicts were likely to arise. One very positive outcome was that NFPP raised the visibility of the plight of rural forestry workers and farmers.

Dangchuan State-owned Forestry Farm is a farm in Xiaolongshan with rich forest resources. As shown in Table 5-3, it has a forest coverage rate of 93.3%. Its financial situation deteriorated sharply overnight after the Logging Ban was introduced. It has experienced significant re-adjustments in production activities. The social structure constituted during the major timber production era also underwent significant changes. The major task faced by the farm in the initial stages of the NFPP was to re-assign its staff.

Table 5-3 Forestry Land in Dangchuan Farm: 1985-2001

(Unit: Mu)

Year	Total area of the farm	Forest land	Forested land	Forest coverage rate
1985	701325	664996.5	612927	92.2%
1998	701325	666532.5	622042.5	93.2%
2001	701325	666463.5	621973.5	93.3%

During the period before 1998, when it was affected by the introduction of the NFPP, Dangchuan Forestry Farm was mainly involved in timber production with an annual timber yield of 12,000 m^3 and a resource consumption rate of 30,000 m^3. From its establishment, the farm has accumulatively produced 0.56 million m^3 of logs with a turnover of 2.76 million RMB profit per year. Its major income source was timber production. At that time, the Farm enjoyed great advantages due to its rich forest resources, as compared to those farms with poor natural resources, and a financial situation that ranked as one of the best within the XSFB. Once the NFPP was implemented, the Farm put a thorough stop to the commercial logging of natural forests and turned itself effectively towards natural forest maintenance. Correspondingly, the major revenue source shifted from timber sale to natural forest conservation funds. This process of being 'downgraded', as in the eye's of many, theirs was a drop in status from being a 'rich' farm with a handsome revenue, to a poor one, was a painful situation to live with.

Dangchuan Forestry Farm was set up in 1962. At that time, the farm had a total of 543 staff, mainly engaged in the logging of secondary forests. By 1998, the labor force had declined to 350 and, after the NFPP reorganization, to 259 in 2001 (Table 5-4).

Table 5-4 Changes of Staff in Dangchuan Forestry Farm

(Unit: person)

Year	Total staff	Maintenance	Headquarters	Nursery	Redundant
1998	350	169	28	3	150
2002	259	169	28	5	57

This further proves the point that that, during the timber production era, it was the volume of forest resources that was the basic variable deciding a forestry farm's financial situation; while the decisive factor in sustainable forest protection and management is the quality of changes in harvestable resources. Here the number of staff supported per ha is strongly correlated with the richness of forest resources. In comparison to the timber production age, the number of staff supported per ha dropped drastically during the forest maintenance stage, and thus redundant staff was the inevitable consequence of shifting forest management objectives.

In contrast to Shanmen Forestry Farm - a farm with poor resources - Dangchuan Forestry Farm enjoys a fairly high forest coverage rate and thus its tasks related to establishing ecological forests can only be modest. The Farm does not meet the national conditions for ecological forest construction and as a consequence it has to run solely on forest maintenance funds.

As demonstrated in the Table 5-4, among all the staff, there remain 20% of them still waiting to be re-assigned to jobs according to NFPP criteria. After the 1998, the farm did re-assign a total of 103 of them. As reported by the forestry farm heads, the bureau uniformly conducted a re-assignment process. It was pointed out to us that forestry farms do not, strictly speaking, possess the right to take charge of staffing. It is the Labor and Salary Division under the bureau that is mandated to do this. After the NFPP, the re-assigned staff were usually allocated to those farms in a good financial situation.

Table 5-4 also indicates that, although forestry farm management objectives, production structure and tasks, and staff numbers have changed notably, the number of staff at headquarters remains the same. It would appear then that even in situations of general decreases in staffing, the headquarters (together with maintenance) personnel are more likely to retain their positions. This suggests that, under situations of structural adjustment, it is the lower skilled and lower status workers who suffer first.

Thus the negative impact of the NFPP on those forestry farms with rich resources and much reliance on timber production and sale should not be overlooked. An interesting knock-on effect concerns the catering sector made up of transport services, restaurants, and shops created during the timber production era in Dangchuan Forestry Farm. After years of relative buoyancy, this sector is now rather depressed economically due to the shrinking of financial revenue with the phasing out of the timber extraction industries.

Another central point concerns the tendency for elements of previous socio-political and economic regimes to 'carry-over' into the contemporary context, thus weakening the efficacy of the NFPP policy to galvanize change. For example, the NFPP's new 'staff-support' programs, while aiming to support new divisions of labor and modernized administrative mechanisms, have generated relatively large numbers of redundant staff, who, for various reasons, have not been trained for, or taken on, new jobs, but instead regularly receive 'subsistence' payments that are equivalent to their

previous earnings. Such arrangements are entered into with the support of XSFB and Forestry Farm officials.

On the other hand, Dangchuan Forestry Farm has clearly done a lot to create job alternatives through the mechanism of "fund-seeking" for ear-marked activities. For example, the Fangmatan scenic area inside Majishan National Forestry Park is, in fact, located in Dangchuan Forestry Farm. This scenic area has unearthed 13 ancient tombs, dating back to the Qin Dynasty of the late Warring State Age; one tomb, dating back to Xihan Dynasty, Emperor Wen and Emperor Jing; and seven ancient maps drawn on timber board. The heads of the Forestry Farm quickly embraced the idea of tourist investment and sought to gain financial assistance from the NFPP. In doing so, they stressed their optimism for the profitability of their tourist-type endeavor as against the inadequacy of existing modes of financial investment. And, on this basis, they were eventually able to mobilize millions of *Yuan* to finance the development of the Fangmatan scenic area, which is the centre of a new program aimed at "fishing" funds. If it had not been for the new reforms in state-farm policy and forestry development, this ambitious and highly successful program would never have got off the ground. Instead, it would have turned into a debt-generating machine.

Elm State-owned Forestry Farm is located in an area of Xiaolongshan with average forest resources and a forest coverage rate of 48.9% (Table 5-5). Of all the forestry farms under XSFB, Elm Forest Farm can be classified as having a moderate level of resources, i.e. roughly between the poor and rich categories. The impact of NFPP on the farm combines some features represented by the other two poles.

Table 5-5 Changes of forestry land in Elm State Forestry Farm

(Unit: Mu)

Year	Total area of the farm	Forest land	Forested land	Forest coverage rate
1985	445215	328225.5	179134.5	54.6%
1998	947535	689505	336987	48.8%
2001	947535	689479.5	337386	48.9%

Before the NFPP, Elm Forestry Farm was a main logging area. However, due to over-harvesting, a large area of natural forest disappeared and the forest coverage rate dropped dramatically. From 1992 to 1998, its total harvest volume was 41,956 m^3 and by the time of NFPP's intervention, it was facing a major resource crisis. It differs from Shanmen Forestry Farm in that the latter was in a very serious resource collapse, almost reaching the point of no harvestable forest left at all, whilst Elm could still hold its own for some time.

With the implementation of NFPP, the management objectives of the farm shifted directly from logging to natural forest maintenance and ecological forest development. In 1998, among all the forest land of Elm Forestry Farm, the non-forested part accounted for 273,340.5 Mu, a fairly heavy share of 40%. Therefore, the farm was able

to take on a significant amount of ecological forest development. This meant, at the time of shifting objectives, the farm could secure funds for ecological development through establishing a plantation area, which could then subsidize its ongoing financial difficulties caused by the ending of logging.

Thus, generally speaking, the Elm Forest Farm can be classified as a beneficiary of the NFPP. This is also illustrated by changes in staff salaries that followed the application of the principles of NFPP. This is demonstrated in the Table 5-6. Staff salaries increased by an average of 100 RMB but not as sharply as did those of Shanmen Forestry Farm (the latter practically doubled).

Table 5-6 Changes in staff and average salary after NFPP in Elm Forestry Farm

Time	Staff (person)	Salary (Yuan/person)
Before the NFPP	160	780
After the NFPP	262	880
Difference	102	100

Table 5-6 provides data on the number of staff and average salary increase after NFPP. This suggests that the implementation of NFPP was smooth and brought benefits rather than difficulties. In terms of staff numbers, these increased as staff from other forestry farms and enterprises under XSFB were re-assigned to Elm Forestry Farm As reported by its heads, Elm Forestry Farm was ready to accept some redundant staff from other farms. Thus, their staff burden became even heavier.

The remaining part of this chapter aims to show how the types of structural, policy and organizational changes described above impact on the everyday lives of forestry staff. The discussion centers on forestry protection issues, problems of employment, and the social relations of staff and other local residents.

Stories from Supreme Forestry Protection Station

Supreme is one of five Forest Protection Stations managed by Elm Forestry Farm. It is located in Xiakou Village, Willow Township, midway between Willow Township headquarters and Estuarine Village on the river bank of the Yongning River.

Wasteland became a fortune

Re-afforestation for ecological forests is a very important component of NFPP, and central government has invested in this venture to the sum of 3,600 Yuan per hectare. Every year, XSFB has planned to re-afforest about 8000 ha. A deputy manager in charge of afforestation issues in XSFB estimated this can bring 10 million Yuan profit each year. One of the reasons for this was that big savings were made from the purchase of seedlings. After 2000, when the “Shifting Farmland into Forestry

Program" was initiated, seedling prices were soaring upwards dramatically and only declined after 2003 to about one third of the 2000 price for most tree species.

A premise for constructing public forests is the availability of unoccupied or unused land suitable for planting trees, and such land can be turned into a fortune. Availability of areas of unused land among various subsidiary farms is one of the sources of the heterogeneity described in the previous section. So the XSFB had to negotiate a balanced outcome among the 21 forestry farms. That is to say, the expense of each farm had to be calculated according to state regulation standards. In the process XSFB developed its own internal standards for afforestation activities. Every year, according to the market price of seedlings and labor, the price of each kind of seedling was negotiated, together with the lump-sum costs for land preparation, planting, weeding, forest protection and biting up, that is, replacing dead seedlings in the autumn replanting that were set prior to planting. Only successful afforestation can be reimbursed from the Bureau, and farms are made responsible for their own financial losses or failed plantations. The Bureau drew upon different administrative and technical units at different points in the process of afforestation. For example, designing how to plant was not undertaken by the farms but by the Forest Investigation and Design Institute; afforestation quality assessment was under the control of the Afforestation Department, and the Technology and Education Department of the Bureau was responsible for testing and applying new technologies for plantations. The Bureau makes sure that the financial policies of the state are not violated. Finally, the general ledger for planting ecological forests was under the control of the XSFB, not each individual farm.

One Bureau head commented: 'Each forestry farm gained little profit from the planting project. But then that is the most important indicator that the Bureau must provide another favor for the project in order for it to continue its activities and have sufficient resources to balance the interests among subsidiary farms.'

One of the main concerns of the Bureau and the NFPP has been to identify unoccupied land suitable for planting. Finding good afforestation sites guarantees the success of planting, which is measured according to the national standard for plantations (i.e. a survival rate of 85% after one year of planting, and a 75% maintenance rate after 3 years). Soil quality and microclimate are of course probably the critical factors affecting outcomes. According to the rules established by XSFB, the farm has to show great care when selecting sites for planting.

Willow Forest Protection Station

Over a long period, Elm Forestry Farm has helped to manage most of the forests in Willow Township, but was not directly involved in practical action. A forest farm named Taibai was planned but this did not materialize. After 1975, a man from Willow Township was nominated to administer the forests in this area, selected by the leader of the Commune. Nobody could explain why the decision of the Stamp County

government to appoint three people was not followed, when the Willow Advocacy and Forestry Protection Station was set up. The latter body was one of five such organizations in the County until 1990. The man had an office in Willow Township to collect money from farmers who were applying for timber for house construction and other purposes. In 1990, Elm Forest Farm set up a timber checkpoint with houses to accommodate four staff. It was situated on the way to the Township headquarters.

Tan Hongwei was one of four staff working there over the period 1990-1994. He explained:

> *Willow Township is not an area with much timber so the market is rather small and denudation seldom occurs. Willow Township is a mineral area with lots of trucks and some use the trucks to carry illegally cut timber, covering it with grass.*
>
> *Life in Willow Township was wonderful when I was young. There were four workers including myself at the checkpoint, two older and two younger men. The older workers were on duty during daytime, while the other two shifts took place at night since the checkpoint was not supposed to be left unmanned at any time. At the checkpoint there was a long pole to block the traffic, so every vehicle that arrived would be inspected, and empty trucks were allowed to go by lifting or lowering the pole. The first two worked from 20:00-2:00 the next day, and the other two from 2:00-8:00. So we [the two younger two] were usually free during the day and we made a lot of friends, especially with a man near the checkpoint. He would usually go to electrocute fish in the river[1]. Later we became very good friends. I also got to know other friends including the man's present wife[2].*

In 1994, Tan Hongwei was reclassified to work in Elm Forest Farm, where denudation was very serious.

Setting up the Supreme Forest Protection Station

After the implementation of the NFPP in 1998, the Elm Forestry Center found that the forests and unoccupied lands of Willow Township were of good quality. Of a total of 14,400 hectares, the forest occupied 6,000 hectares and the rest (8,400) consisted of unoccupied land suitable for planting. According to state regulations, Elm Forest Farm

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[1] Electrocuting fish is a way of catching fish using a high voltage direct current. When fish are swimming in the river, people use this device to cause the fish to faint. The disadvantage is that this can kill all river creatures without regard to type and size. Such mass destruction actually undermines the sustainable development of aquatic products. Therefore in the late 1990s the method was prohibited nationally. Usually those villagers who catch fish in this way have no relationship to any government agency. Some of them in fact have relations with illegal traders and petty criminals.

[2] Her relations are all private doctors. They do not rely on natural resources such as land and wild life to make a living and operate dense social networks amongst themselves.

could receive a forest administrative fee of about 250,000 Yuan each year. If they turned all the unused land into forest, then they would receive 30 million Yuan to invest. More importantly, the land - located on the south side of the Qinling Mountains – received about 700 mm of rainfall annually, whereas on the north side it dropped to about 300 mm. So it was much easier to achieve success when planting on the southern hills.

With support from the Bureau, Elm Forest Farm decided to set up a Supreme Forestry Protection Station at Willow Township in 1999. At this point the number of staff increased but this was limited by available housing and office space: there were only three bedrooms and one dining room. Yet despite this, seven staff were living there up to October 2001, when they bought land from Xiakou Village of Willow Township on which to build 17 rooms to accommodate 17 staff.

The checkpoint fell under Supreme Forestry Protection Station but decreased in importance over the next few years once the moratorium on logging came into effect. Nowadays there are only two staff stationed there.

Staff and leaders in Supreme Station

In Supreme Station, there are 19 staff: one director and one deputy director, 15 male staff and four female staff. Among these, nine are single and ten are married but, except for one couple, all are separated from their families. Except for one male staff member from in Mogou Village of Willow Township, and one female staff from Yongning Township, about 10 km distance, the rest of them working in are at a distance of between 50-300 km from their family homes (usually in provincial towns rather than the countryside). All of them lived in a common compound, usually two staff per room. The Director (Zhang) was about 35 and his Deputy Director, 28 years of age. They both come from Tianshui city, the headquarters of XSFB, where they graduated from middle school after seven years of education. Both are offspring of an elder generation of XSFB staff and in fact took their parents' positions when they left employment. The Deputy Director has further three years Polytechnic forestry training in the technical school that is under XSFB. He said, however, that he had very little knowledge about forests. He explained that it was "pleasure days" during School since all his classmates were children of XSFB staff, and they had grown up together. "We all knew that we were going to work in the XSFB after graduation and would replace our parents". He added: "Afterwards, we knew that we may not have so much fun anymore because we might be assigned to the hinterland to look after forests".

As a state-owned enterprise, the XSFB followed national policy by allowing each staff member on retirement to request a job for one of his/her children. This policy continued until the mid-1990, when it was abolished, though morally the state-owned organization still holds to the responsibility of helping the children of staff to find suitable jobs. After the 1990s, people with parents working in the Bureau and who had graduated in forestry from a Polytechnic or University were usually favored for

employment in the Bureau. During my research, some 80 % of the staff working in the field in Supreme Station were children of former employees. One young staff member held a diploma in forestry from Gansu Polytechnic but had no family members working at the Bureau when he was recruited. Another two staff who came from nearby locations benefited from the setting up of the "Forestry Advocacy and Protection Station" by the County government in 1975. The rest had some sort of relationship with the leaders of the Bureau.

Despite the above evidence, the Bureau has, it seems, in recent years become more reluctant to find posts for the children of staff. At least several of the present staff complained about this. A girl who graduated from Tianshui Forestry Polytechnic two years ago has almost nothing to do in Supreme station, except knitting sweaters, cooking and cleaning. When I asked about this and tried to persuade her to at least do some reading, she exclaimed: "How can other kinds of jobs be done by a woman in the forests!" The irony is that she holds the highest educational qualification among all the staff in Supreme station.

A working couple in Supreme Station: an exception to the rule

It is not very often that both husband and wife are sent to work in Supreme Forestry Protection Station. In Dangchuan Forest Farm, about 25% of the staff have had to move out of the farm to a job in another farm such as Shanmen where, one hundred miles away, there are fewer forests and many barren hills. Dangchuan is located some 40 km from Tianshui city, with convenient transportation. Few staff were in fact happy to leave it. So Dangchuan farm decided that those families (nuclear and extended) with two or more members working in Dangchuan could select only one member to leave. If a husband and wife worked at the farm, then one would have to leave, and likewise with siblings.

The married couple we have in mind here is special case since, against the general trend, they were allowed to break the rule and be transferred together. Both had a parent who had at one time been the director of a farm under the authority of XSFB, and both fathers were ex-servicemen. Despite this, the majority of people felt that this was fair even if other couples and siblings were forced to separate. The main argument advanced was that families, who have two or more family members or close kin working in the farm, will have strong social networks[3] built up over the years and therefore sound reasons to stay together. This positive view was also guided by the fact that the couple in question had only one son who had studied at Lanzhou, the capital city of Gansu, and was carving out a career for himself as a mold designer and maker in industry. Their son had decided that, after graduation, he would move to the coastal region for a better job.

[3] This stresses the central importance of networking or Guanxi in Chinese society. See (Yang 1989) for a detailed account of accumulating 'network capital' to circumvent state regulations in China.

The wife/mother had worried a lot about being laid off from the farm. But in the end the farm favored her by letting her work in the same forest protection station as her husband. For her this was good, since she could care for her husband on a daily basis; and later she explained that she had found job in Tianshui where she could earn more money. Another consideration was that she could retire next year aged 50 since she would receive a full retirement pension from the Bureau, not just the 400 Yuan per month redundancy pay.

Tang Hongwei – a staff member in Supreme Station

Let me now briefly return to the case of Mr. Tang. As his comments about logging demonstrate, he immediately makes an impression by being so communicative. Mr. Tang is 35 years old and has been working in the Elm State-owned Forest Farm for the past 16 years. He lives in the old street of Fuzhen Town, Stamp County. Fuzhen is one of the largest towns in Stamp County, 50 km distance from Supreme Station. In 1989, he took over his father's post at the farm. His mother is a farmer and he also has two elder brothers and a younger brother with their own families.

Both elder brothers trained as school teachers and began their teaching jobs immediately after graduation. Tang himself was not so good at studying and did not go on to higher education. His younger brother was even worse than him. According to Tang, he had been spoiled by his parents and could not finish primary school. Now he works around the farm. Then, in 1999, his younger brother got married and built his own house, to which the three brothers each donated 2,000 Yuan. But, since then, one of his elder brothers found himself in financial difficulties and Tang helped him to the tune of 1000 Yuan. The younger brother continues to live with his parents and undertakes part-time unskilled work. The family's landholding of two Mu, made up of a number of small plots, has been passed over to him, presumably to supplement his meager resources.

Tang married a woman to whom he was introduced during two year's work in Willow Township. His wife's family is quite rich because all members are local doctors. She has two elder brothers who managed to get into a medical school and who, after graduation, opened medical clinics in Willow Township.

Tang and his wife have a child of 9 years. His wife worked full time in Longnanchun Liquor Factory, but during pregnancy and giving birth to their baby, she has "rested" for 3 years. In 2004, she retired early and received 8,000 Yuan compensation from the factory. Now she is "free and thinking of doing something like opening a small restaurant". She explains that this will be tiring if she does it by herself, but if she hires somebody then the costs would increase. So she has not yet tried out the idea. And there is also the fact that their child goes to school everyday and must be fed at 11:00 am when returning home.

His father was a staff member of the Elm Forestry Farm and retired in 1988. Mr. Tang stayed at home for one year after middle school, and then in 1988 took his father's post at the farm. From 1989 to 1990, he received a training intern salary of 40 Yuan. In 1991, he received over 80Yuan and 110Yuan in 1992. In 1994, his salary reached 400Yuan. Not until year 2000 was his gross salary raised to over 1,000 Yuan. In 2005, a new salary policy has been carried out and his salary will probably drop to 850Yuan.

From 1990-1992 he was a forest worker in Luojiaping forest protection station. During the whole year he only had work for two months; one devoted to forestation, another to logging. The rest of the time was taken up with activity protecting the forest. During the years 1992 to 1994, he worked at the timber checkpoint of Willow Township. From 1994 to 2000, he moved to Yushu forest management station. After 2000, he returned to Willow Township where ever since he had worked in Supreme forest management protection.

A group of fun loving bachelors in Supreme Station

Seventeen of the nineteen staff lived as bachelors, in the collective way, as a household. Female staff took care of indoor jobs, cleaning the yard, toilet, dormitories, and cooking for all staff. Male staff took care of outdoor jobs, purchasing any goods they required, including food, and coal for collective use, and acting as forest rangers. I lived there for four months and never saw female staff go into the forests. On warm and sunny days, the male staff usually rose at 7:00-8:00, and female staff at 7:00 to prepare food for everyone. After breakfast, the male staff drove off one by one on motorcycles. Around 4:00pm they returned for dinner, after which they sat around playing Majiang most of the evening, a popular gambling game for four people playing together. The others would gather around the table chatting and laughing. Usually, they played until 12:00 pm, extremely late as local people usually go to bed at 8-9:00pm. The maximum loss for each game was three Yuan, about 30 Euro cents. If someone had ill luck, they could lose 50 Yuan in one evening, about 5 Euro. When it rained outside or was going to rain, they also gathered to play Majiang the whole day.

These are large amounts to set against their income. Their basic monthly salary is about 950 Yuan at maximum for the director of the station, and 800 Yuan at lowest for normal staff. Adding health care, subsidies for gasoline for motorcycles, and bonuses, their monthly salary is in the region of 1100-1300 Yuan. Deducting the cost of daily necessities such as soap and toothpaste of around 60 Yuan per month; food costing around 150 Yuan per month; gasoline and repairs to motorcycles, 150-200 Yuan per month and cigarettes 90 Yuan, the maximum net income per month is about 650 Yuan. No time off is allowed in lieu for weekends worked. The staff complained "everyday of a week we work here, but if we go back home for a holiday, we have to apply for it, and daily salary will be deducted". With the 650 Yuan, they feed their family.

Occasionally, they gather and drink. One night, when I returned back from Estuarine Village, there was much noise emanating from the Director's dormitory. All staff were

crowded together, sitting in chairs, on the floor and on the bed, drinking, laughing and chatting until 12:00 midnight. On another day occasion farmers in Estuarine Village complained of their drinking behavior. One day, they gathered at a restaurant located between Xiakou and Estuarine Village and after drinking and eating, they refused to pay. They said to the owner: "this night we ordered and were served a dish of wild hare. According to national regulations for wild animal protection, you have violated this regulation and so we will fine you." After a long quarrel, the manager gave up and deducted 100 Yuan, 40% of the original bill.

For the long period I lived there, despite the large group there were no acrimonious disputes between members before the new round of reforms. On the other hand, when faced with an outsider from Beijing, employed by a central level institution associated with the Bureau, they were a good feature of the station. As they said, the Supreme Station lives as a group of self enjoying bachelors.

Reducing staff to increase efficiency

The NFPP was actually a static investment. The costs of afforestation and protection were fixed without regard to the increasing price of goods and salary payments. From 1998 to 2001, the average rate of salary increases in China was successively 12.7%, 7.3%, 7.6%, and 8.1%. Compared with these percentages the average staff salary of state-owned organizations was increased massively (by about 70%) in 2005; while the salary of Gansu peasant workers also was raised by 25%. However, somewhat surprisingly, the NFPP fund remained unchanged during the whole period. Following the NFPP project, the average staff salary of Xiaolongshan Forest Experimental Bureau also witnessed a large jump. As compared with the average staff salary of other organizations in 2000, their salary was higher and more stable, even though Gansu is the second poorest province in China. With the growth of industries in the coastal cities, the employment ability of these local enterprises had dropped. So many people tried every means they could find to join the XSFB. Although the management did quite a lot to control recruitment, nevertheless staff still increased. Together with the addition of retired staff, whose salary was also the responsibility of the Bureau, so the Bureau bore a heavy burden. Then, in late 2004, the management level employees changed completely, and, faced with financial crisis, they had to reduce staff numbers significantly in an effort to improve efficiency, and reduce the staff burden.

At this time, there existed a policy in the forestry farm whereby female staff could obtain a 400 Yuan subsidy per month if they returned to their homes as 'job-waiting employees'. This did not apply to male staff. Male employees could leave their jobs and sign contracts with a subsidiary farm, while retaining the right to return to work but without guaranteed monthly payments. The female staff employed by the Bureau were usually responsible for administrative and logistical- management tasks – such as secretarial work, accounting, cleaning and cooking. In addition, a proportion of them were placed in more senior positions, mostly replacing a parent who had retired (this conformed to what Chinese call *Guangxi*- relations). Therefore the Bureau set a new

policy to encourage female workers to retire early with 400Yuan subsidy each month but retaining the right to work in the Bureau later if a job materialized. They had to sign a three-year contract which gave them the right to ask to return after that period. Most of the female workers were willing to retire early because they now had time to take care of housework and look for new employment. The monthly payment was regarded as more stable than any other enterprise job they might obtain.

At the end of 2004, the Bureau organized the movement 'reducing staff to increase efficiency.' The number of staff at the Elm Forest Farm was reduced from 120 to 94 and all accepted voluntary retirement. According to the Bureau's policy, those who had worked for three years or more, had reached the age of 45 (for women) or 50 (for men) were eligible to retire on 60% salaries. As result of this, the number of staff at Supreme Protection Station was reduced to from 19 to 15 (13 male and 2 female). The director of the station said, 'we voted for the dismissal list this time. Each staff member was asked to select those they thought should remain and then ranked them. The two male staff and the two female staff that came last would then be dismissed.' But, in actual fact, voting was a tactic. It seems by tacit approval since of the two females dismissed, one had just reached retirement age and the other was about to give birth to a baby. As for the two male staff, one had reached retirement age and the other was a driver. However, in the end, the woman who had reached retirement age did not wish to be retired and went to see the manager of the farm, crying to have a job on the farm. She had some health problem with her uterus for which there was no effective medical cure. She was taking Chinese herb medicine every day to improve her condition. She had a son in high school which was a heavy financial burden for her family. But the employee herself provided another explanation for being sacked: she said she was accused of thieving food or toothpaste from the workplace – for no apparent reason! The older man asked to retire was from Mougou village of Willow Township. He was lucky because he used to be a farmer and farmers were eligible for payment of 400 Yuan a month as redundancy pay.

Before implementing the policy of downsizing staff and improving efficiency, XSFB formulated an internal draft policy and called for opinions on it. At a draft stage the policy said that any male staff member could also leave their jobs and obtain a subsidy of 200Yuan per month. Tang's response, at the time, was that 'if they gave male staff a subsidy of 400Yuan monthly, then I would sign the contract and go home. I could then take on some part time work making my monthly earnings around 600 Yuan a month. Now I am already 35 years old, and getting older, I will be jobless.' When the policy was finally agreed it was decided to offer male and female staff the same treatment: 400Y Yuan subsidy per month. In the end, only 5 out 100 male staff at Elm Forestry Farm voluntarily chose leave. Tang did not leave. Later he explained: 'the policy keeps changing so I am waiting for 600 Yuan subsidy per month!'

There were so many reasons for employees to stay. As one staff member said: '400 Yuan seems not so small, since even if I worked everyday I could only get 800 Yuan. But the problem is what should I do when I get back home? For quite a long time, we

have been working in the mountain areas and get to know little about the outside world, so when we walk out of here, nobody will hire us.' Another employee continued: 'We are used to the life here, patrolling at daytime and sleeping in the working field at night. But if we go out to work we will have to adapt ourselves to a new working environment and new bosses.' Another important issue was self-esteem. In the Chinese planned economy era, especially in the countryside, working in state-owned organizations was a very honorable thing. Over the past 20 years, since the country has 'opened up', the superiority of state-owned organizations has decreased in lots of respects, such as salary, welfare and so on. But in a remote area, people still prefer the older way of life, especially men. Just ponder why Tang's life is better than his little brother's. It is because he replaced his father and remained working in a state-owned organization. It was for these reasons that he did not wish to quit his job. Nevertheless, though during my discussions with him he still clung to the idea of perhaps leaving the farm, providing his employer promised to pay him somewhat more than 400Yuan per month.

Employment and promotion

A common topic of conversation among staff was employment and promotion. They talked about new staff; where he/she came from, what kind of *Guangxi* (networks or relationships) he/she had in the bureau, and so forth. During the spring period, a man from Shandong Province (about 1,000 km away) joined the farm. It was said that he had a relative working in the SFA. He pressed the manager of the bureau to find a position in the state farm for him. He had no skills and was over 40 years old. This gave the manager of Elm Forest Farm a headache, so he finally arranged for him to clean the yard of the Elm Forest Farm headquarters.

Staff often talked about middle level officials of the bureau; who had done this and that with what kinds of consequences for employees. In a state farm neighboring Elm Forest Farm, the former leader had decided to invest money in tourism and to purchase land for walnut plantation development. Neither had been profitable and now the average salary of staff there was even lower than those of Elm Forest Farm. Staff salaries could not be paid on time there. Comparatively they felt good. Nevertheless, that manager was appointed to be manager of the largest and wealthiest farm under the bureau. The function of all this gossiping was it seems to convince themselves that without any *Guangxi*, nobody gets promotion, and without corruption nobody gets it either.

As most of them are offspring of the first generation of the bureau, this sort of chatting always reminded of how clean their parents had been in the 1980s and even before with no corruption or under the table deals. This sort of chat distanced them from the leaders of the farm and the bureau. They thought of themselves as 'lay people, just doing a job'. And the final assumption underlying their chatter was "we will never be promoted in our life."

Relationship with community residents

Tang recalled his early experiences working in the Elm Forest Farm. He explained:

> *"When I first came to the forestry farm, the employees were welcomed by the villagers because villagers and leaders needed wood for building houses. Later, the management became very strict, it was hard to maintain good relationships with villagers. Even if they were good friends before, they did not dare to meet us in their homes, because if we went to fine a family, they would think our friend had given us the information, and they would beat our friend."*

Fenced in as it is by a high surrounding wall, one can imagine how the state farm employees at the Supreme forest protection station felt isolated from rural society. In the long time I was there, no community farmers ever visited this station except Wang Deyou, party secretary of Estuarine Village, who occasionally came for a transportation license to ship out bamboo canes to the market.

One day I went to Estuarine Village with my research assistant accompanied by a staff member from Supreme Station and we met by accident an elderly farmer making a manpowered grinder using a log of white pine, one of a strictly protected species. It was very clear that this log had been cut very recently. My assistant was astonished to see this kind of tool being used to grind flour from wheat. She had never seen it before and so she took a picture of it, whereupon the staff member with us got angry and shouted "why did you photograph that?" He explained to me that the elderly man was the elder brother of Wang Deyou. He had made the tool in a hidden place so as to avoid being found by us. If he was reported to the farm and the bureau, we would be fired and he would be fined too." I told him that we must never mention it to anybody.

Work in the fields

The XSFB has developed systematic terms of reference for each staff position. However, the terms are very general, with little practical meaning. It is written in official documents that all staff except the directors in Supreme Station have responsibility for a certain area, usually three compartments.[4] Culprits violating forest use would have to found, otherwise the staff responsible would be fired. How could staff efficiently monitor such a large, for instance how to get to know if a tree had been felled somewhere by a particular farmer.

To be practical, staff were placed into groups. Before staff reductions there were five groups and five in a group, except for female staff looking after 'indoor' jobs, where there were three in a group. Each group had to visit a vast area in 3-4 villages. After

[4] This is a unit of forest management, usually with area of about 400 ha. There are usually 20 sub-compartments in a compartment and 20 ha per sub-compartment .

staff reductions, there were only four groups including the women's group and one for the newly established nursery. The remaining three had to take care of all the forests.

It was hard for me to join them for a day, even when it was planned. In the mountain regions, safety is always a priority. I would have had to ride pillion on one of their motorcycles and no-one dared to take me to the field this way. One day, I insisted on going to plantation sites at a time when all male staff in Supreme Station were going there for quality checking. I had a jeep with me but it was unable to reach the afforestation sites. I had to park the jeep at the nearest place to the site but was still faced with a three hour walk. Indeed, all male staff were there with an afforestation team. When I reached the place, they all followed me to the field. I was told their roles in the field: checking quality of seedlings, distributing seedlings, and checking distance between rows and trees for planting. They explained, "These farmers always try to plant less densely, as we pay them by the area planted. If they plant less, we could face problems in the future when we check survival rates. Poor survival rates mean that it is hard to get reimbursed by the government." I calculated when I was in the field that one member of staff from Supreme Station for about every three farmers followed behind with a tape measure in hand.

One day by chance, I visited Yaozhuang village by jeep intending to stay the night. There was no signal there for my mobile phone so I went to the party secretary's family home. It was 2:30 in the afternoon. An official from Stamp County forestry bureau accompanied me and after meeting with village leaders requested to speak to my driver (he is staff of the farm too) as she wanted him to take her back to town. I could not find him and so she finally told me that she knew where a group of staff supposed to be looking after the forests were. They were playing Majiang with a 70 year older farmer in the village in a very dark place. In fact, all the villagers knew where they were, but did not tell me directly. Villagers' committee leaders after they left complained to me that "We have a good party secretariat. We live in the mountains, isolated. We treat outside people as friends. We provide a simple lunch for them. We do not know what they are doing." However, I was told by staff in Supreme Station that the Farm manager had promised to donate 8,000 Yuan of farm money to the village to construct a bridge over the Yongning River to connect them with the outside during the rainy season. Party secretaries have a struggle to raise money for things like that, which is his first priority.

Internal management

There is only one staff member who has continuously worked in Supreme Station for 4 years, the others no more than 2 years. The employees' explanation was, 'the forestry farm is worried about staff working in a station for a long time. They get too familiar with local residents. They would not be able to do their job well enough since they would all be friends, and if a villager violated regulation, they would probably not punish him. Managers are also afraid of illegal internal transactions between their employees and the local villagers. The staff were used to giving villagers some of the

benefits, without violating policy, and getting a free meal or free cigarette in return. But if the staff and the villagers became very good friends, especially with the family of the leader or a rich family, it was likely they would become involved in illegal transactions.

However it is hard to prevent, since all staff have ways of obtaining free food, cigarettes, or other favorite goods from farmers. In 2004, when a large barren area was planted in Estuarine Village, the family of the party secretary gave staff a banquet. Nobody knew who paid for it.

Hazards of getting around in remote mountain areas

The connection between Estuarine Village and Xiakou Village consists of two steep mountains cut by the Yongning River, one of the eight most famous scenic sites in Stamp County. An unpaved road about four meters wide was constructed on the steep slope of the mountain facing the river. On a sunny morning, as usual, a young staff member went out with his team on motorcycles. A tractor full of bricks was ahead and he wanted to overtake. Usually a tractor would slow down and move slightly to the right for the motorcycle to overtake on the inner side. This he did but the young motorcyclist was not quite familiar with this rule in the mountains, and he attempted to pass on the right and he was pushed off the road into the river, 20 meters below. He had no head protection on and his head hit a sharp stone.

Being lucky, he survived and despite the move to reduce staff, he retained his job in Supreme Station, staying in Tianshui while ill with no date for returning. The manager of the farm said to me "he might need to rest two years or even more to be normal again. If he returns, I cannot send him to Supreme Station. I have to find him an easier job".

As it happened, the tractor owner was a relative of Deng Donglin, a key member of the Estuarine Village Forestry Management Committee. He had helped Deng to fetch bricks for constructing a restaurant for *nongjiale* (meaning happiness in the rural family). One day, I asked the deputy manager of the Farm if I could visit Estuarine Village. Deng complained about this, but the farm manager stopped him, I suppose in the interests of rebuilding the network of the village forestry management committee with villagers, which this accident had disrupted for a while.

Conclusion

Policies more and more favorable to forest protection have been implemented in Xiaolongshan forest area. This is to guarantee continuous and wholesome social and economic development at the national and regional levels. Due to its critical geographical position and geological features, the major function of forests in this area is to keep the ecology safe. Before the NFPP, the survival of the state-owned forestry farms depended on harvesting forest resources as did the rural communities

surrounding forests. The utilization and then the destruction in forests had reached a point which was threatening national and regional ecological balance in this area. It could be foreseen that with increasing ecological concerns, the economic functions of the forests would inevitably become second to ecological functions. In the long run, favorable policy for protection must be the policy option for the region.

Under traditional management, the difficulties prevalent in the Xiaolongshan forest area was the rural communities' 'trespass' on the forests. After the logging ban was enforced, forest utilization modes experienced a fundamental change. The previously formed sharing pattern between farm and community was re-organized. The state-owned forestry farms in general benefited from the NFPP. The NFPP did not pay much attention to the rural communities nearby, which intensified the contradiction between the state farms and rural communities. Therefore, how to strengthen forest management was the key to NFPP implementation. The objective of this was to regulate rural communities' behavior by force if necessary. Concrete measures included physical engineering such as material or biological fencing, and employing guards under the principle of "specified area and responsibility with focus on watching suspects". In this way, farmers living in the surrounding rural community were treated as the 'enemy'. All efforts had to be made regardless of the costs to secure the safety of natural forest resources. The consequence of this was high management costs, which further sharpened contradictions between the state-owned forestry farms and the surrounding rural communities.

Before the NFPP, forestry industries developed on the basis of harvesting natural forests and the timber obtained by the XSFB, which was unavoidably at the cost of the depletion of forest resources. After the NFPP, the industrial structure formed some thirty years previously in the XSFB, experienced huge changes. Successively, the Forestry Chemical Factory (in 1997), Forestry Supply Division (in 1998), Commerce & Sale Division (in 1998), and timber processing factories in sixteen forestry farms were shut down. Moreover, the production of 70 timber products and the staff engaged in forestry industries decreased dramatically. Thus far, among the original industries only cropping, animal husbandry, tourism, catering and sale of partial forestry side-products still remain.

With respect to staff reduction and active reform, the XSFB grasped the opportunity brought by the NFPP, and reduced its reliance on timber and timber products. However, it has increased sharply the number of forest police, forest rangers, and nursery workers. As a rule, the flow of staff follows the flow of funds. It is embodied in such rules that staff who used to work at the bureau headquarters, the area with rich forest resources and harvesting places, would move to grass-root institutes, the area with poor forest resources and mountains. However, these staff are still purely dependent on state input. Once the NFPP comes to its end, their subsistence will again be a problem.

In general, after the NFPP, the number of staff in the forestry farms who relied on timber production decreased whilst the total number of staff who relying on forests

increased. The input to make up the shrinking of timber production and staff increase depended on the transfer of national finance. The NFPP turned into the artery for sustaining the old national forestry system. The design of the NFPP failed to take into account the need to stimulate reform of the national forestry system. Moreover, the NFPP even reinforced the dualistic structure, i.e. separation of the national forest area from the surrounding rural communities. Before the NFPP, in the forest area, two groups with their own identities existed: staff in the state-owned forestry farms who were largely urban citizens by identity and rural inhabitants of the communities close by. Though the staff in the forestry farms have no salary or welfare guarantees, they do enjoy many system or regime advantages compared with farmers. Local farmers envy the identity that being employed by state-owned forestry farms gives. Whenever the forestry farms confronted survival problems, or for the sake of their survival, they would try all means to deprive farmers of benefits. They particularly used their status of spokesman for the national forests to deny farmers' traditional use rights under the excuse of sustainable forest management to regulate farmers activities and protecting the forest while also charging them for collecting fire wood, medicinal herbs and gathering other side products.

After the NFPP was implemented, the identity of state-owned forestry farm employees was reinforced. While such reinforcement turned into practical benefits (increase in salary and welfare), the power of the state-owned forestry farms was also strengthened with stricter measures applied to maintain forests, such as no grazing. The nature of the measure is the same: depriving farmers from their traditional use rights over forests, practical economic benefits and power, and replacing them with their guardianship of the forests. In such ways, the division of state-owned forest farms and rural communities as two contradictory beneficiary groups become more obvious. This in turn effects the NFPP implementation and its efficiency.

However, the bureau and the farms themselves reinterpreted the NFPP as a means for redeployment of staff who needed a job. The staff were eager for salary and job security. In general, the NFPP policy has been misinterpreted. Staff got used to attaching their life to the state forestry farm, or as one might say, their imagined country house or "manor", inherited from their parent. They cannot avoid the emotional feeling that on the one hand the forest is their home and they hate the corruption and destruction of forests, and on the other that they will one day have to discard the manor and this leads to uncertainty about the future, in particular for the youngest, who as a metaphor 'play Majiang most of their time'.

CHAPTER 6

The Impact of the NFPP on Rural Communities

The last chapter analyzed the impact of the Natural Forests Protection Program (NFPP) on state forestry farms and on staff in different positions in the Xiaolongshan Forestry Trial Bureau. This chapter provides an overall look at the relationships between local communities and forest resources, and the impacts that the NFPP had upon people's livelihoods in 2002 and 2004 respectively, three and five years after the NFPP was implemented. The figures used in this and the following chapter come from community surveys I carried out in May 2002 and September 2004, and from secondary data sources. Data from the 2004 survey is mostly used unless the 2002 data are specifically noted.

General Profile of the Sample Households

Table 6-1General profile of the households sampled

Survey time	2002	2004
No. of interviewed households	11 hhs per village 99 hhs in total	10 hhs per village 90 hhs in total
Sex of interviewees	Male: 75 Female: 24	Male: 84 Female: 6
Average household size	4.63	4.62
Electricity access	89.5%	98.9%

Table 6-2 Different types of household

(Unit: %)

Type of household	% in 2002	% in 2004
Single or couple only	2.0	2.2
Couple with one child	13.1	11.1
Couple with two children	42.4	33.3
Couple with 3 children	6.1	6.7
Single-parent with child	1.0	0
Three generation family hhs	26.3	30.0
Others	10.3	16.7

Although the same selection method was adopted for households (joint use of systematic and random sampling methods (as mentioned in Chapter 1)), the sample

households from the nine villages selected in 2002 and 2004 are not exactly the same. As Table 6-1 suggests, it is usually difficult to get female member of households to agree to being interviewed, over three quarters are thus male informants. The average size of family is approximately 4.6 people per household, similar to the national average for rural areas. The nuclear family, parents and children, share about 60% of the total (Table 6-2) and the traditional extended family structure of three generations remains in 2004 at one third of the total. Table 6-3 illustrates the general educational status in the selected village. Most interviewees in 2002 had not completed primary education, with an average of four years. In 2004, over 55% of families had at least one member with secondary level education and above. About 7%, mostly older family members had only two years education or were illiterate.

Table 6-3 Share of Education Level

Education level	2002[1]	2004[2]
College above	0	2.2
Professional school	0	1.1
High school	0	13.3
Secondary school	4.0	41.1
Primary school	88.9	35.6
Illiterate and the like	7.1	6.7

In the 1990's, particularly in the late 1990's, China launched a campaign called 'access to electricity for all villagers', and invested huge sums of money on rural electricity infrastructure as part of policy for enlarging domestic consumption. But in my survey villages, over 10% of households had no access to electricity in 2002. This had improved by 2004, when around 99% of households had access.

My research in many areas has testified that house quality can be a sensitive indicator of the wealth of a family, and can also demonstrate economic progress periodically. In my survey area, only better off families could afford to build brick and wood houses, which began from the late 1980s. Poor families could only use local materials for house construction that needed no cash input. Table 6-4 shows that a few families had brick and wood houses in the 1950's, but 73% of households were still accommodated in poor housing conditions in the 1960's. Even after 1990, fewer than half the households could afford to construct entirely of bricks. This demonstrated the continuing poverty of these communities. The 1980' saw a spate of new house construction, but this dropped to only 19% in the 1990s. This suggests faster economic progress in the 1980s.[3] But this reflects the cost of house construction after the logging

[1] Educational level of household member who was interviewed.

[2] Highest level of education among the members in the household who was interviewed.

[3] Surveys that I carried out in other poor areas in China testifies to the fact that rural people's first priority for surplus spending is renewal or new construction of houses, with the important proviso that with accumulated surplus they are able to borrow from the kinship network.

ban and NFPP implementation, when costs rose significantly. To build their new houses, farmers had to re-use old house timbers and purchase any new timber outside the forestry area. In such a situation costs naturally rocketed.

Table 6-4 House quality and date of construction

House materials	%	Construction time	%
Brick & Wood	13.3	1950s	3
Earth & Wood	73.3	1960s	6
Mixed bricks, Earth & Wood	13.3	1970s	10
		1980s	47
		1990s	19
		After 2000	16
		Total	100

Table 6-5 Household expenditure composition in 2004

Item	Purpose of expenses	Amount (Yuan)	%
Living expenses	House-building	722	15.06
	Medical care	862	17.98
	Education	1008	21.02
	Other	1267	26.42
Sub-total		3859	80.48
Expense of production	Seeds, seedlings, fertilizer, agri-chemicals, farmin tools, farming plastic etc.	726	15.14
Taxes	Agricultural taxes and fees		4.38
Total		4795	100

Table 6-5 reveals that 80% of the sampled households' cash expenses are for consumption. Education shares the largest amount, followed by health, house construction and maintenance. Other living expenses include many daily necessities like salt and edible oils, soap, clothes, etc., which take up about a quarter of the family's expenses. Government taxes and levies took 4.38% of a household's cash income in 2004, but most were exempted from these in 2005 as part of the central government's push to increase rural farmer incomes. In poverty stricken regions such as my study area, free compulsory nine years of education were to be provided from central government with subsidies for books and school maintenance costs. But it is quite usual for schools in these remote regions to still charge students heavily through tricks and phony titles and maneuver, such as lighting costs, newspaper fees, and health care insurance fees[4]. Health care is poor in the community, and usually there will be a

[4] Take examples of the newspaper fee. Obviously it is a voluntary decision whether or not students would like to order certain kinds of newspapers or magazines (like pupil weekly), but the teacher asked them to order. When the upper level authority traced this back, and no student dared to speak out, it was not a voluntary matter, and the local education authority as well as the school would get a

private clinic located in the centre of only one administrative village. Most food stuffs, grain and vegetables, and fuel to heat and cook, they produce themselves. Pigs and sheep are raised for their meat, which is eaten only at the end of China's lunar calendar year, or at important family events such as weddings and funerals. These are not calculated as cash costs for the family. The net savings per household amounted to 326 Yuan on average, with about a 6% saving rate (Geni coefficient is at about 0.70).

Farming system and livelihoods

Livelihoods in the community and changes in them are subject to the status and change in natural resources over time. Changes in supply and access to resources have a profound influence on local production and living activities. This was the case with the implementation of the NFPP. Its influence on local farmers with respect to land use rights is a case in point. The changes included: 1) rights over forest land, the traditional rights to collect forestry products, to harvest timber for self-consumption, to graze and collect firewood etc. were to a degree restricted, and slash-and-burning practices and the reclamation of unused barren land was prohibited; 2) a decrease of the actual farming area due to the implementation of the grain for green program, which also came under the Western China Development Scheme.

History and farming today

Farming cultures can be traced back two thousand years in China, and with increases of population and improvement of agricultural production technology native forests and unused land have been exploited for agricultural purposes and the expansion of farming.

Shifting cultivation lasted a long time in the Xiaolongshan forestry area but with the implementation of the NFPP, slash-and-burn practices were strictly forbidden. When soil fertility became poor, usually after about four years of farming, farmers would abandon the area would and claim, clear and burn another area of native forest. In the Xiaolongshan forestry area, slash and burn had its traditional advantage: soil fertility was recovered through natural processes with little or no use of chemical fertilizers. However, in the past 50 years, the fallow period of slash and burn land became shorter and shorter so that the natural vegetation and soil fertility could not recover fully, and yields decreased. In the meantime, permanent farming land was continuously increasing and reached its climax at the time the NFPP was convened. With the implementation of the NFPP and the land conversion program, farming land began to decrease year by year. Despite the ongoing decrease in shifting cultivation, its practice did not completely stop until the implementation of the NFPP.

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percentage of the money thus collected and their supplementary income went unreported. In recent years, central authority has addressed this issue and has pushed for a 'one fee only policy' collected at the beginning of a semester which had to be reported to upper level authority for approval.

Today, farming still plays an important role in ensuring household food security, for paying taxes and fees, and supporting household husbandry in the Xiaolongshan forestry area. And although cash inputs have greatly increased and production prices have fallen, and the revenue from food crops is low, agricultural production activities are still the first option for the local farmer economically.

Land resources

Average farming land per capita is about 0.15-0.25 ha, that is, 0.6-1.5 ha per household (illustrated in Table 6-6) - twice the national average in China. Each village is roughly similar in terms of acreage per capita except for Dangchuan and Wangzhuang Villages. In particular in the forestry regions, the enlarging of farmland was concomitant with the availability of labor in the communities during the collective period, although land availability for expansion to farmland in the core zone of the Xiaolongshan forestry region is much higher than in the buffering zone. Apart from farming land, which every household possesses, a few households have forest. Household surveys show that in 2004, three households in Wangzhuang Village had one hectare of plantation for timber purposes, eight households in Gaoqiao Village had 1.5 hectares of timber plantation and 0.4 ha of cash trees, one household in Dangchuan had 0.5 ha of cash trees, and four in Shizui Village had 12.5 ha of plantation and 0.3 ha of cash trees. Forest land in these villages is allocated to households through marketing instruments such as auctions, unlike the procedure for farming land, which is equally distributed to each household according to its size and labor force.

Table 6-6 Farming land resources in the surveyed villages

(Unit:Mu)

Village	Average Mu per hh[5]	Average Mu per capita	Mu converted to forests
Shibei	11.99	2.66	0.5
Yushu	9.51	2.02	1.13
Wangzhuang	17.36	3.69	0.1
Daji	9.13	2.03	0
Goumen	12.5	2.66	2.1
Gaoqiao	10.5	2.19	2.5
Dangchuan	21.8	4.64	6.07
Shizui	12.68	2.76	2.86
Huamiao	9.21	2.05	2.56
Average	12.74	2.75	2.05

[5] These figures, collected in 2004, refer to the farming land allocated to farmers. Their actual farming land area is larger

Land use patterns

Table 6-7 reveals the status of land-use patterns in the nine sample villages. Wheat and corn are the main crops, covering over half the arable land. In Daji, over 90% of such land is used for corn and wheat production, which is basically for ensuring household food security. The major cash crops are hemp, medicinal herbs, apples and peach.

Table 6-7 Percentage of arable land under each crop in 2002

(Unit: Mu)

State Farms	Shanmen			Dangchuan			Elm		
Crops	GM[6]	GQ	DJ	DC	SZ	HM	YS	WZ	SB
Wheat	74.8	65	70	49.9	38.8	37.3	31.0	37.9	31.1
Corn	18.0	20.8	22.3	12.4	22.0	9.3	19.9	26.9	19.4
Hemp	7.2	5.8	7.7	0	0	0	0	0	0
Soybean	0	0	0	0	0	0	24.0	31.2	23.5
Herbs	0	0	0	10.8	14.6	10.3	2.5	0	0
Cash trees	0	0	0	5.7	4.9	5.5	3.2	0	0
Seedlings	0	0	0	0	0	0	0	0	7.6
Land Converted	1	8.3	0	21.0	19.4	37.3	25.3	6.1	18.4

Changes in land use patterns

Since the implementation of the NFPP, land expansion for farming has been constrained by three factors. First, the increase of land for ecological purposes taken by the state-owned forestry farms, which has led to increasingly less marginal land being available for agricultural use. Second, the Land Conversion Program subsidies for food, and cash compensation for converting marginalized land, raised the opportunity benefits of this land, leaving less available for other purposes. Lastly, with improved forest coverage and the restoration of its ecological functions after the logging ban, wild animals increased dramatically, leading to a large-scale increase in the maintenance cost of crops and a comparative drop in agricultural benefits.

To handle these changes, the rational options for farmers are: to pay equal attention to both the planting structure of farm land and application of agricultural technology (such as using plastic covers, converting slope to terrace, use of preferential seedlings), in other words, increasing output through intensive instead of extensive methods; to convert remote farm land into fast growing timber forest and economic forest so as to resolve the problem of timber shortage and decreasing cash income due to the constraints imposed by the NFPP.

[6] GM = Goumen Village; DJ = Daji village; GQ = Gaoqiao village; SZ = Shizui village; HM = Huamiao village; DC = Dangchuan village; YS = Yushu village; WZ = Wangzhuang village; SB = Shibie village. The same way applied to another table in this chapter.

The NFPP is bringing changes in land use patterns to rural communities even before they are noticed. Quite a lot of farmers in the three villages with the richest forest resources - Dangchuan, Shizui, and Huamiao - have begun to plant cash trees such as *huajiao* (a kind of pepper), walnut, and medicinal herbs such as *tianma*, and *Chaihu* etc. The average planting area per household for such crops is 0.3 Mu/hh, 0.37 Mu/hh, and 1.44 Mu/hh in these three villages respectively.

Rural communities within the Elm Forestry Farm area have traditionally cultivated fungi and chestnut, two local specialties that are famous in the region. Before the NFPP, cash income largely depended on fungi cultivation and the collection of wild chestnuts in natural forests. But the cultivation of fungi was prohibited by the NFPP consumes because it consumes quantities of the wood of broad leaf trees. Soybean planted per household in Yushu, Wangzhuang and Shibei Villages amounts to 3.77 Mu/hh, 7 Mu/hh, and 4.63 Mu/hh respectively, covering 24.0%, 31.2% and 23.5% of the total land available for cultivation, a great increase compared to before the NFPP. Today, many local farmers have started to plant or graft a good variety of chestnut, and some have begun to raise seedlings with help from those households specialized in this, especially from Shibei Village, where seedling nurseries account for 7.6% of the cultivated land. All this reveals that land use patterns in the rural communities within and neighboring Elm Forestry Farm are changing gradually.

In the meantime, the huge barren land areas of the state forestry farms within the territory of villages have been converted to forest plantation sites, resulting in a sharp decrease in grazing land.

Animal Husbandry

Animal husbandry is a traditional activity in the Xiaolongshan forestry area and a very important part of local household income. The survey showed this to be the same for all the villages sampled. As illustrated in Table 6-8, the number of cattle increased yearly from 1992 to 1998. The average of about three cattle per household in 1998 is twice that of 1992. This situation is related to the inherent characteristics of animal husbandry. Firstly, local farmers have a special grazing method, which is called locally '*Langshan'*, meaning 'vagabond grazing' in the mountains. Local people let cattle roam freely for 4 - 5 days in a remote place with no one to watch them. This method saves a lot of labor and costs. Secondly, cash income from cattle is quite stable. It takes three years for an animal to mature, and a healthy adult animal is worth about 1500 Yuan. Thirdly, cattle could be grazed without limitations anywhere in the forestry area before 1998, so pasture was no problem. Due to the convenience of grazing in this way and the steady profits, husbandry increased rapidly in these six years.

But animal husbandry has been difficult since 1998. Table 6-8 indicates that the average number of cattle per household in the three sample villages decreased by 10% between 1998 and 2001. With the NFPP, all forestry farms enclosed their natural forests and prohibited grazing there and in newly-planted sites. Grazing on barren or

scrub land was also restricted. Farmers could use only the very limited river bank areas and lowland, which greatly impeded the development of husbandry.

The research also shows that, to some extent, restricting the ways the community could use the forest, facilitated adjustments to the production structure. Development of animal husbandry in Goumen Village, within Shanmen Forestry Farm, was the most rapid of all the sample villages before the implementation of NFPP, because this Forestry Farm enjoyed large areas of barren and fallow land. The implementation of the NFPP decreased the pastureland and to adapt to this changed situation, many local farmers began to develop enclosure husbandry for raising donkeys, and to use cattle sheds. However, although farmers are anxious to grasp the techniques for this way of raising cattle, to date they have not been able to obtain adequate technical support.

Cattle-raising is the preferred economic activity in the communities. Farmers prefer to raise cattle with no project intervention. In Xiaolongshan forestry area, especially in the area deficient in forest or with only moderate forest resources. However, as to farmers, the abundance of pasture and the richness of forest resources inside state forestry areas is always a contradiction. And there are remarkable differences in their contribution to local household income. Within the NFPP area, the increase of forest mainly relies on the decrease of grassland and wasteland. So the more forests there are the more farmers have to lose. This is an undeniable fact. In this regard, how to protect farmers' traditional rights and deal with the contradictions in land use during the implementation planning of the NFPP needs to be examined.

Table 6-8 Average number of cattle per household in the sample villages from 1992 to 2001

（Unit: No/hh）

State Farms	Shanmen			Dangchuan			Elm		
Year	GM[7]	GQ	DJ	DC	SZ	HM	YS	WZ	SB
1992	1.4	1.4	1.2	1.2	1.3	1.4	1.4	1.3	1.2
1993	1.4	1.5	1.4	1.3	1.4	1.5	1.5	1.5	1.4
1994	1.6	1.5	1.4	1.5	1.6	1.5	1.6	1.5	1.6
1995	1.7	1.6	1.5	1.7	1.7	1.6	1.8	1.9	1.8
1996	2.2	2.1	2.0	1.9	1.8	1.9	1.8	2.0	1.9
1997	3.5	3.2	3.0	2.5	2.4	2.4	2.3	2.2	2.4
1998	3.4	3.3	3.1	3.0	3.1	3.0	3.2	3.3	3.4
1999	3.0	3.0	2.9	3.0	2.8	3.0	3.0	3.1	3.2
2000	3.0	2.8	2.7	2.3	2.8	2.8	3.0	3.0	3.1
2001	2.8	2.7	2.6	2.3	2.4	2.6	2.7	2.8	2.9

[7] GM = Goumen Village; DJ = Daji village; GQ = Gaoqiao village; SZ = Shizui village; HM = Huamiao village; DC = Dangchuan village; YS = Yushu village; WZ = Wangzhuang village; SB = Shibie village. The same way applied to another table in this chapter.

Out migration

The household income structure of the three sample villages in Shanmen Forestry Farm in 2002 reveals explicitly a high rate of migration[8] - 11.2% in Goumen, 21.8 % in Gaoqiao and 30.0 % in Daji respectively. However, the research also shows that farmers within the Shanmen Forestry Farm seldom went out to work before 1998. Migrants are mostly engaged in the construction industry in Xinjiang Uygur Autonomous Region, earning 2,500-3,000 Yuan net income per year. Rural labor migrants usually team up with fellow villagers well-known to them. On the other hand, off farm activities has contributed greatly to the change of rural life, including opening up their scopes for livelihood, less independency on the rural bureaucratic (Murphy, 2002).

The rural communities in Dangchuan and Elm Forestry Farms have seen the most noticeable internal economic adjustment of the three research sites. Therefore, migration income accounts for only a small proportion of household income - 7% on average. Local farmers tend to put more time and energy into other livelihood alternatives, such as herb cultivation. Furthermore, the number migrating for work within these two forestry farms is decreasing annually.

Food Production for cash versus self-subsistence

Table 6-9 suggests that pure foodstuff production failed to bring farmers in the Xiaolongshan forestry area much cash. Apart from the villages in Elm Forestry Farm and Dangchuan Village in Dangchuan Forestry Farm, the two villages sampled in both the Shanmen and Dangchuan Forestry Farms obtained no cash from planting food crops. It supports the argument that traditional agriculture production can satisfy only the farmer's basic needs at subsistence level.

Statistics reveal that the rural community within Shanmen Forestry Farm is still lingering around subsistence level, with wheat yield at 1.5 tonne and corn yields at 3 tonne per hectare, with all of this saved for home consumption as indicated in Table 6-9. It is fair to conclude that the significance of foodstuff production lies in resolving basic subsistence needs rather than alleviating cash needs.

Statistics shows that wheat yields amount to 2.25 tonne and corn 4.25 tonne per hectare in the Dangchuan Forestry Farm area. As shown in Table 6-9, apart from Dangchuan Village, farmers in the other two sample villages, Shizui and Huamiao, have no surplus to sell. Thus the significance of foodstuff production in Dangchuan Village also lies mainly in subsistence. Even worse, in the harvest season, herds of wild boar destroy their maize plantations massively and leave little to harvest. Local farmers have no way to solve this problem as wild boars are protected nationally.

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[8] This is generally defined as those who migrate to work outside the township for at least three months accumulatively in a year.

Table 6-9 Situation of Average household foodstuff in the sample villages in 2002

(Unit: Yuan/hh)

Village		GM	GQ	DJ	DC	SZ	HM	YS	WZ	SB
wheat	production	724	749	672	1028	576	661	823	1420	1023
	Sale	0	0	0	140	0	0	60	480	200
	consumption	644	648	572	752	476	601	643	900	703
corn	production	364	500	446	443	568	285	942	1800	1143
	Sale	0	0	0	100	0	0	400	1000	300
	consumption	264	401	346	343	468	185	422	800	723
Governmental tax		180	200	200	230	200	160	240	240	240
Net cash income		0	0	0	240	0	0	460	1280	500

In contrast to the situation in the Shanmen and Dangchuan Forestry Farms, farmers in the Elm Forestry Farm area have a foodstuff surplus to sell. The average income per household from foodstuff in Yushu, Wangzhuang and Shibei Villages reached 460 Yuan, 1280 Yuan and 500 Yuan respectively in 2001, with wheat and corn yields of 3 and 4.5 tonnes per hectare respectively.

Table 6-10 Average household foodstuff in the sample villages in 2004

(Unit: Yuan/hh)

Village		GM	GQ	DJ	DC	SZ	HM	YS	WZ	SB
Production	wheat	547	545	437	656	366	401	811	1897	621
	corn	621	875	728	1286	900	811	1493	2650	1314
	others	7	164	189	0	12.5	35.6	906	892	257
consumption		847	1187	1003	1606	1216	970	1462	1828	1209
Savings as foodstuff		0	25	28	0	62.5	0	142.9	246	0
Sale		328	372	323	336	0	278	1605	3365	983
Governmental tax[9]		0	0	0	0	0	0	29	88	0
Net cash income		328	372	323	336	0	278	1576	3277	983

However, the situation rapidly changed in 2004. Income from the sale of foodstuffs accounted for 25 percent of total household cash income, especially in Wangzhuang Village, where it reached 40%. The main reasons were: 1) harvests were good in 2003 due to fewer natural disasters. 2) The price of foodstuff increased significantly. Wheat rose to 1.5 Yuan/kg in 2004 from 1.0 Yuan/kg in 2002, along with a 60% increase in corn prices in 2004. 3) Self-consumption decreased in 2004 as more people migrated for work. 4) In the last three years the income of farmers has increased by a great margin. They tend now to show less interest in saving their wheat and corn than in selling it for cash to buy rice and flour.

[9] Most farmers pay their agricultural tax in cash, with a small proportion offset by foodstuffs. 14.7 Y/HH refers to the average amount of tax offset by foodstuffs of those households who pay their tax in this way. This case doesn't represent the general situation of most farmers.

Forests as a resource for jobs and life's necessities

Collecting forest side-products was a tradition in the Xiaolongshan forestry area before the implementation of the NFPP. The rich forest resources provided farmers with work opportunities and were an important source of cash income. The main activities included making mining fences and fruit baskets, producing handles for farming tools using bushes and bamboo from secondary forests and willow branches from river banks, collecting medicinal herbs, collecting or cultivating mushrooms, making charcoal, collecting forest fruits, hunting and the like.

Gaoqiao and Shanmen Townships, forest-deficient areas

1. Mining fences. The raw materials come from bushes, small bamboo canes in secondary forests and willow from river banks. The average income per household amounted to 1000 Yuan annually. Usually, the raw materials were collected in September and October (of the lunar calendar), and then processed in winter, the idle agriculture period. Fences had to be sold to the state forestry farm at a price of 1.2 Yuan a piece for a fence 50x200 cm in size, and 2-2.2 Yuan a piece for one of 80x200 cm. These products were then sold on to the Ankou Coal Mine in Pingliang Municipality of Gansu Province.

2. Making handles for farming tools. These were usually made from forest bushes. The average income for those households involved reached 3000 Yuan in the peak before the implementation of the NFPP.

3. Making fruit baskets. One person can make two to three per day, each worth 1.5 Yuan.

4. Other common activities, like collecting firewood, medicinal herbs and mushrooms. Herbs were worth 300 Yuan per household annually at the peak before the NFPP.

Shizui Village, Dangchuan Township, Forest-sufficient area.

1. Cutting bamboo and weaving bamboo mats. The most flourishing period was from 1985-1990. During that period each laborer could earn 500 Yuan per year. This business declined due to the exhaustion of resources after 1990 and restrictions were set up on bamboo cutting. The harvesting period is usually from October to the following May. The bamboo mats were mainly sold to the cotton- producing area of Xinjiang Region.

2. Collecting medicinal herbs. The collecting period is usually from Spring Festival to wheat harvesting. The average income is 10-15 Yuan per day per person. The total average income of each person in the collecting period reached about 300 Yuan.

3. Charcoal making. Many urban citizens and rural residents used charcoal for heating in cold winters. Due to the long winter, lasting four months in Tianshui Prefecture, the demand for charcoal was huge. Since the 1990s, charcoal making in forestry areas and its sale at fairs has been prohibited, and along with the promotion of coal to replace charcoal in urban area, the tradition of using charcoal for heating has gradually disappeared.

4. Making farming tools and handles. This is usually organized by the state forestry farms. Raw materials are mainly from minor timber species. The average annual income per household engaged in this activity reaches about 2000 Yuan.

5. Other, such as logs for housing, and firewood collection.

Wangzhuang Village, Yushu Township, an area with moderate forest resources

1. Harvesting bamboo.[10] Income reached 1000 Yuan per household per year at its peak. Good markets for bamboo cane drove many households into this business, which very rapidly exhausted the collectively owned natural bamboo forests, resulting in degraded bamboo forests now owned by the state.

2. Logging. The collective village forest resources were exhausted due to the massive construction of new houses in the early 1980s after the reform of land use rights.

3. Making mops and brushes. Average income per engaged household reached 600 Yuan at a unit price of 2-3 Yuan, with production of 100-200 mops or brushes per household.

4. Making walking sticks. Average income can be 800 Yuan per engaged household at the unit price of 1-3 Yuan/stick sold in the local market.

5. Collecting medicinal herbs, such as *Tianma*, *Chaihu*, *Chuandilong*. The income reached 1000 Yuan per household at its peak. However, this led to devastating exploitation, and there is now basically nothing left.

6. Hunting animals such as wild fowl, hares, boars, and antelope. Each household used to own a gun, but this has been forbidden since the NFPP. Now, the number of wild animals is increasing year by year and crops are being seriously destroyed. Lots of pheasants are to be seen, even boars along river banks.

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[10] A kind of bamboo cane about 2-5 cm in diameter and 2-4 meters high, which is good for construction of shelves for vegetable in the NFPP area, developed rapidly in North China in the 1990s.

7. Producing fungi. Average cash income reached 2000 Yuan per household at its peak in the mid-1990s. But natural oak species and other favored broad leaf species were rapidly exhausted due to excessive exploitation.

8. Sale of fire wood. A few households, the poorest in the community, engaged in the collection and sale of fire wood at the local market fair.[11] Around 1990, one cubic meter fetched 60-80 Yuan.

Firewood

Collecting firewood is traditional for farmers in the Xiaolongshan forestry area and even for urban residents in the neighboring cities and towns. A resource inventory of the Xiaolongshan forestry area revealed that with a rural population of 1.269 million living in the area, the annual consumption of fuel from forest resources reached 0.33 million m^3, accounting for 56% of the total consumption of forest resources before the implementation of the NFPP. At that time there were only two villages, Guomen and Yushu Villages among the nine sample villages where households (10%) occasionally used coal in the winter for a few months. Of course, consumption of coal for heating and cooking in winter increased after the NFPP. All sample villages now have a percentage of households using coal, ranging from 10-45%, with an average of about 13.7% for all nine villages. Coal for heating and cooking had climbed 64.4%, four times, since 2002. Household surveys also illustrate that wood fuel still dominates rural energy needs. Households still using firewood account for 95.6% of the total number of households interviewed in 2004, which shows no change over 2002.

After the NFPP, farmers could collect dried/dead trees and branches, as well as those live trees of less than 6cm in diameter inside natural forests for firewood. There are restrictions on using certain species, in particular rare species and those listed as having good potential for producing timber. In Elm Forestry Farm, ten species are on the forbidden list, including oak, black pine, and white bark pine. As the distance from home to firewood collection sites become more distant, so does the cost of firewood. Farmers' complaints and conflicts caused by firewood deficiency are inevitable.

The locally named 'tiger stove', with low energy utilization, is quite popular and extensively used, while energy-saving stoves are not yet popularized. I estimate that the upgrading cost of a 'tiger stove' to an energy-saving stove is about 100 Yuan. Local farmers generally believe the upgrading costs should be subsidized.

Timber for home use

Building houses and making furniture are also traditional ways of using the forest in the forest area. Before the implementation of the NFPP, if local farmers needed timber,

[11] Most rural regions in China still operate market fairs once every five days in a town. Farmers trade their products there and buy necessities from the town shops.

they had first to submit a formal application to village authorities for approval, and then pay the XSFB afforestation fund 30 Yuan per cubic meter. They could then get a logging certificate and cut trees at designated sites.

Since the implementation of the NFPP, logging in natural forests is completely prohibited, and so farmers have lost their right to timber for self-consumption. Farmers in Xiaolongshan forestry area basically live under the subsistence line, with very little economic surplus. Farmers cannot afford to buy timber on the outside market and are accustomed to making a living from their surrounding mountains. It is difficult psychologically for them to accept these changes.

Forests as a source of cash income

Total income before and after the NFPP

Table 6-11 Cash income from forestry activities in the sample villages in 2004

(Unit: Yuan/hh)

Income Source	Timber	Firewood	NTFPs and processing	Labor on forestry farm	Seedlings	Total
1997	77.3	80	781.4	224.4	0	1163.1
2004	0	0	31.4	43.9	137.4	212.7
Difference	77.3	80	750	180.5	137.4	950.4

Cash income from forestry activities for sample households in 2004 was only 20% of that of 1997, before the NFPP (Table 6-11). Moreover, about two-thirds of cash income in 2004 came from the sale of seedlings to forestry farms for the NFPP plantation. One household interviewed was hired by a forestry farm as forest guard and benefited in this way from the NFPP.

Timber and firewood

There were great differences[12] among the sample households in terms of income from the sale of timber[13] and firewood. Households who gained benefits from timber or firewood sale accounted for 12% of the sample households, with an average cash income per household of 572 Yuan from timber and 667 Yuan from firewood respectively per year.

[12] During the survey, farmers interviewed were asked to estimate cash income from timber and firewood sales in 1990s before the implementation of the NFPP. Those for self-consumption purpose were excluded.

[13] Though these households owned no mature forest in the 1990s, stealing timber was rife and the income from timber sales was thus underestimated. Their actual income from timber sales was believed to be much higher than they claimed.

Forest side-products

Table 6-12 indicates the approaches to collecting and processing forest side-products in rural communities in Shanmen Forestry Farm. These are, as mentioned above, making tool handles, weaving fruit baskets and mining fences, and collecting medicinal herbs. Daji, Gaoqiao, and Mengou Villages, are located in an area of varying forest resources. Before the implementation of the NFPP, per householder cash income from side-products in these three administrative villages, of rich, medium and poor forest resources is 1054.5, 700 and 427.3 Yuan/hh respectively, which had reduced to 97.4, 106.4 and 95.16 Yuan per household in 2001. Furthermore, as the table indicates, in 2003, very few households still maintained any business from forest side-products, and as a result their incomes had been dramatically reduced.

Table 6-12 Average cash income from forest side-products in selected villages in Shanmen forest farm

(Unit: Yuan/hh)

Name of village		DJ	GQ	GM
1997	Farming tool handles	554.5	310	177.3
	Mining baskets & fruit baskets	300	270	160
	Medical herbs	200	120	90
	Total	1054.5	700	427.3
Total income in 2001		97.4	106.4	95.16
Total income in 2003		0	14	0

Collecting and processing forest side-products were also the main source of cash for local farmers in Dangchuan Forestry Farm before the NFPP (Table 6-13). After the implementation of the NFPP, household incomes in 2001 from forest side-products in Dangchuan, Shizui and Huamiao Villages reduced to 120, 120.7 and 96.5 Yuan, a reduction of 925, 825.3 and 1057 respectively. It is fair to conclude that the negative effects of the NFPP on incomes were much more serious in the communities with richer forest resource endowment. The 2004 research revealed that the situation on forest side-product businesses in 2003 was similar to that of 2001.

Table 6-13 Average cash income from side forest products in sample villages within Dangchuan Forestry

(Unit: Yuan/hh)

Name of village		DC	SZ	HM
1997	Cutting bamboos	145	113	100
	Medical herbs	300	213	324
	Making charcoal	200	200	230
	Making farming tool handles	400	420	500
	Total	1045	946	1154
Total income in 2001		120.0	120.7	96.5
Total income in 2003		100	36	152

Table 6-14 demonstrates that the income from forest side-products in Elm Forestry Farm also decreased dramatically after the implementation of the NFPP. The communities there totally gave up such activities in 2003.

Table 6-14 Average cash income from forest side-products in selected villages within Elm Forestry Farm

(Unit: Yuan/hh)

Name of village		DJ	GQ	GM
1997	Producing fungus	1500	800	1000
	Making charcoal	300	0	70
	Collecting wild chestnuts	200	178.2	200
	Total	2000	978.2	1270
Total income in 2001		101.6	108.6	145.7
Total income in 2003		0	0	0

Thus income from collecting and processing forest side-products decreased uniformly with dramatic consequences for the incomes of local households. The better the forest resources, the more dependent on them were the surrounding communities, and the greater and more visible the income loss for local farmers.

Collecting forest side-products usually coincided with the slack season in farming. The income was gained just at the time foodstuffs were running-out and the spring sowing season was beginning. So the income was like manna, and very important for rural households. It was crucial to securing their annual production plan and to balancing a household's annual cumulative expenses.

Labors engaged by the state farm

The state-owned forestry farms provide local farmers with some working opportunities, - in timber production, transportation, mining, afforestation, particularly in those forestry farms with relatively abundant forest resources. The permanent forestry workers of the state-owned forestry farms are reluctant to do hard work, and heavy work like building forest roads, preparation work before logging, logging, timber skidding, transportation, usually leave local farmers with plenty of work opportunities. After the NFPP, with no logging and logging related activities and with the downfall of related forestry service industries such as transportation and catering, the farmers living next to forestry farms with rich forest resources were negatively affected the most.

There were, however, massive barren lands within the territory of the Shanmen Forestry Farm. After the implementation of NFPP, the Farm afforested nearly 10,000 Mu every year. Through participating in the new afforestation activities, local farmers could gain an income of 300-400 Yuan/person annually. Table 6-15 below reveals that income from forestry work in this area obviously increased with the implementation of the NFPP. However, now that these surrounding barren lands are forested, there is no

longer any large demand for labor and income from forestry gradually decreased after 2003.

Table 6-15 Income from labor in selected villages of Shanmen Forest Farm

(Unit: Yuan/hh)

Village name	Gaoqiao	Daji	Goumen
1997	272.2	283.1	223.6
2001	432.2	414.5	512.5
2003	150	100	0

Table 6-16 Income from labor in selected villages within Dangchuan Forest Farm

(Unit: Yuan/hh)

Village name	Dangchuan	Shizui	Huamiao
1997	990	850	860
2001	0	0	0
2003	0	31	9.4

Local farmers in the Dangchuan Forestry Farm used to participate in logging and transporting timber organized by the forestry farm. Many of them purchased tractors and tricycles during that period. Since the implementation there of the NFPP in 1998, the forestry farm's business shifted from silvi-cultural production activities to natural forest management. With this shift, local farmers lost their opportunities for work in the forestry farm and their incomes dropped significantly (Table 6-16). Table 6-17 suggests that household income from forestry labor in Elm Forestry Farm also decreased after the implementation of the NFPP.

Table 6-17 Income from labor in selected villages within Elm Forestr Farm

(Unit: Yuan/hh)

Village name	Yushu	Wangzhuang	Shibei
1997	102.5	85	78
2001	54	46	45
2003	85	40	8

Household gross income and structure

Table 6-18 illustrates net income per capita[14] in the sample villages from 1991 to 2001. There was a period of steady increase before 1998. Although there was some fluctuation, generally speaking, the net income per capita in the nine sample villages increased before 1998 and showed similar features[15].

[14] Figures in this table come from the National Economy Statistics of Shanmen Township, Dangchuan Township and Yushu Township from 1991 to 2001

[15] Gold mining started inside Dangchuan Forestry Farm in the early 1990s and reached its peak in 1994. At that time, lots of local households bought tricycles and tractors to transport ore and the net

The net income per capita in Dangchuan Forestry Farm and Elm Forestry Farm dropped initially after the implementation of the NFPP, and rose a bit later, while in Shanmen Forestry Farm, net income per capita continued dropping (as shown in Table 6-18). This was due to the shock caused by the implementation of the NFPP to rural communities. The shock, to some extent, facilitated adjustment to the changed circumstances. Farmers were obliged to look for alternative livelihoods to those gained from the natural forests. Farmers' net income per capita in Dangchuan and Elm Forestry Farms showed very evident adjustment, after the reduced incomes of 1999, incomes were beginning to rise again in 2000 and 2001. The changes illustrate that in the above-mentioned two forestry areas there was a lot of activism in seeking alternative livelihoods.

Average income per capita of the sample households in 2003 amounted to 1,321 Yuan, an increase of 46 % from 846 Yuan in 2001. In terms of income structure, income from agriculture, migration and other sources increased by a great margin in 2003, especially other income sources, which increased by 200 Yuan compared to that of 2001, accounting for 11% of total income. The main reason for the increase was subsidies from the national 'land conversion program'. Agricultural incomes increased due to fewer natural disasters, good harvests and the rise in foodstuff prices.

Table 6-18 Annual net income per capita in sample villages from 1991 to 2000

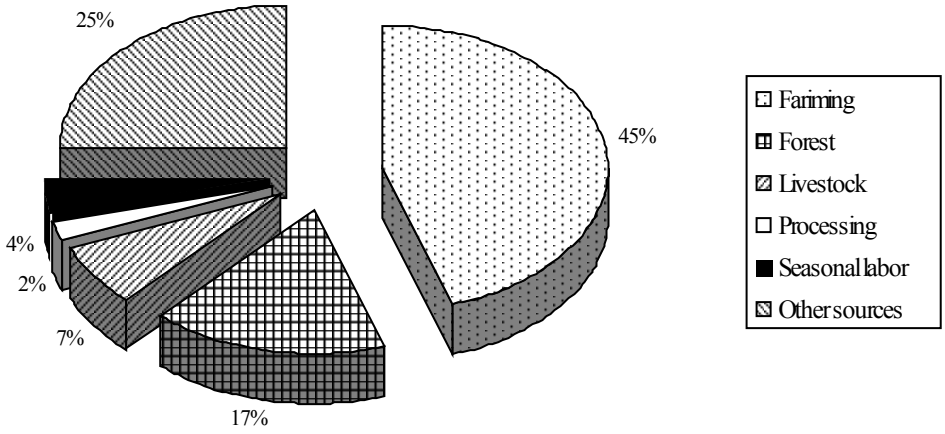
(Unit: Yuan/hh)

State Farms	Shanmen			Dangchuan			Elm		
Year	GM[16]	GQ	DJ	DC	SZ	HM	YS	WZ	SB
1991	368	398	390	415	414	447	673	637	631
1992	400	437	424	450	400	483	732	726	694
1993	673	701	690	643	379	631	845	871	830
1994	518	597	489	997	1006	1011	920	934	914
1995	541	552	523	748	755	758	961	942	940
1996	428	425	381	733	841	682	978	963	950
1997	667	694	623	785	870	780	1070	1050	980
1998	760	730	716	770	848	755	1220	1190	1082
1999	690	691	670	730	793	716	1080	1013	970
2000	657	670	650	710	742	690	1162	1132	980
2001	643	655	641	783	816	721	1210	1180	1012

income per capita in 1994 was thus at its peak.

[16] GM = Goumen Village; DJ = Daji village; GQ = Gaoqiao village; SZ = Shizui village; HM = Huamiao village; DC = Dangchuan village; YS = Yushu village; WZ = Wangzhuang village; SB = Shibie village. The same way applied to another table in this chapter.

Figure 6-1 The income structure of sample households in 2004



The structure of household income in Figure 6-1, Table 6-19 and Table 6-20 illustrates that income sources were ranked in terms of their contribution to total income as follows: agriculture, subsidies related to state policy and income from migration, and the proportion from forestry and husbandry that had been closely related to living near, and making a living from the mountains had dropped to 11% of total income in 2003 (Table 6-20). Cash income from livestock dropped from about 30% in 1997, down to about 15% in 2001 and then quickly dropped to about 8% in 2003. The sample villages are showing the same economic structural features of non-mountain communities. The agricultural income of the sample villages around Shanmen Forestry Farm accounted for the biggest proportion among all other income sources. The next higher income proportion comes from migration work, with a share of 11.2%, 21.8% and 30.0% in the three villages respectively, higher than husbandry.

Table 6-19 Income structure of sample households in 2001

(Unit: %)

State Farms	Shanmen			Dangchuan			Elm		
Year	GM	GQ	DJ	DC	SZ	HM	YS	WZ	SB
Total	100	100	100	100	100	100	100	100	100
Agriculture	33.6	32.1	30.7	25.6	28.5	30.3	41.5	52.4	40.7
Livestock	19.2	16.6	13.8	14.5	9.6	14.2	17.1	10.6	17.2
Forest	3.7	4.0	3.8	3.8	3.7	3.0	2.1	2.3	3.6
Lobor on Farm	3.6	11.6	6.0	6.1	3.0	2.1	3.7	14.5	10.4
Cash crops	8.2	6.3	5.0	26.2	33.2	24.5	23.4	9.5	16.2
Migration	11.2	21.8	30.0	10.2	8.2	9.1	8.7	7.5	0
Others	20.5	7.6	10.7	13.6	13.8	11.0	3.5	3.2	11.9

Table 6-20 Income structure of sample households in 2003

(Unit: %)

State Farms	Shanmen			Dangchuan			Elm		
Villages	SB	YS	WZ	DJ	GM	GQ	DC	SZ	HM
Agric.	49.44	53.71	66.58	33.59	32.73	34.4	44.3	42.61	26.3
Forestry.	1.92	0.51	5.26	10.2	0.81	12.6	0	0.92	2.71
Livestock.	7.15	2.7	12.14	11.3	2.63	12.61	7.63	5.36	3.13
Proc.	0	0	0	0	0	2.17	0	15.32	0
Migration.	6.07	11.79	13.77	38.58	28.32	36.7	11.92	6.38	11.72
others	35.42	31.29	2.25	6.33	35.51	1.52	36.15	29.41	56.14
total	100	100	100	100	100	100	100	100	100

Table 6-19 and Table 6-20 indicate that in the sample villages located in Dangchuan Forestry Farm, agriculture accounts for quite a large proportion of cash income for the reasons given above and therefore it does not mean that agriculture will necessarily continue to hold an absolutely advantageous place over other alternatives. Income from cash crops such as medicinal herbs and economic trees show a rapid increment in total household income, sharing an almost equal percentage to that from agriculture, and a much higher percentage than from husbandry after the implementation of the natural forest protection program. Many farmers in the Dangchuan forest area began to cultivate the medicinal herb species *Chaihu* and *Tianma* and economic tree species such as *Huajiao*. These activities very rapidly became the local preference.

Agriculture ranks first place among the income structure of the sample villages in Elm Forestry Farm. However, the local communities have begun to cultivate cash crops and trees to counterbalance the decreasing income from forestry.

The main changes after the NFPP revealed alternative livelihood sources to be actively underway as illustrated in Box 6-1.

Emerging alternative economic activities after NFPP

Box 6-1Emerging alternative economic activities in sample villages

Gaoqiao: Migration of male labor, developing protection houses for cattle planned

Dangchuan: Cultivation of medicinal herbs: 100 Mu of *Thorowax* (3 years per harvest) with a relative stable price, 400 Mu of *Bunge pricklyah* (4 years per harvest) but with unstable price, 500 plants of tall *gastrodia*; labor migration.

Shibei: 1) A few households engaged in growing seedlings contracted by the state farm, more than 50 women in the village are engaged in nursery work with a wage of 10 Yuan per day with meals. 2) Tree planting team: over 30 persons are engaged in tree planting activities with a daily wage plus meals of 15 Yuan. 3) Harvesting bamboo (Gi

ant Timber Bamboo): a new utilization mode of bamboo was explored after the NFPP as standing poles for vegetable cultivation, and as raw materials for mat weaving. Their markets are mainly in Shaanxi, Ningxia. 100 sticks make one bunch. The wholesale price is 3 Yuan per bunch. One worker can cut 4-5 bunches per day. So one harvesting season's income ranges from 300 to 400 Yuan. 4) Land Conversion Program: 300 Mu have been converted with another 230 Mu already included by the program. Main species used are larch, chestnut, and walnuts. 5) Cultivating medicinal herbs: 3 households planted 6 Mu of *Thorowax* and *tall gastrodia*.

Among all the alternative livelihoods, expansion of cash plants and trees are the most prominent. In Shanmen Forestry Farm, the main economic crop is hemp. In the communities in Dangchuan Forestry Farm, the economic crops planted by local farmers are *tall gastrodia* and *thorowax* and the cash tree specie planted is *bunge pricklyah*. In communities in Elm Forestry Farm, cash crops planted are soybean and walnut.

The cash crop planted by villagers in the Shanmen Forestry Farm was hemp, a type of oil plant. Its production is at 125 kg/Mu with a market price of 2.8 Yuan/kg. The planting area in Shanmen is not large. The income from it covers less than 8% of total household income. Local farmers report that there are many flaws to planting hemp, one is low yield and the other is market price fluctuation over the recent few years.

The main cash crop planted by the farmers living in Dangchuan Forestry Farm is the medicinal herb *thorowax*. The usual annual net income per Mu ranges between 480-600 Yuan at the current price of 24 Yuan per dry thorowax product. The main economic tree species is *bunge Pricklyah*, with quick and steady annual production, raising 20 kg per Mu, and about 600 Yuan per Mu of annual income at the current price of 30 Yuan per kg. Given the advantage of the conversion program, farmers in Shizui village have started to diversify the cash crops and trees to be planted, such as larch, walnut, and tall gastrodia.

Conclusion

In the foregoing household and village level analysis I have described how patterns of land use, household income, and daily life in the sampled villages are closely interrelated with natural forest resource bases or the lack of them. The dependence on natural forest resources by local farmers is also closely related to the richness of these resources. The NFPP program has negatively impacted on grazing, fuel collection, Chinese medicinal herb collection, harvesting of small-sized wood and bamboo, dramatically reducing local incomes. Despite the above impacts, rural farmers have enjoyed more labor opportunities such as raising seedling stocks, reforestation, and tending junior stands for the forestry farms. The state forest farms accepted the villagers' traditional way of working for raising seedlings, afforestation and tending. After 1998, net income declined in the nine selected sample villages while that of the villages in Dangchuan and Elm Forestry Farms went up, for the reasons outlined.

These villages have shown greater adaptive capacities to take on new livelihood activities. The richer the natural forest resource base, the greater the dependence of farmers before the NFPP and the more the transformation of rural livelihoods. Local rural inhabitants expressed a need for government help because of the lack of timber for home use, for firewood, for grazing with the implementation of the NFPP, and to receive equal treatment in opportunities to be involved in raising seedling stocks, reforestation and tending of junior stands. The existing state-owned forest management system has become the major barrier for farmers to participate in the NFPP. The highly centralized decision-making procedures exclude local farmers from participating in decision making, which takes on the characteristics of the traditional planned economy era. Implementation of the NFPP has reinforced the discriminatory treatment caused or at least exacerbated by the separate identity and status of 'rural inhabitant' given to those living in rural communities, and the urban citizen status of the staff of the state forestry farms. Other factors that influence community participation in the protection and development of natural forests include the frequent changes in land and tree tenure, and giving virtual property rights to the state owned forests while depriving communities of their traditional rights to manage the natural forest.

CHAPER 7

The Politics of Village Elections: Do Forests Matter?

This chapter picks up the threads of the ongoing everyday struggles discussed in the previous chapter, which dealt with the social dynamics of forestry protection. The present chapter focuses on the local politics of village and township relations and examines the contradictions that arise in the introduction of a new EC-funded program for setting up village forest management committees. The case data presented relate to a series of highly-charged political situations that highlight both the continuities and transformations in the structure of power and authority in present-day rural China.

The Nature of the EC funded Village Forestry Management Project

On the basis of my long experience gained in the Xiaolongshan Forest region, and as part of the debate on methodological approaches for resolving the conflict between rural livelihood improvement and environmental protection in western part of China, I suggested in 2002 that we might pilot a village forest management planning exercise with funding from the EC. The state owned forestry farm and local forestry authorities and rural farmers would jointly design and implement a village forest management planning project.

The overall objective was to achieve a 'double-win': the protection of natural forests as well as rare species and the sustainable management of local forests with the improvement of local livelihoods. The specific objectives were:

1. To develop unified village forestry management planning (VFMP) in each selected village through combining and coordinating the implementation of the Natural Forestry Protection Programme (NFPP) and "the Conversion of Farmland into Forests and Pasture Programme", and to co-manage collective and state forests within village boundaries and to set up Village Forestry Management Committees (VFMC) in 10 selected project villages, with the participation of local people.

2. To promote eco-tourism, participatory land-use and landscape planning for improving local livelihoods.

3. To widen local community people's involvement in the implementation of the NFPP, and to assist local farmers to develop cash crops by taking advantage of the organization and technical capacity of state-own forestry farms.

4. To publish a booklet or a Guideline of "Village Forest Management Planning" and to provide policy recommendations to the State Forestry Administration and local governments.

The direct beneficiaries of this project were to be the people who live in Estuarine Village Administrative Village and a further nine villages in Willow Township of Stamp County of Gansu Province.

We started our project by selecting Estuarine Village as the pilot administrative village. Based on experiences gained from the Estuarine Village forest management planning and implementation, the multi-disciplinary team would then develop a process and guidelines for village forestry management planning and then extend the project to cover another nine selected villages in Willow Township. Village forest management planning would include piloting and testing the protection of unique species without setting up a protection zone. The project focused on providing the technical and financial assistance to community people, in particular, to poor households and rural women, for environmentally friendly alternative activities as well as forest protection. The project would also provide incentives for rural farmers to organize themselves and set up community-based organizations. The project aimed to provide a seed fund for the start-up of village forest management committees and to help them to explore the sustainability of finance for running and management of these committees. The project would provide environmental education and farming and eco-tourism promotion training for rural farmers.

As the outcomes of this pilot planning exercise will show, efforts to develop a strategy for improving livelihoods for the rural poor and for forest protection through increasing the level of participation of local farmers and their households is obstructed and to a degree dismantled by the politics of local life and by the leverage exercised by actors of dominant sector interests and institutions. The case explored in this chapter shows how township and village politics (in this instance involving a campaign to elect an administrative village leader and committee) shape also the outcomes of the proposed committee to run the VFMP project.

Situation of Village politics

The administrative and political set up of Estuarine Village is nothing special for an administrative village. Figure7-1 provides a sketch map of the local political context for the village. Persons named in the chart were important actors in my attempt to get a committee elected for the EC funded pilot program for village forest management. Here I give a brief outline of them.

Guo Tianping, Party Secretary of Willow Township

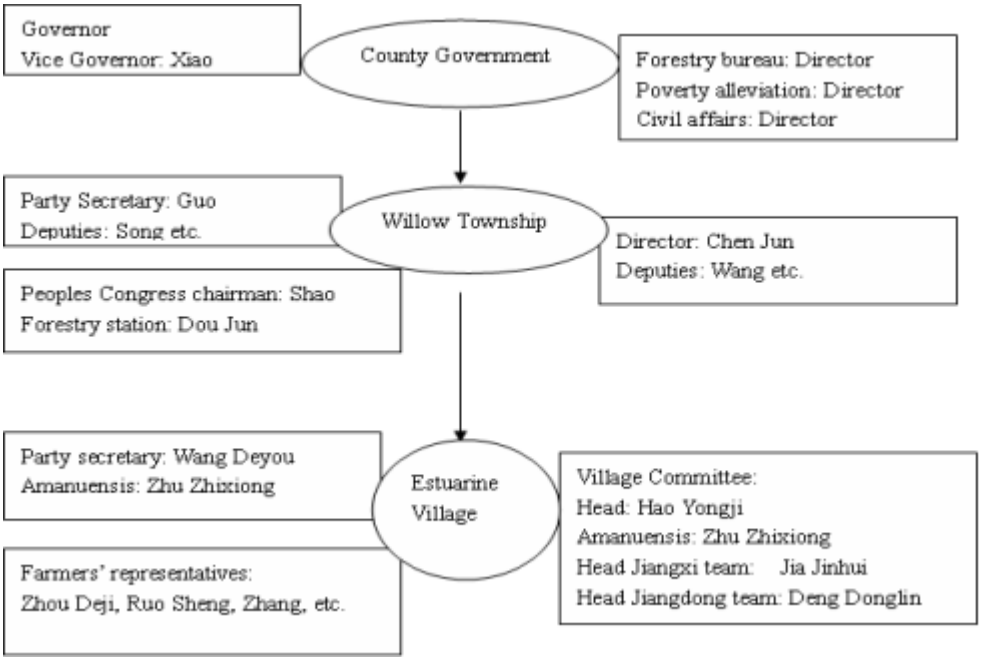
Guo is 41 years old. He graduated from teacher training vocational school and once worked in the county rural and township enterprise bureau as deputy director. He is

good at calligraphy, and experienced in dealing with people. He was transferred to Willow Township in 1998 as director of the town. He was promoted to township party secretary in 2002. His home is located in the county headquarters and his wife works in the county branch of the agricultural bank.

Chen Jun, Director of Willow Township government

Chen is 35 years old. He graduated from vocational school, and worked in Fuzheng Township as director of the township family planning committee. Then he was promoted as vice director of Fuzheng. He was promoted to be director of Willow Township in 2002. His home was Chengguan Town, the headquarters of Stamp County.

Figure 7-1Sketch map of local political setting



He was wise in managing his career. When Guo left the town to receive training in the provincial party school, he would occasionally return to the township and Chen took very good care of him and told him about his work with a view to pleasing him. He was convinced that Guo's recommendation would be crucial to his further promotion. He arranged for Guo and other deputy directors who lived at the county headquarter and their families, as well his own family, to party together in the State Farm restaurants in Estuarine Village.

He was stuck in his career as an official. I asked him: "*what is the difference between the posts of director and deputy director of the township? Why do you want to be promoted to township party secretary?*" His answer made it clear that being at a higher level in the hierarchy meant power.[1] We also talked about the prospects for his career. He explained that being only 35, if he were to be appointed as township party secretary, then after one government term, he could get further promotion; otherwise, he would have no chance.

Guo and Chen are immigrants in the Township.

Mr. Song, Deputy Party Secretary of Willow Township

Song was born in a village of Willow Township, and graduated from high school. In 1988, a decision was taken at provincial level that well educated farmers could be recruited as township officials where they lived, though they could not chair any township unit. Song benefited from this policy. He is over 40 years old with no prospects for promotion. His family is in the village. His wife is a peasant and they have two children.

Also, similar to Song, Shao, chairman of the township people's congress has family in the rural communities. Shao is older, about 50 years old. These two are resident township officials. They have less power in township matters but have strong networks with village cadres. Song is a shirttail relative of Hao, village head of Estuarine Village.

Wang Deyou, Party Secretary of Estuarine Village Administrative Village

Wang has been the village party secretary since he left the army in 1980. He was not well educated. His son and his son's wife had also worked for the township government, and were later transferred to county government subordinate bureaus. His son worked in the statistics bureau and the son's wife worked in the forestry bureau. He told me: "*The core components of projects to improve the township's appearance and performance are all contracted out to Estuarine Village. These projects, such as road development, farmland rehabilitation and conversion of farmland to forest are organized by the Township, and villagers are requested to provide labor. Town appearance projects are located at roadsides and places designated as venues for visits from higher-level officials are managed by the village responsible and by township officials*". Higher level officials went to see only a few work sites. If their quality was good, then they would praise the township and village officials.

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[1] During the survey, farmers interviewed were asked to estimate cash income from timber and firewood sales in 1990s before the implementation of the NFPP. Those for self-consumption purpose were excluded.

Guo commented that it was hard to work in the rural areas. The village party secretary's job was to complete township government assignments and to inform villagers of government policies, and they had to serve many interest groups. People who did not like Wang made comments such as "*in the eyes of a small number of villagers he is illiterate and knows nothing about the law, and behaves like a hooligan"; "Some villagers describe him as hanging around the streets with the village stamp in his pocket"* (the stamp represents official rights).

The impression I had of him was that he was kind, competent and kept a low profile. He was willing to admit to problems and dilemmas.

Hao Yongjie, village head of Estuarine Village

Hao has middle school education but then dropped out due to poverty. He was the first in Stamp County to drive 4-wheeled tractors. He has been a driver, an electricity worker, a house constructor. His family numbers four - a wife, son, daughter and himself. He has been head of Estuarine Village since 1989.

Zhu Zhixiong, Amanuensis of Estuarine Village

He is about 30 years old, with middle school education. He looks very smart, with wife and two children. He lives in Jiangxi production team (natural village) of Estuarine Village Administrative Village. He is not on the villagers committee, nor is he a member of the communist party. He is secretary of the youth group, a title which has little meaning beyond village level. His role in Estuarine Village is very special; he acts as accountant and has in his charge the villagers' committee stamp, although to pay out for village expenses he needs the signature of the village head on vouchers. Only three people in a village receive a subsidy for their work – party secretary, village head, and amanuensis. In Estuarine Village, the village head and party secretary are paid 1200 Yuan and the amanuensis 1000 Yuan per year by the county fiscal sector.

Jia Jinhui, head of Jiangxi natural village

Jia Jinhui, head of Jiangxi village (or as it once was, the Jiangxi production team) graduated from elementary school and had no special skills. Jia's family is a big one in the village. He has five brothers and his uncle has three sons with their own families. His wife is from the same village team. As a consequence, Jia's family is well connected in the village with strong village networks.

Jia had a son aged 18 who joined the army in 2005 and has since been in Xinjiang Autonomous region. His son graduated from the local agricultural high school but there was no job for him, so he joined the military. He has a daughter of 19 years who graduated from junior high school and serves in the fast food department in a super market at Stamp County headquarters, with a salary of 400Yuan/month. She once went to Shenzhen and Lanzhou, but failed to find a job good enough to support herself.

Jia is a typical rural village cadre at grassroots level with a reputation for hard work, and no aggressive or exceptional abilities, but neither is he easily compromised. He is experienced in dealing with people. He has no business or other talents, but he is enthusiastic about his job as village leader.

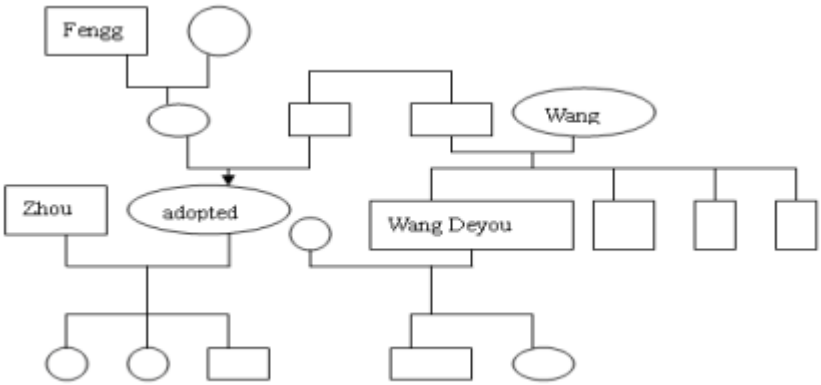
Zhou Deji and His Family

Zhou's family is part of the 'Feng' and 'Cai' families, two of the earliest households to settle in Estuarine Village. The Fang family had no son and their daughter married a man from another village. But this couple had no child and adopted a girl from the Cai family in the same natural village. This adopted girl later married Zhou Deji. The Cai family have several daughters who have married men living near the headquarters and have thus extended the family network beyond the village. Zhou Deji was from Chenguan Town which is very close to county headquarters. He moved to Estuarine Village in 1988.

Zhou's wife opened a pharmacy in the village and sells Chinese herbs. They have a son and a daughter; both are students at the county middle school. Zhou's wife is cousin to the Wang family. The family are rather new immigrants to Estuarine Village. As shown in the kinship chart, Wang has three brothers.

Zhou is the latest adult male to move to Estuarine Village. His network was mainly developed by his wife's sisters as they live nearby at county headquarters. He worked in Stamp County liquor factory for a number of years and extended his network there. In the early 1990s', the factory - a state-owned enterprise - generated two thirds of the county revenues in some years. Because of this, Stamp County became one of three counties in Gansu Province that was able to balance its budget. From mid-1995, the profits from the factory sharply declined, followed by large annual losses. In 2000 the factory went bankrupt and sold out to a private company. Many of the workers were dismissed. Zhou repaired the factory machines.

Figure 7-2 Kinship relationship between Wang and Zhou



Preparations for the Estuarine Villagers' Committee Election

It so happened that the Stamp County authorities in 1994 had planned to hold the obligatory December elections at the time scheduled for introducing the VFMP project and setting up its committee. Village elections are held in every administrative village for the post of village leader and for members of the villagers' committees in December. This task is delegated to the township authorities to organize. So the township authority decided to run the two elections at the same time.

Campaign by Willow Township government

The campaign was supposed to proceed in conformity with the Village Autonomy Law of the P. R. of China.[2] But the real situation deviated from this. The township organized a group to lead the campaign and sent an official at deputy director level to each village to work with the designated township officials to nominate candidates. Generally speaking, if there has been no crisis-like incident in the village over the previous three year governing period, and township officials have had no confrontations with the villagers' committee over issues, there would be no major change in the current villagers' committee. A candidate for leader and a backup candidate would be nominated by the township leaders and these two would compete for the post. The members of the administrative villagers' committee were usually the heads of natural village teams, plus one or two extra candidates, and these then became the list of nominees for the villagers' committee elections.

The village head was not willing to continue in office

Estuarine Village was a special case because its leader, Hao Yongji, no longer wanted to stay on as village leader. There is an informal rule in Stamp County that the head of the administrative village is also the head of family planning. The provincial government ruled that heads of family planning should be remunerated 1000 Yuan annually, but Hao had only ever received 50 Yuan. Hao said:

> *"There are a lot of troubles associated with family planning. Authorities at all levels undertake checks and balances and the work means dealing directly with people. When a woman has given birth, she has to use a contraceptive ring, but many of them are allergic to it, and if she gives birth a second time, then she is required to have a tubectomy within 45 days".*

Hao refused to continue as village head because he said he no longer wanted to be the executive of family planning. But he admitted to me that this was only an excuse. It

[2] According to the Village Autonomy Law of China, the positions of village leader and members of villagers' committee are a community elected positions. The party secretary of the village is appointed by the party. Both are supposed to run village affairs, though it is the party secretary who has the overriding authority in most of China's rural regions.

was easier than being direct and saying he really no longer wanted the office. He was very confident of his power base in the village. As he explained: "*Someone once tried to deprive me of the post, but I have been elected for five terms*". Elections take place every three years. He gave me his reasons for his withdrawal as follows:

> *"Firstly I lack real power. It is the village party secretary who has the real control over village affairs. For instance, when a decision is made during a meeting held by the villagers' committee, it has to be submitted to him for approval. If he vetoes it, the decision cannot be implemented. But if he makes a decision, he never consults the villagers' committee before acting. This was reported to the township authorities but the township director simply said that the villagers' committee should obey Party decisions, and therefore the village party secretary's decisions have to be strictly followed.*
>
> *Second, there is no consensus among villagers' committee members. I am corruption free and want to make a contribution to village development. A few members in the committee are too selfish and have no intentions to do good things for the masses. For example, some office equipment was shipped to the villagers' committee office for the start of a village forest management committee. Although the members were notified, no one showed up to move it into rooms. During meetings to discuss collective issues, it is very hard to reach any agreement.*
>
> *Lastly, it is getting harder to do the job in the village. In the past it was easier. Villagers were willing to follow the policies made at higher levels. But now that policies are more transparent and beneficial to them, it is becoming harder to win their follow up. For example, in the past it was easy to mobilize villagers to contribute their labor free for a farmland water conservancy project. But now, everyone is aware that there are cash subsidies for such work and they want to know how the money has been spent. Although there have been cash subsidies in the past, the township government and villagers' committee have never received them.*

The township party secretary agrees to select a successor

Guo, Willow Township Party Secretary, was told of the situation in Estuarine Village, but to Guo's mind this stuff is not important and he had no interest in getting involved. He thus requested Song, his deputy in charge of village elections in Estuarine Village on behalf of the township party committee and government, to select a successor to replace Hao. One week before the election took place, Guo commented to me as a way of explanation that: "*The village head of Estuarine Village is not competent and not so committed to work. He should be replaced by someone else*". However, Hao told me later that he had twice phoned Guo to report that he wanted to quit, but Guo had told him that he expected him to continue in the position. He believed that he had a good relationship with Guo. But for Guo, in his context, it is disgraceful for a village head to

want to quit his position, though this is becoming increasingly common in many villages in China. No one in few administrative villages in China wants to take the position of village head any more for a variety of reasons, among them the loss of influence, poor village financial capacity due to that the central government has abolished almost all rural taxes and levies. Be this as it may, in his role as Willow Township leader, it was difficult for him to accept such a request, for as he said: *"In my township, the problem is that there are too many people in Estuarine Village competing for the post of village leader, but in other townships, nobody in the village is willing to be it"*. He was right, as will become increasingly clear.

Wang Deyou, Estuarine Village party secretary, tried his best to avoid his poor relationship with Hao from exploding. As is usual in village affairs, the party secretary takes the leading role and thus has to take responsibility for the poor performance of the villagers' committee. If Wang was shown to be incapable of leadership and authority over the village head, this could indicate that he was not so capable of fulfilling his mission. He said to me repeatedly that "Hao was unwilling to do the job because the family planning work consumed too much of his time". He was not expecting to get Hao to change his mind and he had a successor in mind, Deng Donglin, head of Jiangdong natural village. Wang commented: "Deng is young, wise and fair", and as party secretary, he had the power to recommend a candidate for the post on behalf of the village party branch, and his recommendation mattered.

One day, chatting about what the best model was for the relationship between village party secretary and elected village head, Song, Willow Township deputy party secretary, used the his township as an example:

> *"The Willow Township administrative villagers' committee is rated the best in the township. The township headquarters is located in the village. The village was compensated for land acquisition by a large sum of money years ago, and the village account now has a balance of more than 100,000 Yuan. In this village, the Party secretary exerts the final decision-making rights. The village head is blamed if he cannot keep pace with the Party secretary".*

These remarks reflect three layers of thinking. Firstly, the perfect model for village power relations in Song's mind is that the party secretary is the decision maker, and the village leader is there to carry out his decisions. Township government at the grassroots is still used to a command system where higher authorities prevail. Secondly, this pattern of vertical control is locked into a traditional family pattern, whereby a good cadre manages collective interests as his own. However in rural China, as Estuarine Village's story shows, public resources are used to explore individual interests. Lastly, the comments suggest that a 'good' village should have established a public fund. Otherwise, it is difficult for a Party secretary and village leader to fulfill their missions.

Compromise in the selection of a village leader

Guo endorsed looking for a successor. This caused some controversy in the village as Wang, in his influential role as Estuarine Village administrative village party secretary, proposed Deng, head of Jiangdong natural village, where Wang lives, to succeed Hao. However, the head of Jiangxi natural village, Jia Jinhui opposed his selection.

Usually, an administrative villagers' committee is composed of the head of each production team, the amanuensis, the head of the village women's federation, and the village leader. However Estuarine Village is a special case. Wang, the party secretary, lives in Jiangdong natural village but is also head of the production team or natural village called Ta'an, where about 20 households are located in the upper part of the mountains with extremely poor transportation. It is said, there are many called '*daisha*' (meaning simplitons and idiots) in the village, but it is hard to select a head.

Jia had twice failed in his attempts to be administrative village head. He attributed his failures to the lack of support from party secretary Wang. Meanwhile, Jia thought he had won the support of his own constituency. However, there were many in the broader community who opposed Wang. This opposition did not originate from any failure in his public duties, but to disputes with neighbors and others for personal reasons. So when Jia realized that Wang would not support him, he mobilized his constituency and took advantage of any hostility towards Wang. He organized four meetings before the selection of candidates for the villagers' committee leader, hoping to become the chosen nominee. He claimed that the new leader should not come from the same village team as the party secretary. Wang commented that this behavior amounted to betrayal. Song, Guo's township party deputy declared that Jia was not as capable as Deng and he later blamed Jia's campaigning behavior for the failure of the nomination run[3]".

Song thought this issue to be serious and had discussions with other township officials and began to persuade Hao to remain in office as a solution to the impasse. He also arranged a meeting between Hao and Wang. Before this meeting, he spoke strongly to Wang advising him that if he did not support Hao as the candidate, the situation could become even more complicated. Jia had knowledge of many undisclosed issues in village affairs and if irritated he could publicize all these things and jeopardize Wang's position as well. Song also visited Jia to give him warning and to request that he pull out. Song asked Jia to comply with the decision of the township government, and agree for Hao to be nominee for administrative village leader and head of the villagers' committee. It was hard for Jia to say no, and easy for him to save face, for this arrangement as it would be generally accepted as a continuation of the power structure that had dominated the village for 15 years.

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[3] Which means the result of the election did not comply with the expectations of the township government.

As Wang has been village party secretary for a long period, the number of under the table deals that must not be disclosed to villagers has added up. Such deals involved all village cadres. As Jia has been a member of the villagers' committee and was head of the former Jiangxi production team, and he has been party to many of these deals. If Jia was irritated, he could disclose these irregularities even though he had to some extent been responsible for them and had benefited from them. Song's request to Hao to continue in his position, and for Wang to support Hao, was an attempt to stabilize power relations, which was the best solution for all involved. If Jia rocked the boat, then all of them, including a few township leaders, would go down with it.

Although Jia lost in the nomination game, and did not want to see Deng win the campaign, even looked down on him, he attributed most of his failure to the opposition from township officials. Song, the deputy party secretary had a talk with him and comforted him, and so Jia then shifted his anger to Deng.

Now that a consensus had been reached among all parties, the next step was to legitimize it and get through the legal procedure of voting. In the first election, seven were nominated as candidates for village head. Many, including Hao, Deng, and Jia were also put forward as nominees for the villagers' committee. The count of the votes for village leader showed that Hao had won the campaign with the others lagging far behind him. Deng won the second largest vote. Jia came next with only a three-vote difference between him and Deng. Hence Hao and Deng were thus duly announced as candidates for administrative village leader. Five of the seven were then to be nominated for the villagers' committee.

A day before the nominations took place, I interviewed Jia. He first expressed his anger at Wang, who was a dictator in his eyes. He was also unhappy with Song, because their work had not been very effective. Finally, he suspected Deng's ability to campaign, because Hao had been in the office for along time and Deng therefore lacked experience. He also claimed it would be impossible for Deng to defeat him.

It was in the township authorities' best interests for Hao to resume office. As Hao had used the excuse to quit as not wanting to be in charge of family planning, it was easy for the township to meet this requirement. Another person could be appointed as executive of family planning. Of course, another option would be to ask Hao to hold on until the right candidate for the position was identified. If Hao could run a successful campaign this would also help them to calm the villagers. Junior officials in the township government liked to receive small gifts and other small kickbacks provided by Wang, and were not worried about criticism from villagers. But the senior members of the township government behaved differently. They could not afford this kind of corruption if it undermined stability in the territory and affected their own promotion. As a matter of fact, although Wang did not want to see Hao as village head, he knew that if Deng won the campaign, the villagers would be separated into two factions, and more hidden controversies would be brought onto the agenda with which the township

leaders would have to put a lot of energy into managing. The failure to elect a suitable village leader was the worst scenario for the township.

Hao was finally elected as administrative village head as a result of the above games. The movement and activities centered on the campaign were thus manipulated by the key players.

Nomination of candidates for the Village Forest Management Planning Committee

I had gradually become aware that I could not rely on township officials to mobilize farmers to implement the pilot village forest management planning (VFMP), and that I would need to change my work plan to get this done. I decided to hire two consultants and to participate in the campaign personally. The major activities included: 1) a request to Guo to organize a meeting of township and administrative village officials to brief them about the village forest management project; 2) to conduct a household survey, gather individual opinions and at the same time publicize the project; 3) to organize round table meetings with farmers; 4) to create posters; 5) to list the functions, membership and nature of the required village forest management committee as preparation for voting one in.

Rules were made for the election of the forest management committee as follows: 1) the committee would consist of seven members and would include a leader, an accountant, a treasurer, and two forest guards, one of whom must be female. The election must be undertaken by the whole administrative village with each natural village having their own representatives. 2) As candidates and composition of the committee each natural village would elect two candidates, one of whom would be female; then an election would be held across the administrative village and the candidates ranked by the number of votes. The candidate who was ranked first would become the leader. The candidate ranked first in each production team/natural village would constitute a total of five, and the remaining two would be elected by counting the votes from the rest of the candidates. 3) Candidates from each natural village would be elected under the following rules. First, any one in the village could be a candidate if he had three supporters. Second, a pre-election would be undertaken in each village team, half of the villagers must participate and the candidate who won the largest votes would win. In case the candidates ranked second and third had equal votes, a second round would be held until one finally won. Candidates should be one male and one female. 4) The approach used for the administrative village elections should be adopted for this election; the villagers should make votes confidentially. In case two candidates won identical votes, the female would be given preferential treatment. If they were of the same gender, the candidate from the village team with less population would be the winner. Balance had to be maintained among village teams and gender. 5) The vote must amount to more than half of all eligible villagers. If the voters were not available, a person could entrust a representative to vote. 6) Attention should be given to the

interests of participants, because this committee required all of them to work free of charge.

A consultant I invited to join my project organized meetings for each natural village which township officials joined. Each village was urged to recommend one male and one female candidate respectively up to a total of 10. In the Ta'an natural village, the staff of the township officials present strongly recommended Wang, administrative village party secretary to be the villagers' candidate. Hao Yongjie had already made it clear that he did not want to stand and of course at the time Wang and Guo were looking for a new candidate for the position of village head and were trying to persuade Hao to take this on, so that ruled him out as a candidate for the VFMP Committee. Jia Jinhui from Jiangxi natural village team explained that his team had "recommended two farmers as candidates, but they were rejected by Wang. Did Jia have the power to veto them? The ones now nominated were all either village cadres or their relatives". When he said this, he was already aware that he would not be chosen as administrative village leader. Therefore he was straightforward and said that officials should not be able to participate in the election and that as head of Jiangxi village team this included himself. "In tomorrow's election, I will only give a short message to the 72 households from Jiangxi village team - the forest management committee members should be nominated directly by the farmers".

Jia's comments highlighted what had been the message and key points stated in the survey and posters, that is, that the committee should indeed be a farmer organization. He was expressing his anger when indicating that officials should therefore not be members of the forest management committee. To win the crown of village leader, Jia had had to compete for the support of those who were dissatisfied with Wang, which implied opposing the powerful interest group. It is impossible for township officials to support this kind of movement which is therefore destined to fail from the beginning. But Jia had no other way to do this, and he was one of the few who openly challenged the status quo. Wang and the township officials would not wish to give up control of any money or authority by allowing a committee for this EC funded pilot program to be run by farmers themselves and this was behind their maneuvering.

The position of officials

Today, rural policy changes tend to favor farmers and be hard for leaders

I interviewed Wang Deyou two days before the elections for the administrative village and forest management committees. Wang repeatedly said: "the government policies are more and more beneficial to farmers, but it is harder and harder to be a village leader". Chen, the Willow Township Director agreed with him and added:

> *"Compulsory labor input is being phased out, agricultural taxes and levies are being abolished. It is impossible to manage or govern the farmers. The restructuring of the agricultural sector cannot be done by the farmers*

> *themselves. One way of restructuring is for farmers to be submissively included. For instance, in Yongning Township of the County there was insufficient land to farm so the township authorities persuaded farmers to take off-farm jobs, and the educated farmers to plant vegetables to replace grain production. Another way is to get farmers more actively involved with the government initiated projects, officials taking the lead and providing services and the farmers doing the implementation. Nowadays, the farmers do not want to follow the officials and we have no means to order them to do so".*

He followed this by complaining:

> *"Central government does not understand the real situation in the rural areas. If the current policy is implemented over a long time, the regime at grassroots will collapse, and stability in the rural area will be threatened."*

And in conversation one day, Guo Tianping told me:

> *"As a plan for 2004, the county vice governor and vice party secretary who were in charge of agriculture requested Willow Township to cultivate 250 Mu of tobacco. It was a document that had to be signed, stating it as a mission to be implemented by the township and mandated by county government".*

Guo had been embarrassed by the assignment. He told me

> *"The township had already submitted a plan for planting 20 Mu of tobacco only. This plan was viable. Some farmers were willing to grow tobacco. But it was difficult to expand this to 250 Mu, because growing tobacco was labor intensive and had to be irrigated. At the same time it had generated for the farmers involved a relatively low income - only 500-600 Yuan/Mu. The farmers had made a loss, so it was hard to motive them to grow it again".*

Wang also complained of his difficulties in office, and said

> *"If a farmer asked you to address three issues and you helped him solve two of them leaving one not done well, the farmer would complain about you".*

Generally speaking, it was hard to be an official in the rural area. It was natural that there would be a small number of farmers who would make complaints.

Views about the village forestry management committee

Wang was of the opinion that the administrative village leader or party secretary should lead the forest management committee, and that the head of each production team should form the committee. He also suggested some administrative procedures for the future VFM committee, suggesting that members of the committee should receive a subsidy. "Eight to ten Yuan for each working day would be fine".

Wang had previously told me that the four main tasks for the next term of administrative village head would be: 1) water for drinking and animal use, the village system had been the first in the county but was now obsolete; 2) repairing the school house. It had taken four years to raise 50 Yuan/person annually for the total fund of 80,000-90,000 Yuan to build the school 8-9 years ago. Now the school houses needed renovating, at an estimated cost of 120,000Yuan; 3) repairing the TV receiver. There had previously been seven TV programs available, but now there was only one due to a lightening strike; 4) rehabilitation of the river banks. Some 1-200 Mu of land had been flooded. The flood had totally destroyed the land of some families.

Wang had contradictory views for establishing the VFMC. On the one hand, he said: "it is more pragmatic for local people to manage the forest". But on the other, he said: "it is not easy to entrust farmers to manage state forests. One should be cautious, because some farmers would log the trees on the contracted land. Trees with 20-30 cm diameters used to be logged in the past for fuel. The illegal logging had been controlled since 2001 when a 300-Yuan fine had been imposed for each tree cut". What lies behind this contradiction is a conflict of interests. He is the leader of Estuarine Village administrative village and he should therefore act in the interests of the villagers there. That is one side of the coin. On the other, the Elm state farm contracted him to look after all new plantations, amounting to 10,000 Mu with annual protection fee of one Yuan per Mu.

Chen Jun, the township director had addressed the township officials assigned to organize the village elections and had told them "the forest management committee and the villagers' committee should be same team. The village leader should be head of the forest management committee". When I told him that the head of Estuarine Villagers' committee that he supported was not in the list of candidates for the forest management committee, he became quiet (he may have realized that it would now be hard to ask Estuarine Village to follow his idea) then he very quickly changed the topic.

Chen Jun continued his speech saying:

> *"The township government has many difficulties. The salaries of the village cadres and township officials are too low. If there was no room for them to use their power to work for their own interests, nobody would have the incentive to work. But officials elected by the villages should give priority to public interests and only then to their own. They should first manage their*

> *own village families well. If they fail to do that, how can they perform their job well? When I was vice mayor of Fuzhen Town, the village head elected by one village was very nice to everyone, but incapable of doing anything. The village cadres will always encounter tensions with someone if they want to achieve something".*

Chen was setting standards for the village heads and the forest management committee members.

Mr. Shao, chairman of the township congress, was in charge of counting the votes and according to him

> *"The forest management committee leader does not need to be the person who wins the largest vote. The one who is the most competent among the seven candidates selected should be offered the job. Those with the most votes are not necessarily the people who are the most competent. A leader who wants to make changes will readily come up against opposition".*

And so the township government made it very clear that Wang would be the leader of the forest management committee no matter what, or who, was elected. The core officials in the township, such as the party secretary, the director, and a few deputies who could be promoted in the future, have strong networks at the county level. They make moves at township level to become leaders and wait to move on to another good offer. They have to keep moving until they have no further opportunity for promotion. From the local people's viewpoint they are outsiders, as I am in Willow Township. They cannot have insights into the interest groups in the village, but nevertheless they exercise decision-making rights over them in township government.

However, many in the township had been around there for a long time without any prospect for promotion, such as Song and Shao. With their family and networks in Willow Township they had established complex ties and had formed interest groups with local people. And it is not difficult to see that with their low incomes and power they enjoyed the perks offered to them of good food, drink and cigarettes. They also made some business to generate income, such as running a printing and copying store, a grocery, and acting as middlemen for local products. Patronage for these activities relied on the village head and party secretary. That is the reason why Wang spent more than 10,000 Yuan annually on treating other officials. These officials needed to cooperate to exploit opportunities for money. Song said: "*Guo and Chen will move to other places in a few years so there is no sense in having people complains to them*."

Election of the village and VFM committees

The election was undertaken by strictly following procedures.

Ta'an, Dashan and Jingping natural villages were far from the elementary school where the villagers' committee was located. So Song headed the township officials designated to accompany him to the village and Zhu Zhixiong, the amanuensis, to carry the ballot box to each household, asking each of them fill in their vote. Most of these votes were filled in on December 27, 2004, one day before the election.

I arrived in Estuarine Village in the early morning of December 27, 2004. Township Director Chen, and others also arrived in the village. They were supposed to monitor all the villages. When they saw me, they then accompanied me.

The election meeting was scheduled for 10:00 am on the playground of the elementary school. It was winter. We were asked to remain at a household 500 meters from the school. After 10 am, I repeatedly wanted to go to the school, but I was stopped. They explained that farmers did not attend meetings on time. But later the township officials told me the truth: "the villagers were not willing to participate. So they had to mobilize them to attend". They felt dishonored by this, but meanwhile arranged lunch for us. At 1 pm, I was told that the villagers had almost all come and the election could be started. There were about 150 villagers in attendance.

There were three persons on the panel. Zhu Zhixiong sat in the middle, Wang and Song sat beside him. The meeting was chaired by Zhu, though it was supposed to be chaired by Wang, but because there had been controversies over the election, he was afraid that some villagers would speak out over his wrongful doings. So Wang asked Zhu to chair it.

Zhu announced the agenda of the meeting. Then he said: "There were 579 eligible voters (many had voted on the visits the previous day). Candidates for supervisors, vote readers and voter counters were passed by villagers raising their hands." The candidates for village leader were supposed to give campaign speeches. Hao Yongji talked about the four major tasks given by Mr. Wang. He mentioned nothing about the forest management committee. The other candidate, Deng Donglin, did not give a speech. He was aware that he had no hope of winning.

In a series of questions and enquires farmer representative, Zhou Deji, said:

> *"Over the past 17 years, what has the villagers' committee done for us? The only changes are that the road in the village was paved with sand and stone, but it was paid for by the villagers. All the collective property of the village has been sold out. No matter who is elected as village head or committee member, please put less public money in your own pockets, and do more work for the villages".*

His speech was applauded more loudly than Mr. Hao's. Wang looked very awkward, and wanted to give some explanation. But he was interrupted by Song, who asked him to wait until the election was completed.

Song then made some remarks before the election started. He told his audience:

> *"I was not supposed to speak in this event, because you are electing the villagers' committee. The words given by the farmer earlier are very good. You should elect your own leaders who are accountable to the 592 voters. The villagers' committee should work for the interests of villagers, under the direction of the Party, to work out more ways of lifting farmers out of poverty".*

His words mitigated the tension. Then the election started, at which point Jia Jinhui jumped in and said: "*for the election of the forest management committee, if you don't support the candidates you can recommend others*". At that time, the audience was noisy and he did not raise his voice to be heard above those of the farmers, very different in terms of confidence and firmness from when I had interviewed him.

Village lives

There is great heterogeneity among the farmers who live under the authority of Estuarine Village administrative village. I selected some of them to interview about their thoughts on the village forest management committee and explored with them views and information about politics.

The Opposition of farmer Zhou Deji to Wang Deyou

Cause of tension

The tension originated in the domain of family planning, when Zhou's wife gave birth to their second child. He had broken the family planning laws and would therefore be fined. But he obtained a document from Chengguan Township of Stamp County, his hometown, with the help of friends to prove that he had already paid the fine there. He showed the document to a vice Party secretary of Willow Township. He told him that if that was the case he would go with Zhou to discuss the matter with Wang. Wang responded that he would then make reallocations of collective land among the household. In rural China, woman after marriage usually have a residence certificate in the husband's home place, and their children are also registered there. Zhou is different. He is married and lives in his wife's home place, Estuarine Village. He had applied for a certificate of residence in Estuarine Village so as to be eligible for allocation of collective lands. But as Zhou did not pay his fine to Willow Township he supposedly had no residence certificate for Estuarine Village and thus was not eligible to be allocated collective land in Estuarine Village. Wang's saying 'reallocation of collective land' means that he was going to withdraw the collective land allocated to Zhou.

Wang insisted on reporting this to higher level officials, and got support from the Township party secretary, and urged Zhou to pay the fine. Zhou refused. One evening Wang, accompanied by the Willow Township party secretary and township deputies,

arrived at Zhou's home and requested him to pay the fine. Zhou did not want to put the township officials in an awkward position so he paid it. But once they were gone, he went to assault Wang, whose head was injured and bleeding. Zhou told me: *"Wang has three brothers in the Jiangdong production team. But I am not afraid of them. If they dare to give him a hand then I am prepared to fight them all."* And so the issue escalated.

Wang reported the assault to higher-levels. Of course, they all stood on his side. The Willow Township party secretary requested the local police to arrest Zhou. But according to Zhou, the station police were his colleagues in the county liquor factory. They got along well there until they were laid off by the factory. This man did not follow the order and claimed the road was too rough to walk. Then the secretary called the party secretary of the county and urged the county public security bureau to arrest Zhou. He was detained by them for one week for the assault. Zhou had to ask his friends in the public security bureau to help him out, but was still required to admit that he had been detained by the law enforcement unit for a crime.

His comments on the village officials

He was completely negative about the village officials, and made out a case for this by complaining of: 1) a water charge of 4 Yuan/ton, collected by Deng Donglin, head of Jiangxi production team; 2) a TV cable, 36 Yuan/year, collected by Wang Deyou; 3) that the agricultural machinery and warehouse of the village had all been sold; 4) the fund to build the school was raised by villagers, but the school building was now leaking. He told me Wang had thrown at him that "*few flees cannot erect a blanket*" (meaning that he was not concerned about a few dissenters in the village).

After the village election he was very angry and told me repeatedly: "*the villagers were not willing to attend the meeting, because they were not satisfied with the cadres. Over the past 17 years they have not delivered us any services*". When I cited that the road had been paved, his reply was "*yes but the villagers paid for it and all the properties of the village have been sold off. In the election meeting the audience agreed with me by applauding loudly."*

When he was asked why better people were not elected to be village officials, he answered that those who were capable of taking on the job were not willing to do it, and the rest were those who were not so capable. Zhou used to repair the agricultural machinery, but he needed to earn enough to support his family and pay his children's tuition. He could no longer earn enough by doing repairs.

Interpretation

Some of the villagers thought Zhou abnormal. He is perhaps 30-55 years old and a man who has spent the least time in the village. Most of the time, he had worked outside the village in the county liquor factory, and had taken other jobs outside after he moved

into the village. He had just built a house in the town where the county headquarters had recently located. He had followed the unusual path of living in his wife's village when custom dictated the opposite and there were thus several reasons why he was not such a part of or involved in the community. Nevertheless, he felt upset by not being included and accepted. His livelihood did not depend on resources from the community. His major income was not generated by farming, which was why he said he was not afraid of being set up by Wang. He opposed Wang openly. Actually, all those who dared to oppose Wang openly earned incomes outside the resources of the community. At present, there is no formal institution that farmers can resort to, to voice their needs. This largely explained the rationale for government officials' behavior and the deterioration of it.

Ganbu *Residing in the Community*

Rural residents call these people State Babies. Liu Chengwu was one of these. He had married a girl from Jiangxi village team. He is a veteran and was head of the Jiangxi production team and worked together with Wang after retiring from the army in 1980. Later, the government reassigned him a job in the county commerce and industry administration. Now he was retired from there and assisted his wife in running the Forestry Farm restaurant.

Liu asked: *"Why was afforestation undertaken every year, but trees were never seen? Why were the trees planted by individuals managed well, but the trees owned collectively did not do well?"* He thought the poor management must be due to poorly-defined responsibilities. The township officials claimed that if one added up all the areas afforested over the last two decades, the total should cover all the land in the township including the river, road and houses.

I asked whether we should exclude village cadres from the Forest Management Committee or ask them to take some responsibilities in it. His reply showed a degree of skepticism,

> *"If you exclude them, they will not support this work, but neither will they do it well if you want them to get involved."*

He continued:

> *"Peoples who received an education in Mao's era served the people. Nowadays, they only look after their own best interests. If there is no significant action taken by top government, there is little chance that local officials will perform well."*

He did not trust village cadres at all, and did not care for the parties competing for power in the village. I then had a tentative talk with him and said that since he was not so confident in all the parties and was already retired, would he like to consider joining

the Forest Management Committee. At first he refused by saying his identity was not that of a villager, and he therefore was not eligible to be elected. Later he said that he was also not capable of delivering such a service.

Lay farmers in the village

Wang had stated that "ordinary people should take care of their own interests".

Luo Sheng of Jiangxi village team is representative of such people in terms of family ties dominated by the father, with the major income generated from farming. Luo believed that it was

> *"More pragmatic to form a forest management committee in the village. It is easy for them to observe problems and make reports to the state farm. It is hard for the state farm to make such observations. There is not much to do for the committee, just keep the domestic animals out of the woods."*

I asked him whether he would become a committee member. He refused and explained that he was old and did not feel well. The income of his family was not high, so he had to concentrate on farming and therefore had no extra time to commit to managing the forest. I then asked him who could he recommend to the committee and he said he thought that the young and competent should be elected, like the party members and cadres.

Yang, who is from Jingping natural village, also refused to get engage in the committee and contract to manage a plot of pine trees. The reason she gave to me was: "*I have no power and networks to deal with those who might damage trees*". Her conclusion was drawn by recalling what happened to her neighbor, Zhang Zhengchun. Zhang's daughter was married to Hao Yongji, the village leader. When I interviewed Zhang, he said to me: "*I am very confident about managing the forest. The state has spent a lot on it and it is in the interests of the next generation, and these are all deserving of my hard work.*" And when I asked him how he would cope with the violations, he replied: "*I will collect evidence, like whose cattle and sheep enter the forest, and then I will report this to Wang, the village Party secretary*." However, a few days after this interview, Wang had fired him because he had found a few footmarks of domestic animals in the plantation Zhang had contracted to look after, and he had not yet reported whose animals had made them.

Interpretation

The result of my interviews with lay villagers which took in most of them, shows that they are not willing to engage in forest management and committee work. It seems that it didn't matter to them whether a committee was formed or whether the villagers participated in the management of the forests. In other words, I was imposing upon them the setting up of this village forestry management committee.

For thousands of years, Chinese has been used to top-down authoritative governance and obedience to an emperor. During the campaign for village head of Estuarine Village, Hao as a candidate said he would do some work for the 'masses', but he did not mention who would pay the bill. They were expecting the 'emperor', in other words, 'higher-level government', to pay. Grassroots level *ganbu*, including township officials and cadres, display their achievements while in post by how much funding they got from higher up to do good collective works. Chen said to me that during his two-years as Willow Township director, he had successfully applied for over a millions Yuan to construct tap water facilities in the township headquarters and to pave a road. *Wei Guan Yi Ren, Zao Fu Yi Fang*[4]." Nobody was interested in how to improve the management of collective properties. The township officials and villagers had a common understanding - public affairs in the village should be managed by the community elites. Although they were more and more unhappy with these elites, they saw no other choice.

The villagers in Estuarine Village administrative village look to an honest government official or emperor with integrity to lead them. They admit they are followers not the key players who own the decision-making rights. Dragon dancing is one of the traditional cultural activities where everyone has his place when the dragon dances. The drum player is the 'decision maker', and the player who wears the dragon's head is the one who implements, and the many other dancers are simply the followers. People in society are like the dragon dancers who have a particular position within the social field. Everyone has to keep his place, otherwise they betray the whole and will be considered traitors. However, from Wang's point of view, such followers are good citizens, as they are also generally considered to be. Such citizens play an important part in constituting Wang's hegemony in the village.

As a matter of fact, since the moral order of Mao's era, as spelt out in the famous slogan "*da gong wu si*[5]", "*wei renmin fuwu*[6]" has passed away in the rural areas, and rural residents have no expectations of integrity and honesty in officials or an imagined good 'emperor'. As pointed out by one of the community elite, "significant action needs to be taken to correct this". But this so-called significant action reveals that it needs to be taken by some 'emperor', which is not consistent with the development trends of modern China.

On the other side, the ballooning self interests of village cadres is in part balanced by township officials. Township officials and village cadres have to give priority to collective interests. Otherwise, the populace would not be happy with them. Although the villagers do not have any formal institutions to rely on to voice their needs, more and more villagers are not leeched onto village political regimes, and are less

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[4] It is a slogan often used by officials. It means "to take a turn in an official post, is to create happiness for the people under one's authority".

[5] All for the collective , nothing for self interest

[6] Serve the people

dependent on community resources for making a living. They are monitoring the acts of village officials and the expectation is that more and more checks and balances will emerge within the community.

In Estuarine Village administrative village, the household responsibility system destroyed the social structure formed in the People's Commune Era. But a new community-based governance system that conforms to the market economy has not yet been established. Community governance needs to be restructured that is compatible with the market economy. But what is the right direction? And where does the endogenous motivation comes from? In this village, I felt embarrassed about whom I should work with, and this attempt at partnership is concomitant with the development of the community. It will take a long time for administrative units like Estuarine Village to work out a good governance model. That is why I support the "deconstruct first and build later" model. Deconstruction is in process, during which there will be more confrontations and disorders in public affairs, and a lower efficacy in the supply of public goods. Deconstruction in Estuarine Village is underway. However I foresee that building might take more than a short time to get started. Therefore, I cannot judge which way the new governance might be built.

As a consequence, there is no right way for development interventions, and this is my dilemma and embarrassment. Therefore, the conceptually ambiguous intervention of developing a community organization – a forest management committee, for example, was initiated but hardly understood by the lay people. It is therefore difficult to draw them into action using their own discourse for collective forest management. When we enter the community, we cannot figure out who is the ally. One has to cooperate with the existing dominant group and thus these sorts of interventions strengthen further the power of that group, and we weaken the powers of the marginalized lay villagers. Thus polarization of the community has accelerated. There is uncertainty whether this will speed up the deconstruction process of current village political regimes for any kinds of intervention. I think it is now critical to evaluate planned inventions using criteria as to whether or not it is going to unlock or break the lay villagers' expectation of attaching their development and rights to imaged good leaders or emperors. However, I did not have the answer how to develop this through concrete action. It then shifted my focus of bringing the gap between the state and collective sector towards a "win-win" strategy through integration and partnership in development, to seeking concrete methods to emancipate lay villagers from being hangers-on.

I started to understand that it is not possible to 'elect' a leader and memberships of village forestry committee. They would be 'selected' either by officials from the township, or a compromise solution was found among the village elites. None of them could meet my expectations. I decided to get involved in the process to select a leader and membership of the Estuarine Village forestry management committee.

The difficult birth of the Estuarine Village VFMC

Reappraisal of the township and village leaders

Guo made efforts to implement the VFMP pilot project based on his own understanding. In particular, he carried out elections for the village forest management committee in ten villages. But I was dissatisfied with the election held in Estuarine Village, and Guo took no responsibility for this election. Only Jia mentioned the election of a forest management committee during the election of the villagers' committee. But his intent was more to express his anger at failing to be elected village head rather than to support the need to elect a committee for forest management.

I asked Shao to stay in the village and raise awareness of the election, but there is no evidence that he did any effective work. In the work plan of the village party secretary and leader, again no mention was made of the forest management issue. It makes no sense to expect township staff to raise awareness of the project in the community. The forest management committee would have no impact on evaluating their performance. They did not take this work at all seriously and did not devote their efforts and wisdom to the work.

When half of the votes had been counted the township officials said the result could now be predicted and several times called for the count to be stopped. But my invited consultant insisted they continue. She helped them to count the votes in the chilly wind, which made her own cold more severe. They wanted to stop as they "*felt tired and the result was already clear*".

Opposition to Wang being in the Committee

Although I had no idea myself how to organize the committee to manage the forest, I recognized that it was not in the right direction to have Wang playing a dominant role. I had to stop him being a member. If he became a member, he would take the lead, and the divisions in the village would continue and the current power structure would be fed and strengthened instead of creating a new one. According to my understanding of the villagers and village officials, they all went along with the notion of Wang as committee leader. So I started to look myself for a candidate for the post.

Who might be a qualified candidate? I needed to collect adequate information. I knew a lot about the villagers, and I started to learn more about the elites in the community. But by the time the election was held, I had not identified any candidate that was acceptable to both villagers and elites. In addition to the time constraint, this community was already divided and any such candidate would not be endorsed by the community as a whole and no concessions would be made in the matter. My expectation of the Committee was: 1) Some members of the committee would be opponents of, and some would be his supporters; 2) one of the members Must be a person who was not in their list of candidates; 3) the leader of the Committee had to be

one of the elites, otherwise he/she would be unable to conduct a dialogue with the villagers' committee and Wang. This was not exactly what my original intentions had been.

I took the following measures to convince township officials of my intent. First, I tried to change their attitude I declared I would veto their decision regardless, if it was unsatisfactory. I emphasized that the project would be terminated if activities failed in Estuarine Village. I hoped this would force officials to give more attention to the project and remind them that they did not have sole decision-making rights. Second, I talked to them informally but seriously, stressing that it was very possible that the project would be terminated, and what the results of this would be. Third, after the preparatory work was done, I hinted to the township officials that I might intervene in the election. They had no idea what form that might take, and this might make them cautious to act. Fourth, while votes were being counted, I talked to Song about comments made by villagers on the candidates and make a proposal for holding the election of the forestry Committee separately. Another option was to have no overlap between forest management committee, villagers' committee and Party unit. I was aware that both these options would not be acceptable to Song and Shao.

After the results of counting were known, I studied it benchmarked with my own bottom line: each village team should have one female and one male, and the ones with most votes won. This would drive Wang out of the competition since in the Jiangdong village team he had come second to Deng. Shao argued that Wang could therefore be the representative of the Ta'an village team. I strongly objected. When Song saw I was so resolute on this issue, he said: "*let us accept the result instead of holding another election, changes can be made later if necessary*".

Now the forest management committee had been selected. Deng had won the most votes and became leader; Jia Jinhui's came next and he became deputy leader. Wang supported Deng, but Jia was hostile to him. So the committee was Deng Donglin (leader of Jiangdong natural village team), Guo Zhixiong (head of Jingpin village team), Ms. Zhou Yangqin (leader of the women's federation - cashier), and a lady from the Jiangdong team (accountant).

After the elections

The Drinking Water Proposal

The Estuarine Village forestry management committee held several meetings, but Wang did not show up. The township officials asked him to attend, but he refused. Even after Guo rebuked him for this, he did not show up.

Hao was enthusiastic about the proposal and asked whether the forest program could support a drinking water project costing some 20,000Yuan. I supported the proposal, because the result could be immediately seen by the villagers and this might facilitate

villagers getting involved in the forest management program. I went to talk to Guo and put my point. He said: "Don't worry about it. The works will be completed right after the Spring Festival, and only 10,000 Yuan need be paid by your project. The rest will be paid by Chen, the township director".

Village Project Fund Administration

Under the VFM program, there were ten project villages, with a 15,000 Yuan budget for each village forest management committee, of which 6000 Yuan would be used as wages for the forest guards, 3000 Yuan would be spent on office equipment, and 6000 Yuan would be for start-up and operation. The township government would co-finance some activities, for instance, workshops for farmers.

Guo never made any inappropriate requests for funds, and never challenged my plan for allocating funds. But after the VFM committee was formed, he stated: "*the township government should control the funds allocated to villages, and I guarantee that the township government will not hold back funds and will distribute them to the villages on time*". So I agreed to this, because it would take a long time to complete registration of the Committee and the drinking water project needed funding, and the Spring Festival was approaching. All local institutions were in need of money. After I gave the green light to this, Guo kept calling my colleague in charge of financial matters, requesting that the funds to be transferred to the township project fund account. I was told later that Guo had opened a project fund account in the bank where his wife worked. As a consequence, I lost control of this money.

Spring Festival Holiday

The national holiday was three days, plus the weekends – in total seven days. But Guo repeatedly told me that township officials would not be in their offices from Dec 15th of the lunar calendar until January 15th. During this period of time, farmers would be celebrating the New Year and there would be nobody to receive us.

After the New Year, Guo suddenly sent me a note saying he would be going to the Provincial Party School for three-months training. Chen would be in charge of the project instead of him.

There was a rumor saying the project was cancelled

Thus, because of the Spring Festival, we did not return to Estuarine Village until two months later. There was a rumor in the village that we had cheated them and the drinking water project had been cancelled. We could not trace the source of the rumor. The villagers were surprised to see us back. Over the intervening two months, none of the activities under the program made by the village forest management committee had been implemented, such as the drinking water works, the plantation for fuel wood, putting together a forest management program, organizing technical training for the

villagers, renovating the access road for tourists, etc. It was difficult for me to understand why the state forest farm continued their forestation without consulting the village in terms of species selection, or ways of organizing the plantation. And the management of the forests was contracted to Wang, party secretary of Estuarine Village again. Nothing had changed because of our intervention.

The project fund chain was broken

Mr. Chen and his assistants came to see me and stressed that the fund should be administrated by the township instead of transferring it to the villages. His justifications were such that a village head in his township had made off with 100,000 Yuan and no-one could find him. After the case was brought to the Court, he was caught and some of the money was returned. Chen admitted that the township had opened separate accounts for each village and controlled the funds because "*village cadres are fearless; they are corrupt*".

I was not convinced and insisted that funds for the forest management committee be transferred to the villages. Chen argued that project staff "*cannot approve of whatever the villages want to do*". Here he referred to the drinking water project which I had supported. He said:

> "The township government has to maintain a balance among the administrative villages. It is impossible for work only to be done in Estuarine Village. Otherwise, how will we face the complaints made by other villages?"

He continued arguing saying that:

> "Now the leaders in the township and county bureaus will be rotated or changed by the county government. Many officials are lobbying for their posts, but meanwhile we have to continue in office. If anyone wants to be promoted, he/she has to send presents to the boss and do a lot of lobbying and developing their networks."

I was irritated, and informed him that

> "*The fund transferred to the account of the township government was debited from my account. If the fund is not used as stipulated in the project program, I reserve the right to take all funds back. That is my personal fund, and not a state fund.*"

It was clear that Guo wanted to use this fund for road building and a bulletin board on the roadside, but he did not want to raise the issue with me directly but had asked Chen to take it up with me. Chen realized that he could not persuade me and Guo was aware of this too. He one day returned to the township and handed the bank account passbook

to Chen, who later said: "it was not my intent to use the fund other than consistent with the project program. I cannot control the fund."

The Drinking Water Works in Estuarine Village was delayed

Before the Spring Festival, estimates for the water works were 20,000 Yuan. Song, deputy party secretary in the township, and Hao, Estuarine Village leader invited a water engineering specialist to make the calculations, costs for the materials would be 16,500 Yuan, excluding labor (which farmers would contribute) and compensation for crops. They produced a breakdown of costs and I endorsed it.

Initially, Chen told Hao Yongjiu that the town would approve 5000 Yuan for the water project and requested Hao to raise the rest himself. Hao complained that this was less than one third of the costs for materials and that he would not be able to raise the rest himself. Every time I went to the village to have discussions with the forest management committee, the water project would be first on the agenda. The village cadres highlighted that villagers would be interested in forest management only after the drinking water was provided by the project. I called Chen and requested that he make full use of the project funds. He did not turn me down, but later he blamed Hao and Wang saying that other villages had all applied for funds from the county water conservancy bureau for their water supply project. The township would not give the village more than 10,000 Yuan. The village should raise half the amount itself by applying for funds to the county bureau or raising it themselves. After careful review, Hao thought it was not viable to raise such an amount of money.

I lost patience when the works were delayed for five months. I talked to Chen and insisted that the work must be fully paid by the project fund. Chen finally said: "*well, it is your money. It is up to you how to use it.*" But he insisted on getting invoices first before disbursing the money. He stated that he could not as township director give money without an invoice. He asked me to put myself in his shoes, because he could not violate the rules. In fact, he had made a fool of me because I did not have sufficient experience of rural areas. I explained to him that we had all agreed to buy the equipment from a place 250 km away, which gave good quality and good after-sale service, and it was cheaper. But we needed cash up front. He later asked me why Hao had not consulted him. If he had done so, there would have been no such problem.

The request for a bulletin board

Bulletin boards can be seen everywhere in the Stamp County. Ironically, there was a huge one along the road from Willow Township to the county city. It read 'whatever people want, the government should provide.' I asked Chen whether he had seen that bulletin. "N*o, I never saw it*", he replied, as I suspected he might.

One day, he came with his deputies and raised the issue of constructing a bulletin board. He said to me: "*You must approve its construction. As every official in the township*

knows, we have a big project here, and I cannot be accountable for it to these officials as well as to about 10,000 other people in my township as director." He knew I would not endorse the plan, never. He told me frankly when ending up our debate on the issue: "*we already have the board designed, and the budget for it has been made. The cost is 29,000 Yuan*." He asked his deputy to hand a proposal to me and requested me to sign it. And I refused.

Anyway, I was told later by local people that the bulletin board had been constructed. It had actually cost less then 8000 Yuan.

Successful Registration of the Forest Management Committee

The only thing that made me feel happy was the successful registration of the village forest management committee. After a long challenge, the township finally allocated part of my project funds to each village management committee.

Looking at the legal document of the Estuarine Village VFMC, I noted that the chairman had been changed to Hao, instead of Deng. As outsiders, we never win under the table games, the same with games played between the state forestry sector and local governments, or between state forestry sector and rural people.

The acting power implants the acting rules, which are often 'latent'. They are intangible and not to be found in writing. For example, Guo departed and handed over his official powers to Chen. Chen was not entitled to make decisions on how the project funds should be spent. Chen could not claim it from Guo or talk to others about this. Chen required Hao Yongji to take the challenge and settle the drinking water project because he thought Hao had destroyed these unspoken rules. By the end of the pilot project, I asked township officials whether they knew how much I had transferred to township accounts. It was acknowledged that no township officials knew, except Chen and Guo, and it was not politic to ask about it. That is what one means by 'latent rules'.

Conclusion

As I have demonstrated in this chapter, issues of forest management are part of village politics that are liked into the system of political and administrative hierarchy, which coupled with the history of a particular village, precipitates events. It is difficult, seemingly impossible to implant new institutions that threaten to break the existing power relations or stimulate one that can be friendly to the protection of the forests as well as improving livelihoods. As demonstrated in this chapter in the process to 'elect' a village forest management committee induced by project intervention, every actor intended to translate this piloting project into his or her own "project' in the name of SFM, no matter how far the distance between their 'project' and that of sustainable forest management.

CHAPER 8

Forest Use Practices and Issues of Land Transfers

Chapter 7 discussed local social and political relationships and their influence on village development. The present chapter focuses on changes in land and forest use practices, and examines the impact of and responses to the government's land conversion program in Estuarine Village and the benefits that accrue to different types of actor.

Traditional forest use

At a group discussion with farmers in Yaozhuang Village, we identified the following major uses of forest resources:

1. Wood cutting: mainly used for constructing houses, furniture and farming tools.

2. Wood fuel collecting: each family needs about 2.5 tons of wood fuel, without reference to specific tree types, but after the commencement of the Natural Forests Protection Program (NFPP), the cutting of trees with a diameter larger than 6cm was prohibited.

3. Wild fruit collection: wild pear, Yangtao and August Melon.

4. Gathering of wild medicinal materials: Chaihu, Baiji, Dangshen, Shengma, Zhuyu, Qianhu, Kushen, Cornel, Houpu, Maidong, Danpi. All such material was collected by most households in the 1960s and 1970s but, after 1980, fewer and fewer households made a living from it.

5. Collection of bamboo products: farmers sold bamboo products or wove basketry from bamboo canes for their own use or for sale in local markets.

Those farmers who lacked food and labor would achieve some economic benefit in their spare time from collecting medicinal materials and selling them in order to supplement their food supplies. Nearly 60% of the total income of the village derived from the sale of food products, of which about a quarter came from walnuts. Of the remaining 40% of annual income, half derived from the sale of medicinal material, bamboo and wood bark, and the remainder was earned from part-time work at the state forestry farms. Some 90% of village households planted walnut trees, earning between 600 to 4000 Yuan, 35% cut bamboo earning between 300 and 800 Yuan, and, in 2003, 70% took part in the picking of the pine nut harvest, earning between 600-900 Yuan.

However, pine nut harvests fluctuate considerably from year to year and, depending upon shifts in demand, the price of medicinal materials likewise also is variable.

Also before the introduction of NFPP, the making of charcoal for heating village houses was a major activity, and some was sold to clients in Stamp County.

Clearing woodland for farming in Estuarine Village

The villagers suffered from starvation

During the days I spent in Estuarine Village, there were many chances to chat with the elders of the village. When the era of steel making began in 1958, almost all the male village labor was mobilized to work in the steel foundry some 50 km away. Villagers were organized into a People's Commune with a collective kitchen. Around 1960, a large scale famine struck the area. As on older citizen explained, 'even though there were some wild animals in the hills, people were too hungry to walk, not to mention hunt.' Another older citizen said, 'I was not in good physical condition at that time and did not have enough to eat. HaoYongji's father starved to death.' When I asked them if there was any food supply in the community, one elder replied:

> *'Yes there was, but we could not eat it, since lots of places lacked food. We had to hand this food over to the government. Have you ever watched TV? It showed that Chairman Mao did not have meat for several days during that time. Compared with those days, we are presently living a life in heaven.'*

Thus, for older citizens, recalling the hard life of the past seems to verify today's happiness. As long as the leaders shared the happiness and sadness together with them, they would not complain. This reflected the farmers' sense of duty and their contented view of life. In Mr. Chen's office, there was a calligraphy illustrating that 'Contentedness is happiness'. In Yinzhuang Temple near to Estuarine Village, there is a couplet displayed that asserts that every believer should be content with reality. In Estuarine Village in-migrants from other villages always complained that it was people born in the village who were lazy! This, it seems, complied with the Chinese theory of contentment, whereby it is assumed that Chinese peasants always find it easy to be happy even if they are blessed with 'little fortune'.

The elders continued to explain:

> *"Later they quickly canceled the collective kitchen. In 1961 they distributed to each household a small plot of land for subsistence. But before 1982, when most of collective land was allocated to individual households, those households with dependent members and lacking labor could not obtain enough food at the end of the year to feed family members until the next harvesting season. Each household received a maximum of*

> *100 kg of wheat per capita annually for most years throughout the 1960s and 1970s. If there was not enough, then we would simply eat corn and sweet potatoes."*

At that time, peasants worked for the collective and were accorded a certain number of marks (or credits) for the days worked and their level of ability. The marks they earned were judged by all community members. Strong working males would receive 10 marks for each day's work, while the maximum for female workers was eight marks only. At peak periods there were possibilities of earning some overtime pay. At the end of each year, the community would calculate each person's total marks and pay them accordingly. Some older citizens recalled that, from the 1960s to the 1980s, ten marks would sometimes equal 0.6Yuan but for most of the time ten marks was equivalent to between only 0.1 and 0.2 Yuan. The price of 1 kg of wheat was, at the time, 0.18 Yuan. Every household would know their payment in accordance with the marks awarded and the community would distribute these in kind, that is in amounts of wheat and other grains. No family would receive more than 200 kg per capita and the rest would be converted into cash. Some large families contributing little labor would receive less than they needed for subsistence and often did not get enough to eat. They might borrow from the community but it would be recorded and rolled forward to be deducted from the next year's credits.

The elders explained:

> *'Later on, after 1982 when the household responsibility system was adopted in our village, and collective farmland was distributed to each household, villagers started to clear parts of the forests for farming - as much as they could with the labor they had'.*

All such villagers had very deep impressions of those starving days; and their preference for growing their own food influenced many of their livelihood decisions (see later in this chapter), including the issue of converting arable land into forests and planting gingko.

Opening up woodlands for farming after rural reform

Estuarine Village has a long history of practicing shifting cultivation and the area of farming land has continuously increased. However, in the commune period, this was organized by each commune, not as later, after 1982, by household production units. Those households who had extra labor went on the hills to open unused lands. In 1980s, few woodlands were opened for farming as farmers were cautioned against illegal action. In 1991, county government encouraged the opening of woodland for economic development. Farmers did not need to pay money to do so. Every household in Estuarine Village opened some land for farming. The peak came in the year of 1993-1994, until 1995 when clearing woodland for farming was prohibited.

It was easily to open woodland for farming, felled the trees, cleared a belt to control fire, and then made a fire to burn the felled trees. In a day, a laborer could clear more than one Mu of land for farming. Hao estimated that there were about 5000 Mu of woodland that was cleared for farming from 1982-1995. After 1995, there was no new farm land from clearing woodland. Hao said that in fact there was no good land left to clear.

Auctioning the opened wastelands

Until 1995, the villagers had no legal approval for opening unoccupied or wastelands no matter whether it is state or collective owned. No corresponding organization came to take care of this.

In 1995, as the trial village auctioned open wasteland, Estuarine Village also began to auction these areas under the leadership of the County's vice party secretary in charge of agricultural affairs. They even sold the unused shrubbery no matter whether it was under the ownership of state or the collective. The local villagers were given priority in bidding for the lots. People from outside the village could also join in the auction. Two farmers from 100 km away came to the auction and successfully obtained use rights for two pieces of land.

Hao gave his memories of the auction:

> *"Every household in Estuarine Village has a piece of land obtained by action. Farmers preferred to buy the land which they had opened up. In the official documents, the area auctioned amounted to about 2500 Mu. However, the actual area being auctioned could amount to 5000 Mu."*

Thus, all families in the village had purchased use rights of wasteland through auction. They bought for their own use the land they had cleared. When they paid over money, illegal usage became legal. According to the contract, the buyer must plant trees in the barren hills within three years.

But to whom did the auctioned land belong? The forestry farm staff and the village cadres had different views. Wang said that 80% of it belonged to the collective. But officials of the forestry farm would only accept that 4% of land with forest, and 7% of the land without forest belonged to the collective. Li the leader of Elm Forestry Farm said, '*if they had requested twice the size of the approved land area, we would have given it to them but now they want too much. In some areas they wanted even ten times the original area decided upon.*'

All revenues from the auction were collected by the county land bureau and shared with the county notary office and township government, no matter who had the ownership of these woodlands. Hao said, "all income generated through the auction of such land amounted to about 20000 Yuan."

Wang's land from auction

It was officially documented that the area of land Wang Deyou contracted at auction was 15 hectares. He said that it was forest land owned by the collective. Through some relationship or other the only area of land he paid for was 6.7 hectares. The quality of the land was very good so somebody raised questions about the auction price. He spent 8,600 Yuan in that auction including notarization fees. In late 2000, he purchased 100 thousand larch seedlings and he planted them on 50Mu of land. He discovered on an occasional visit to Mayan and Gaoqiao Township of Stamp County that larch is fast-growing tree species. Wang said: '*My friends helped me to get a forest ownership certificate for these forests and I built a shed in the woods to let people know that these forests were mine.*' '*In 2003*,' he continued, '*the other land was taken by the forestry farm*'.

Wang claimed that it was more profitable to farm these auctioned lands and so a few people planted trees. The reason he planted trees was mainly because his household had more than they needed for agriculture.

Wang must have known that by the end of 2000 the farm would collect the auctioned land for afforestation, so he bought the young larch trees. As a matter of fact, most of the forestry farm in Estuarine Village would plant larch trees. Wang obtained the forest ownership certificate for his land because his son's wife worked in county forestry bureau, which is agency authorized to enact it. However, a lay farmer, Luo Sheng who planted walnut trees on auctioned land, has not yet received a certificate for his walnut trees.

Hao gave another story for Wang's land. Wang at the time got together ten households including himself, to bid for the largest piece of land. These households included his relatives, and households in Ta'an natural village where he is village leader. As he said, they planned to divide this land equally among the households. But after this he planted trees without consulting the others, and he has the forest ownership certificate in his name. That is, he did not acknowledge others households.

A thousand Mu ginkgo garden

Along an unpaved road on the banks of the Yongning River, a 5 km from Willow Township headquarters, through a hand hewn tunnel beside by a very scenic place called *Jiang Xia Dong Tian* (heaven looks like a cake from the foot of the steep hills), you will arrive at Estuarine Village. The first thing you will see is a cement bulletin board that says "a thousand Mu of ginkgo garden".

Let us start the story from the farming land in Estuarine Village.

Land contracted out to individual households

China started its rural reform program in the early 1980s when the household responsibility system was already prevalent across China. In 1981, arable land was contracted out to each individual. The arable land was categorized into three levels in Estuarine Village. Then each level was divided equally between each household according to the number of household members and the quality and quantity of labor. The number in the household was given a 70% weighting and the number able to work and their work capacity received a 30% weighting. Village cadres gathered to calculate the labor units for each household. Men between the ages of 18-55 were defined as adult male laborers and were given a score of between 0-10 in terms of strength, and women aged between 18 and 55 were defined as female labor and given a score of 0-7. Contractors had to pay an agriculture tax on all contracted lands. But the base for the agriculture tax payment differed according to quality. First grade land on average yielded 190 kg/Mu, second grade land 140 kg/Mu, and the last grade 90 kg/Mu. It was a very complicated way of classifying household and calculating the share tax among farmers. Wang Deyou dominated the land allocation procedure. This created chaos in the village that remains a sensitive issue to this day. Shao, chairman of the people's congress of Willow Township said that the people disagreed with the way the village cadres implemented the land allocation. Ordinary farmers said "cadres and their relatives can easily get good land". Every 5 years the land would be readjusted. Those household with reduced members or labor would have to give back part land to the collective, and those household that grew in size and labor would be allocate a bigger share from the collective. In recent years, central government has cautioned against frequently adjusting farmland and has called for a stable use of farmland. Since 1997, no reallocation has taken place. According to the land conversion program policy, only those farming lands in contract and up to date with tax payments are eligible for the program.

I give here two examples to show how the land distribution was worked. Hao Yongjie has four members of his family from the Jiangdong natural village production team. He has one piece of first grade land (3.7 Mu), 2 pieces of second grade land (6 Mu) and a number of pieces of third grade land (9.3 Mu). All his second grade land was included in the land conversion program in 2001, and 3.3 Mu of his third grade land was in it in 2003. In 2004, he received a subsidy of 1600 Yuan from the land conversion program.

A farmer from Dashan natural village has also four members in his family. He has 44 Mu of land, including 4 Mu of first grade land, 32 Mu of second grade land and 8 Mu of third grade land. 12 Mu of his land was accepted for conversion.

Farm land in Estuarine Village

It is hard to estimate how much farming land there is now left in Estuarine Village. I gathered all the members of the villagers' committee to talk about this issue. The total area of farming land had been about 8000 Mu at its peak during 1995-2000. In 2004-

2005, the state forestry farm took over the auctioned land and planted trees. A large percentage of farming land contracted to household management in 1982 had been converted into forestry. It is estimated that the 2,200 Mu of farm land in Estuarine Village is a quarter of what it had been at its peak.

The largest block of flat land lies south of Estuarine Village, and is shared by the Jiangxi and Jiangdong production teams. It is the best farm land in the village with an area of about 300 Mu.

Building a ginkgo garden

The predecessors of Stamp County government were ginkgo seekers. In the late 1990s there was huge demand in China for ginkgo, for its medicinal component that can be extracted from the leaves. Driven by many newly constructed simple and cheap extraction factories, several local authorities overestimated the demand for ginkgo leaves. A few very strong years led to an oversupply of ginkgo leaves, and the price of the extracted products dropped sharply. In my first visit to Stamp County in 2002, there were many young ginkgo trees planted in flat areas across the county.

Estuarine Village is special. It is the birth place of the predecessors of the party secretary in Stamp County, who has now been promoted to deputy mayor of Longnan Prefecture in charge of rural affairs. When he took up his new position after ending his term of party secretary, he wanted to show his thanks and do a favor for his hometown people. He decided to construct a "ginkgo garden" for the people in his home place. Although the area planted was about only 300 Mu, they called it "The Thousand Mu Ginkgo Garden",

The Ginkgo Garden was only part of his project. He had planned to attract a private businessman to operate a processing plant in the village to produce ginkgo tea as a health product. However, so far no businessman has operated such a factory in Stamp County as the price for ginkgo leaves collapsed.

Farmers uprooted ginkgo trees for fuel

Given its main purpose was for the leaves, the trees were planted densely, leaving no room for farming. The farmers complained year by year, but none of the county or township authorities would touch the garden because its sponsor was in a senior influential position, even though they accepted that it was a waste of land.

When the new farming cycle began in 2005, farmers lost their patience, and most households pulled out these gingko trees to dry them for firewood. At this point I made an appointment with Chen, township director and his deputies to discuss how we could create a sensible to utilize this garden land. Before I spoke to them, I had meetings with various people in the village to seek a solution that would be acceptable to all parties. I visited these young planted areas and was told by Guo township party secretary, that

most of this had been included in the land conversion program to mitigate the discontent of farmers. I proposed to him several solutions for the trees or land: 1) to allow the farmers to intercrop between tree rows, leaving the minimum density of trees acceptable by the land conversion program, knowing already that this was in line with the existing land conversion program policy; 2) to dig out some trees to replant in the village, and use contour planting on the slope land; 3) to sell the remaining ginkgo seedlings. In fact, ginkgo seedlings for display or beautification purposes are quite profitable, given the rapid expansion of urban areas in China. Chen told me: "*that is impossible. No one can touch these trees.*" I frankly told him "*farmers have started to pull out trees.*" He said: "*I will phone Wang now to stop it.*" His deputy explained to me frankly that I should leave the matter alone. "*If one day the sponsor asked the county party secretary what had happened to his ginkgo garden in Estuarine Village, how could we respond?*"

Nevertheless, a few farmers had already replanted selected ginkgo trees on slope land intercropping with other crops. I asked one farmer why he did this and he answered that he had some spare time and felt that he was getting older and would soon be unable to manage his slope land. "*It is a pity to pull them out",* he said, "*These trees have grown in my village for four years. It is a waste. I picked some of them up and hoped they would grow on the hillside.*"

Conversion of farmland to forest and pasture program

Converting farmland into forest in Xiakou Village

Converting cultivated land into forests was an important element of developing the Western Regions. Central government attached great importance to environmental issues in the west. The background to this was as follows. In 1995, a burning issue internationally was "Can China feed itself?' a question initiated by Mr. Blown, of the World Resource Institute. International observers were worried about China's ability to be self sufficient in food supply. In 1995, the Chinese government began to stress food production itself, and after 3 years extremely good harvests, in 1998, China government has to find solution for over grain stocks. Following the South East Asia financial crisis in 1997, the Chinese government needed to stimulate the domestic market to maintain its economic growth. The lack of consuming power of the poor was a big problem.

So in the implementation of the land conversion to forest program, the government provided more in subsidies than any other developed country did to stimulate income generation. The conversion program was one way of doing this. The program was a voluntary activity and the government offered a subsidy per Mu of 150 kg grain per year for 8 years, a 50 Yuan planting fee and 20 Yuan per year for maintenance for the following three 3 years in the Yangtze river regions, making a subsidy a total of 3,500 US dollars per hectare. It was twice as much as American standards for similar conversion programs. All local governments adopted the conversion program as the

most important way of demonstrating their achievements, and so they expanded the areas converted continuously, planting large quantities of land and still trying to find opportunities for planting yet more. This put pressure on the central government, which led to an increased investment in the program annually. At the same time, however, the annual food production in China began to drop. In 2003, harvests declined by a hundred million tons compared to the most productive years. Therefore, the Chinese government had to ensure that there was enough farming land. Food prices rose sharply internationally due to the reduced Chinese food output. In 2003, the price for wheat rose 30% in the world market. In 2004, China's economy increased 9.7% and forced an increase in the costs of raw materials and infrastructure. Central government had to take action to reduce prices of grain production and no longer seek to boost domestic demand.

Although there was some resistance in western regions, the central government reduced the amount of land it allowed for conversion from three million hectares in 2003 to 670,000 hectares in 2004. However, the area was much larger than that proposed. So in 2004, the central authorities asked local governments to put into effect the areas proposed to guarantee the villagers' interest.

Selection of land for the conversion program

In 2005, local officials were told that it would be the last year to convert farmland to forest. But later on, when I consulted with a senior official in charge of this program in the SFA, this turned out not to be true. But in any case, each township and village was enthusiastic about having the opportunity for this final favor. The county authorities went beyond the criteria set by the program with the attitude 'the bigger area the better and the easier the access the better.

The conversion program of land into forest and pasture was promoted in terms of "volunteering to participate, and having private forest ownership", "keeping one Mu of land per household for the production of subsistence for food, otherwise they were not eligible to participate in the program", and that "for ecological purposes the forests should cover 80% of the total area converted. So the emphasis was primarily on its green function.

Willow Township organized all village party secretaries and village leaders to hold meetings to request the handing in of proposals for sites suitable for the program. A few villages applied, and a proposal from Xiakou village was accepted.

The land to be converted, owned by Xiakou natural village, was about 40 hectares, situated on a steep hillside, with flat land at the foot of the hill. Xiakou has a population of 286. After the conversion of this land, only 3.8 ha of farmland would be left, that is 0.2 Mu of land per capita.

Model and tree selection

Selection of seedlings is a matter for the technicians of the county forestry bureau. However, the government of the day was seeking to plant walnut trees, and everywhere in Stamp County the first priority was to plant walnut. In 2004, Stamp County was reprimanded by higher level officials for not following the regulations of the conversion program. They had planted too high a percentage of cash trees and not enough for ecological purposes. In previous years, the Stamp County forestry bureau had made great efforts to interpret the conversion regulations to meet the requirement of local government. For instance, they had planted about 1800 walnut seedlings/ha. They had also planted ginkgo seedling in great density for the leaves; about 10,000 seedlings per ha as in Estuarine Village. But the forestry bureau suffered financially as seedlings for walnut and ginkgo are very costly and the seedling subsidy per ha from central government was fixed at 750 Yuan/ha, and in addition after a certain number of years growth, the walnut and ginkgo plantation would have to be thinned, otherwise it would not grow well and bear nuts. From a technical point of view, the planting density for walnut and gingko is about 300 trees per ha.

The model was modified in 2005, to mixed plantation, walnut of course, with another. Huajiao, a kind of shrub that can produce an ingredient for Chinese food, was the first priority in this year. The officials informed me that

> *'Huajiao could save on cost, since the seedlings were one tenth the cost of walnut. It could also be harvested after three years, every year for 8-10 years. Walnut started to bear nuts after five years and had a stable yield eight years from planting, and so the two species matched well in terms of production.'*

One day, I consulted with a senior technical official, who is influential in making technical decisions. He told me "*no, that model is wrong. These two species may not be worked together*."

Anyway, the model had been chosen, mixed walnut and Huajiao plantation with about 600 walnut seedling per ha and 1200 Huajiao seedlings per ha.

Organizing for large-scale planting

The township established a working group to illustrate the importance of planting. Chen was the chairman of this working group, and his deputies were members. They were asked by Guo to stay with farmers to make sure the planting was of high quality. A group of people were organized for technical control, to include the position in the field for the road, terracing and planting pits with lime. Grandiose plans were drawn up on the ground before calling people to implement the work.

The township made plans for the labor needed, and eight of eleven villages in the township participated. Xiakou village was responsible for providing the labor for road construction. Every laborer in the village was obliged to contribute three days to make terraces and planting pits, and one day for planting.

On the day for planting, I accompanied the township working group to the site. About a thousand people were working in the field. Each production team had a red flag and there were many colored flags surrounding the field for decoration. All the surface soil was being replaced by terracing. I spoke with Chen and his deputies and said:

> *'This program was to protect water and prevent soil erosion, and before planting it was a wheat field. Why not make it simple? Dig pits and plant trees. Why make terraces? Why make a road to reach the top of the mountain?'*

They explained:

> *'It is a Xingxiang1 project, frankly speaking. It is planned for high level officials to visit. We were asked to build a demonstration site. Would it not feel much better if you were standing at the top of the hill to view the project site? The newly constructed road is to bring leaders to the top of the hill. Terracing is the best way to improve the productivity of the field and prevent soil erosion in the future. Show-up project should be better in any element.'*

Then we discussed why they mobilized individual farmers in the township to participate in the project. They explained that it guaranteed the success of planting on time. In fact, the township is used to doing it this way. Any change has consequences for other connected things. Seedlings are free provided by the county forestry bureau free. And the county purchases them through contracting out. There are many sites in the county for planting at the same time which is coordinated by the county forestry bureau. Once the land is prepared, the township will request seedlings, the county official in charge will discuss setting a date for planting with the township government, and the township government will organize farmers on a particular day to ensure the planting is done on time. Everyone in this system has become used to this way of doing things. Township officials told me that if they were to allow farmers to plant individually, they would have to change the whole system of seedling supply. And how could they make sure every household in the group finished their task on time? Then I reminded them that according to the provisions of the program, farmers were to participate voluntarily in these projects and that the plantation should be privately ownership. They argued that it was easily said but actually hard to implement" They explained that:

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[1] Mean: project to show up or visualize their work to improve one's status.

> *"In the early stage of the conversion program, few farmers believed they would get 150 kg of grain plus a 20 Yuan protection fee per Mu for 8 years. It is impossible to mobilize for such large areas the tasks assigned by higher level authorities, so we have to do it the traditional way with compulsory labor, on a large scale organized by the township government, or on a medium scale by villagers' committees or on a small scale by a production group or natural village. In recent years, farmers have become aware of the benefits from joining this program. Now if the amount of individual land adds up to much more than the area planned and approved, how do we select from among them. If the land of the farmers selected is located in many dispersed places of the township, how many technicians would be required for technical control, seedling supply, area monitoring, etc.? And even if they existed, who would pay their travel costs? In 2003, the amount planted did not meet the seedling survival rate (85% for the first year and 75% after 3 years) set by the state authority for payout and so higher level authorities refused to pay the subsidies. They blamed the township leaders. So in 2004, many townships planted much more than planned, but the survival rates were good and the area was thus more than that approved, and again the township leaders were blamed. We had to find a way to resolve the problem of paying the subsidies on the extra amount, as the county government did not have the financial means to meet such a heavily subsidized project. Then we are all blamed by the farmers too."*

We shifted our discussion to the issue of how to mobilize labor. I was told:

> *"The township government calls all the party secretaries and leaders of the seven villages selected to be here. Every village receives their pieces according to the amount of labor contributed. How things are arranged within the village is up to the village cadres."*

Another official from the township continued,

> *"Usually, the village cadre will set a rule for how many Yuan per worker, for instance 10 Yuan per head. Any household member failing to provide free labor, or who is absent on the day, has to pay for the one absent. Anyone who can provide more will get payment for the extra labor contribution. How to organize farmers well depends on the authority of the village leader"*

Another official added: *"Yes, that is a very important indicator of good or bad village leadership."*

After planting

After planting, I interviewed the head of Xiakou village. She had recently been promoted and was considered to be a good cadre both by farmers and township leaders. She said:

> *"Most households have to replant. We know that the farmers mobilized are unable to plant these trees in proper ways. And we know that if the survival rates are not good we will not the get the government subsidy. We know the walnut seedlings are not a good variety. I also have about 10 Mu of land to convert into forest, and I bought new walnut seedlings to replant the area. Many farmers do the same if they can afford to buy the seedlings. Some farmers pulled out the seedlings organized by the township sufficiently to ensure that they died and then replanted seedlings of the own preference in the same holes.*

The seedlings organized by the township are free. They are provided by the county forestry bureau, which receives a lump sum of 50 Yuan per Mu for seedlings from central government. Farmers are sure that farm supplied seedlings will have poor survival rates. Also the 'professional' team employed by the forestry farm is often unskilled in planting. Without good survival rates, farmers who own land will not get the government subsidy. But their major concern is to have good quality walnut trees because over the longer term, they will get a substantial income from walnuts. They are not so interested therefore in *Huajiao*. This is a way of making sure their interests are served (Scott, 1985).

One month later, I visited the village head again. She told me: "*The Huajiao did not have a good survival rates, about 30-40%. But the walnut did, about 80-90%.*" I asked: "*do farmer like Huajiao here.*" She said: "*In my village, we never plant Huajiao. We do not know whether it is good or not.*" She strongly recommended me to organize project training on walnut management techniques. There is a lot of difference among households in their tree management skills. Some are good, and a lot are poor. She said: "*I have discussed matters with the farmers in Xiakou natural village and we are going to buy anew variety to graft onto the surviving walnut trees. We will buy the grafted materials ourselves to make sure they are a good variety.*" She responded to my further question as to why some farmers were poor at tree management by saying that "*some of them lack the labor to clear out the grasses. Others lack techniques. Some don't believe the trees will be owned by their households and lack motivation. Some lack ..., there are many reasons*."

Afforesting wastelands in Estuarine Village

Determining usable wasteland

In 2000, a large range of desolate hills in Estuarine Village became an additional resource for the state-owned forestry farm. The farm determined that 663.5 hectares of land was suitable for planting. After a few years of farming in opened up lands, it was suitable for plantation, so Estuarine Village became one of the major areas for planting. From 2001 to 2005, the total area of plantation in Elm Forest Farm reached 3000 ha and the total area planted in the Supreme forestry protection station was 1000 ha, including 750 ha of the planting area in Estuarine Village. Estuarine Village was given high importance in implementing the NFPP project.

The head of Elm Forestry Farm, Li, said that in 2001 he had spoken about the possibility of afforestation in Estuarine Village with the township party secretary, Guo Tianping, who then went to see Wang, the Estuarine Village party secretary. Wang asked to take a share of the plantation if the forest farm intended to plant trees in Estuarine Village. Among the three, they were unable to come up with an agreement as to how this share should be constituted. According to Li it was always difficult to make clear the pattern of land ownership in the village. Usually they had to discuss it at the county committee and then draw up some specific conclusion. In China the county is the basic regime unit. The administrative villagers' committee is a legal body but self organized, and the township is a government agency that is usually considered to be an affiliated unit of county government. So important issues, such as land ownership, are discussed and decided at county level and then made effective by legal document. Chapter 4 explained the land conflict between the village and state farm, and indicated how complex it is.

Li told me he had discussed the matter with Secretary Wang and Secretary Guo and that if the trees were planted on village land, the state farm could not now take them away, and it would take time for the trees to mature. The County had thus promulgated some policies and they would handle the issue accordingly. He thought it meaningless for the three of them to decide how much land belonged to whom. If it belonged to the collective, they could divide it according to certain policy arrangements. And if it did not belong to the village, the forestry farm would get all the income. At the end of 1980, in order to encourage villagers to plant more trees, Stamp County promulgated a cooperative policy. If the state-owned forestry farm rented the land from the collective, then the collective would get 30%-40% of the wood cut.

Secretary Wang said that in the spring of 2004, the forestry farm planted over 10,000 Mu, of which, 60% was owned by the collective. The five communities all got forest ownership certificates and the farm assigned 300 to 400 people for the planting in the spring. But the villagers differed with Wang over the 60%. They thought the auctioned wastelands were captured by the forestry farm. In 1998, after the implementation of the NFPP, all levels of government began to attach great importance to forest protection

after it was emphasized by central government. Secretary Wang admitted that the villagers were not satisfied with the arrangements but he claimed this was because the villagers had asked the state farm to plant walnuts on suitable land but the farm had planted oak trees instead.

The government authorities had no difficulty in executing the NFPP. There was a case in Estuarine Village. Someone destroying the branches of pine trees to collect the pine seeds, and despite the fact that he had fallen out of a tree and was seriously injured, he was still severely punished. In my researches of the village I came across no evidence or trace of villager resistance. The villagers had already paid for the land and had their notarization certificates. They had been told that they could use the land for 50 years. But seven years later it was taken for planting trees and so the villagers were mostly against the farm. But 'the farm was planting trees on behalf of 'the nation' and who could voice disagreement? Those who did so would appear to be opposing the nation. 'The nation' thus became a tool for taming the villagers and getting them to help execute the state-owned forestry farm's decisions. According to the information I have received so far, the villagers thought it was all the fault of the state farm. I was told that because there were so many leaders there, including leaders of the farm, the township and the county authorities when planting commenced, the villagers were frightened, but they had some legitimate complaints against the farm.

According to the understanding of Secretary Wang, the village provided the wastelands to the forestry farm in order to help the farm complete the tasks set the NFPP by central government. The farm was doing business for the nation, and the nation was subsidizing it heavily, and the village was helping the farm, and so the farm should not claim any share from the forests planted on collective land. This point of view was not accepted by the farm.

Hao, village head, said to me: "*Wang betrayed the interests of all the villagers for his personal interests. In Mugou Village nearby, the village party secretary refused to work with the farm, so why can't we?*" First of all, Wang was under the pressure of Guo, party secretary of the township. Second, they did not have concrete evidence but they estimated that Wang had a contract, endorsed by the farm, to manage the whole forest. Third, Wang needed the help of the forestry farm in collecting bamboo and pine nuts. Wang forced the villager's committee to give up the land to the farm for planting with support from upper level authorities, and he was very dominant in the village. Jia Jinhui told me that "*the farm gave 10,000 Yuan to Wang and thus obtained the land, but the land belonged to the villagers"*. Hao Yongji similarly said, "*they planted trees on the land which belonged to the local villagers and only Wang got the profits*". However, the relative of Jia and Hao also got some benefits from it as explained in a later context.

All in all, in 2004-2005, about 663.5 ha were planted, mostly with oak, then larch, and arborvitae on the hill tops. Li said: "*Oak and larch are very economical in the short term. From arborvitae it is difficult to get economic returns."*

Households' farmland was planted by the farm

The allocated subsistence land of some households was included in the planting area of the state farm. According to the NFPP, it is absolutely illegal to plant on the arable land titled under the household responsibility scheme. Secretary Wang told me that the state farm had planted larch trees on the land of two poor families, titled under the household responsibility scheme. Sometimes the farm employees were unaware of the status of the land they had been told to plant. Guo proposed a solution for this. The township would strive for a bigger target for converting farmland to forest to include these two households in this program. But Guo explained that in 2004, lower targets had been approved at higher level and so he could not include the area of these two households in the program. These two farmers planned to take their complaints to a higher level. Wang has to find solution to avoid this happening. He said "*there was a total of 10 Mu of land, and I gave 300 Yuan from my own pocket every year to each family*". But according to Deng Donglin's investigation, there were more than two families like that. Actually there were five families in Ta'an natural village, who had had two hectares of subsistence land planted with trees.

Li, manager of the farm said: "*It is a pity we do not know before planting. At the time, we think all these slope lands are good for planting. If it is true that we planted on the farmer's land then we will give up these trees to the farmers*".

Both Guo's explanation and the action taken by the farm were all against state policy. There are clear regulations that 'converting cultivated land into forests' is a voluntary activity and the state would give a subsidy of 2,250kg grain per hectare for the first eight years, a 50Yuan planting fee and a 20Yuan per year management fee for the following three years. The natural public forests of the NFPP must be planted on desolate hills and the aim is to protect the natural environment. So it cannot plant on the cultivation land of the villagers.

Conversion of farmland into forests in Estuarine Village

I visited the county forestry bureau and get their original copies which used for reporting to upper level authority. Table 8-1 is a summary for the conversion program in Estuarine Village.

Table 8-1 illustrates that there are 30 Mu of farmland in 2004 from 3 households in the approved targets for conversion in Estuarine Village, which has been shifted into forests. The original copy indicated those three households, including Wang Deyou and another 2 households from Jiangdong production team, each one has 10 Mu. I could find no trace of who got the subsidies.

Table 8-1 Area of converted farmland into forests in Estuarine Village

Year	2000	2001	2002	2003	2004	Total
Number of households	107	50	23	40	3	
Area of farmland in total (Mu)	324	200	140	200	30	894
Species planted	Ginkgo	Ginkgo	Walnut	Walnut	Walnut	
Area of wasteland in total (Mu)		200				200
Species planted		Acacia				

In 2001, Gansu provincial forestry authority requested that the same size of wasteland as that for conversion of farm to forest should be planted and 200 Mu of acacia seedlings were planted on barren hills but no seedling survived in Estuarine Village. The year 2002 saw the start of a new term of county government. Before 2002, ginkgo was planted, and afterwards, walnut. There is a column on the form designed by central governmental authority before 2003, for specifically indicating the area of ecological as against cash trees planted. The area reported by Estuarine Village in the column for ecological trees in 2003-4, however, gives the tree specie planted as walnut.

'Professional' planting

Professional 'Guanxi'

The farm thought professional planting the most important way to guarantee survival rates and took it as one of the successful experiences in implementing the NFPP. The professional team would take charge of the planting work every year. However, during my research, some villagers said the farm thought they had hired a professional team, but actually the team only consisted of only one or two people. "*Who said the professional team is more competent in planting than our villagers?"* they asked. *"This is all because of some relationship or other or maybe they would charge less."* The so-called professional team was not admired among the villagers. The 'professional' team was also made up of ordinary farmers, not specific forestry workers. So villagers thought there was some under the table, behind the scene deal.

From the technical side, the key points of survival are many, including species selection, seedling raising, packaging, transporting, distributing and planting, tendering and favorable rainfall. As already mentioned, in the design of the NFPP, only when tree survival rates were over the fixed standard, could national funds be allocated. From the survival angle, the first choice was for ease of growing not for high economic value. Second, quality control is a key point and not only planting. Third, survival rate is largely dependent on the climate, for instance drought may lead to great loss. Fourth, the tending after planting is also important.

Interviewing the head of the professional team – Mr. Lei

Lei is about 40 years old. He is from an area of farming staples in grain some 200 km away from Supreme station. There are six people in his family, the couple, a 12 year old boy, a 17 year old girl and their parents, both above 70. They have two cows at home, and they can earn 2,000 Yuan by selling two cows each year. They have 12 Mu of land with wheat, corn, potatoes and sunflowers. Every year they can earn over 2,000 Yuan by selling sunflower seeds. They also feed two pigs each year and sell one for 800Yuan. The other is for home consumption at spring festival.

Before 1988, he worked in a forestry farm subordinated to the XSFB. They planted trees in spring. A team of 20 to 30 people could plant 20 hectares. In autumn they cut trees; also 25 to 30 people could cut 1,300 to 1,400 m^3. Later, when there was no work at the farm, he did some part-time jobs in a construction team and could earn 15 Yuan per day.

An official, Zhang, division chief of Elm Forest Farm who is in charge of afforestation, lives in the same village about 1 km away from Lei's home. With this man's help, Lei began to organize professional teams for the forestry farm in 2002.

The professional team could not be very large, about 35 people in total since the major limit was the dining problem, due to the size of the cooker. The village laborers from his hometown village in his team were all men since women had to look after children, and do the farm and housework. Table 8-2 gives a brief overview of Lei's source of labor and planting area in Elm Forest Farm.

Table 8-2 Number of farmers and area targeted for planting by the professional team

Year	Area	Staff No.	Labor Sources
2002	41 hectare	Around 35	All from his home village
2003	35 hectare	Around 35	Mostly from his home village, small proportion from local communes.
2004	42 hectare	Around 35	20 from his home village, others from local communes
2005	35 hectare	Around 35	15 from this home village, the rest from local communes

The biggest difficulty in organizing the professional team was to talk about wages: Male: 20 Yuan per day. Female: 19 Yuan per day. Except for villagers from villages nearby the planting site, all the others lived at the working site. They worked from 7:40am to 6:30pm with two hours off at noon. The team leader was responsible for offering meals and accommodation to the workers. The farm provided them bed and board and waterproof clothing. Other materials were provided by the team leader and carried to the working site by cart. They made beds on the site, all the staff slept together in a tent. There was a large boiler with a diameter of 1.5m outside the tent. Two women cooked for them. The meal cost about 3 Yuan per day per person. The

local villagers went back home at night. The team only provided them with lunch. The newly planted forest in Estuarine Village administrative village is 5 km away from Estuarine Village natural village. It would two hours on foot for the daily two way journey.

The cleaning up, planting and caring for the young trees was the responsibility of one team. They could earn money only by planting. If the plants survived, they could get 450Yuan per hectare and a 30% withheld deposit. They could get the deposit only when plants reached a 95% survival rate. Each worker could plant only 0.9 to 1 Mu per day, so the cost of each hectare plus meal expenses, incidental expenses was at least 400 Yuan. In 2004, the survival rate was only 75%-80%, so they lost their deposit. But in the autumn they could make money by weeding, 160 Yuan per hectare and everyone could weed at least 0.2 hectare each day.

They also hired 20 people to do land preparation before planting in these 35 hectares for 40 days. The farm manager did not tell them the specific wages but he borrowed 5,000 Yuan from the farm to pay them.

Secretary Wang's business with the forestry farms

Taking charge of caring young trees

Secretary Wang took charge of all protection roles for newly planted forests in Estuarine Village administrative village. He told me: *"The management fee is one Yuan per Mu per year. We have a contract now with a seal on it"*. But I checked the original copy of the contract in the file in the state farm for contracting out the protection of newly planted forests at Estuarine Village, and it had nothing to do with Wang.

Wang informed me, *"We have arranged for six people to take care of it. Yuan Peigui, head of Dashan natural village, Jing Ziyue[2], Jia Jinhui, Zhu Zhixiong, Zhang[3], and myself"*. It indicated his ability to arrange and coordinate workers. The team he put together was made up of the most influential people in the boat. However, the villagers said that they seldom saw the leaders guarding the forests. Jia said that was not true. But when he was interviewed, just before the village election, I stared at him, and he felt much less confident.

In terms of the new forestation work, Wang said he had made an announcement in the village. If some livestock such as cows happened to step into the forest, the owner would pay 50 Yuan per footprint for trespassing on the working field. Several people from Jiangxi production team like She Zhijun, Zhao Yongjie and Wang Zhibin have

[2] He is 42 years old, and began to guard the state-owned forest in 1982 and could earn 200 yuan per year.
[3] He is the father of Hao Yongji's wife.

been fined already for that. Mr. Zhang was also fined 200 Yuan by Secretary Wang after my interview, since there were cow's footprints though they could not find whose cow it was.

Harvesting Bamboo canes

Arrow bamboo is the favorite food of the most precious Chinese animal, the panda. There are no wild pandas in Stamp County, but there is a panda reservation park located less than 150km away from Stamp County. In Liulin, arrow bamboos are widely planted in some humid forest areas. And over the past ten years, north China has developed greenhouse vegetables and a large number of materials are needed to build these greenhouses. Therefore the arrow bamboo, and chestnut bark[4] and wild vegetables have become most important resources, in addition to timber. The forestry farm has a policy for harvesting arrow bamboo. People must first sign a contract with the farm and pay 2,000 Yuan as a fireproofing deposit. The aim is to prevent fires in the forests.

Secretary Wang has the right to take charge of the arrow bamboo harvest of Supreme Working Station. The chief in this station said, '*Anybody who wants to take charge of it and is willing to pay 2,000 Yuan deposit can get this chance. Secretary Wang did this, so we gave the authority to him.'* Shao said, '*The key factor is the market, and Wang is quite competent in selling the products by making full use of his network of relations*.' While a party secretary in one village near Estuarine Village said, '*The state farm gave all the business to Secretary Wang such as purchasing pine nuts[5], chestnut bark and bamboo cutting, so we would leave alone all the matters of forests now requested by the state farm and higher level authorities, for instance, forest fire prevention.'*

Secretary Wang took charge of the bamboo in Luoba village, in Liulin, about 5km away from Estuarine Village. He employed workers from Gaoqiao[6], Stamp County. Wang said this was because the local villagers were lazy and were not willing to do the job. In total he employed 12 to 14 workers; they worked for 70 days in 2004 cutting bamboo. The workers all had to dine and live on the hill and their salaries were quantity-based (Table 8-3) and they had to carry bamboo to the nearby roadside. Wang also had to pay for the freight at 1.65 Yuan per bunch from Supreme to Estuarine Village. They also needed conveyance certificates[7]. He told me he had to pay an afforestation fee of 1,090 to 1,259 Yuan per truck, 40 Yuan for a travel permit and a 50-Yuan quarantine fee." So the total cost was 6-9.5 Yuan per bunch while the sale price fluctuated from 9-18 Yuan per bunch.

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4 The bark of a type of chestnut tree, it is light and loose and is an industrial material.
5 In 2003, the farm wanted to purchase some pine nuts, Wang made money by calling on the villagers to collect them.
6 100km away from the Liulin, it is a poor area within the mountain area; Secretary Wang's wife who works in the county forestry bureau came from Gaoqiao.
7 According to the 'Forestry Law', if organizations want to carry timber and bamboo, they must have a cutting and insect quarantine certificate.

Table 8-3 Payment to farmers for harvesting bamboo cane

One bunch in meter lengths	6m 30 sticks	5m 40sticks	4m 50sticks	3.5m 100sticks
payment	7Yuan	7Yuan	4.5 Yuan	5 Yuan

Regarding the payment of the afforestation fee, different sources give a quite different answer. Secretary Wang claimed that it was charged according to the load of the vehicle, 1,259 Yuan for a truck load of 20 tons and 1,090 Yuan for 16 tons. But another party secretary in another village claimed they were 1,450 and 1,100 Yuan respectively. And a farmer who has run the business of purchasing and selling bamboo for 10 years with Elm Forest Farm said that it was 1,000 Yuan for one truckload.

In order to control the underground transactions between villagers and working station staff, the farm had a policy to pay workers in the field and the traveling permit and quarantine fee had to be paid to the forestry farm. It is a two-hour ride from forestry farm to the Supreme working station, but Wang maintains good relations with the farm, so that is not a problem for him.

At the end of 2004, Secretary Wang obtained seven trucks of bamboo, and he said they cut the bamboo without regard to size as long as it met the requirements. For every truck, they could carry 650 to 1,400 bunches to a place, and sell them as wholesale for 9 to 18 Yuan per bunch. The buyers were usually from Xi'an, Xianyang, Lintao and Yinchuan. For sustainable harvesting of bamboo canes technically, they must choose canes over four years old and leave those of less age to provide nutrition for new bamboo growing. Wang's way of cutting bamboo is not technically acceptable. The villagers said that there used to be bamboo in the hills of Estuarine Village, but not now. It had obviously fallen prey to unreasonable operations.

Lay farmers with forests

Interviewing a typical farmer – Luo Sheng

Luo is 50 years old; he has integrity, is honest and hard-working, which is a common characteristic of Chinese farmers. There are five members in his family, his wife, his son and his son's wife, and a daughter. Another daughter was married into Yongning Township. This household's living standard can be ranked as upper middle level in the village.

His son was married in 2004. The daughter-in-law was from Jiangdong production team. His son told us that he and his wife had got to know each other on their own account but had certainly used a matchmaker for marriage. The son seemed an honest and loyal young man. He did not say a word during the conversation between his father

and me except when we asked him questions. The father acted as master of the family. He asked his son to seat us, and his son followed the instruction. The relationship between them is seen as the perfect model favored by farmers. During the conversation, his wife and daughter-in law were busy in the kitchen. They at least appeared not to be interested in our talk.

Livelihood

The family income depended on farming. The son took off-farm jobs for a short time, but had made no money. The family allocation was 12 Mu land (for 4 persons), and they rented 8 Mu. They grew maize, soybean and wheat. They made a bid for 5 Mu of land during the auction in 1995. It costs them 50 Yuan, including notarization fees. They had farmed the plot of land for two years. The yield was not high, for instance, on average, land produces 5,000kg/ha of corn, but this plot produced only 2,500 kg/ha. Luo said:

> *"The fertility of the land is low therefore I want to grow walnut there. I bred them by myself. The variety is a local quality one. I grew seedlings by sowing seeds, there were around 80-90 seeds, about 40 of them survived, I planted not evenly in the plot. My major concern is for the income, the yield of crops is low. Walnut does not need so much labor input. If you grow pepper, it doesn't resist disease and pests and is short lived. The walnuts should be intercropped with soybean and sorghum. Walnut trees will not grow well if land is not intercropped with other plants."*

Luo told me he planted a walnut tree on his allocated land in 1993, and now this tree can produce 20-30kg of walnuts a year.

The state forestry farm grew larch trees on his walnut growing land

The state forestry farm planted trees in the village and grew larch trees on his 5Mu of land bought at auction. He went to talk to people at the farm and they told him he could no longer grow crops on the plot, but he could still harvest his walnuts. But Luo said: *'the staff at the farm change frequently, I cannot rest assured if a paper is not issued'*. He had heard that a farmer in Dashan natural village had obtained a paper proving ownership of his 30 Mu of land converted from farmland to forest. He argued: '*I want to make it clear whose trees will be kept, because larch trees compete with walnuts for nutriments anyway when they grow up*.' Nobody in the farm and in the collective is interested in such small issues. He still hesitates as to how to get a certificate of ownership of his walnut trees.

Interviewing an older man – Zhang Zhengchun

He is 63 years of age. He has two sons, one is 27 years old, and the other is 25, both single. His two daughters are married, the elder one to Hao, the village leader. None of

his children had received any education. The fence of his yard is a mud one and the house is roofed with grass. All need renovation. The only furniture in the house is a bed one meter wide with only one blanket. One of his sons was out of town taking off-farm work. The other son commenced a Chinese herb business this year. I asked him how his family slept at night and he said that one son was out of town and the other son shared the bed with him.

He has 12 Mu allocated land, of which, 8 Mu is cropped with wheat and maize, 4 Mu is converted to forest by growing walnut and Gingko. He raises three draft animals, one of them is a calf, and will be sold soon.

He owes 1,000 Yuan to the bank, and owes another 3,000 Yuan borrowed from his friends and relatives. All this money was spent to purchase fertilizer and grain when crops failed. He is looking after 1000 Mu of young plantation of the farm. He subcontracts this from Wang, the Party Secretary. Most of his work is to keep animals out of the plantation. People are also prohibited to enter it. He goes to the plantation once a week, the distance is about 25 km. He needs to spend the whole day there, from breakfast until returns home in the evening to have dinner.

This elder man was very proud to have an assignment to look after the young forests for the state. He said: '*it is for my next generation*.' He did not mention any relationship with Hao Yongjie, village head when I asked him how he got this work. He repeated to say: "*I heard that Wang was looking for people in the village to look after the young plantation. I went to see him and hoped to be one of them. Days later, Wang came to tell me that I could help him to look after this piece of forest.*" This old man told me that in Jingping natural village, 90% of the families were short of food. He very confidentially said: "*only 1-2 households may not have debts in this natural village.*"

Interviewing an elderly lady

She is neighbor of the previous Zhang in Jingping, another natural village of Estuarine Village. I arrived to her family without anyone accompanying me at about 3:00 p.m. When I was interviewing her, I felt I was not trusted. Her daughter-in-law was out collecting firewood and she was chopping firewood into pieces. I did my best including helping her to cut wood, asking questions slowly, playing with her grandson. But is still felt I was not trusted.

She has 3 sons, all married. Her extended family was allocated land for six members, but now her family now has thirteen members. The two sons have separated from her family. The land was divided equally to each son's family. She and her husband live with his younger son, who married years ago. His second son was hurt and lost some fingers in Luoba mining factory. He can not go for off-farm work anymore. She said: "*my son was accused of violating operation procedures so they cannot pay his medical*

costs." She continued: "*my last son is very young. He went for about eight months this year to do construction work far away. I cannot remember the name of place.*"

At about 4:00 pm, the daughter-in-law returned with a back basket full of firewood. I asked her how long it took to collect such a basket. She said she had left the family at 9:00 am and had just returned. She had walked two hours to reach bushes of that kind of shrub. She listed a number of the criteria for prohibited wood, such as no shrub with a diameter of 6 cm; no cutting of pine, oak, bamboo, etc. no harm to live trees. She told me that only about 5 species including one kind of mulberry could be harvested for fuel. She said: "*I feel that next year, or a year after, we may no longer have wood for fuel anymore. It becomes more and more dangerous as we have to collect wood on very steep hills.*" I stood up and tried to lift the back basket up with my full strength and I failed. Then she disappeared, and her mother-in-law told me: "*we are not people like you. She did not have lunch and she must feel hunger*."

I then tried my best to discuss with her the village forest management committee. She refused to support it. First of all, as I explained in the previous context, her family would not dare to contract to manage forest. Second, if the forest was managed by the people in the village, she would feel more difficulties. Now the forests were nominally managed by the state farm, and they were far away and could not supervise them most of the time. If managed by a few powerful villagers living in her surroundings, she felt that she would no longer be able to touch the forests.

Later discussions with lay farmers have many evidences to support this elder lady's view. I started to rethink about the practical meaning of concept of VFMP. I invent the concept of VFMP as a discourse for sustainable forestry management standing on the side of marginalized people. But the marginalized people on the ground told me that if this is in practices, we will be left aside more deeply than before.

Floods in August

August is the rainy season in Estuarine Village. Rain in 2005 came much earlier and heavier than usual. Farmers in the village told me they had never seen such strong floods in their lifetime. '*I used to believe that we shared the same heaven*'. '*Intervention from heaven should be equal to everyone. However, I was wrong again*'. These were the comments made by the villagers in Estuarine Village. I was given the following laments by farmers in village: "*We pulled out ginkgo trees to get about 4 ha of flat land for farming. But the floods have eaten up more than 4 ha, and taken our other land.*" '*Staff in the Supreme station were asked to leave for safety. All of them fled. But we have to stay here.*" '*The road is broken. You arrived here safety with cars. We cannot pass.'* It is true. I took a taxi from one side, and I asked Guo to pick me up from the other side.

The villagers told me: "*we lost two of the men in our villages. They saw logs moving down with the flood, and believed they were good at swimming. Yes usually they can*

manage, but currents were hidden underneath, which they couldn't see." The farmers explained to me these logs are 20-40 cm in diameter and 2-4 meters long. In the past, in the flood season, they gathered wood in the river's course, and could keep them as our own. But if these logs lay in the bushes, they could not take them back home and if they did, they were considered as thieves. But the state farm had told them the forests in the area were in the NFPP, and so they could log no more.

Conclusion

This chapter looked at the situation of forest use policy and practice in and surrounding Estuarine Village. Today, the benefits either generated from policy or from the forest itself are largely shared by the dominant social actors, the forestry farm, the township leader, as well as village leaders and their networks. The NFPP, translate this in the field into discourse, "at the behest of the state to tell lay farmers the way to use the forest land and forest resources". Of course, the concept of village forest management planning, which intends to support the poor in the village, can be interpreted as more close control of marginalized people by the dominant village groups.

CHAPTER 9

Conclusions

The foregoing chapters have covered a range of scenarios and issues concerned with forest development in Gansu Province, China. These have embraced the changing nature of forestry discourse and practice, shifts in local livelihoods under different socio-economic and ecological regimes, changes in central government policies and intervention strategies vis-à-vis forests and rural populations, and continuities and disjuncture in the patterns of local politics and authority. Many of my findings have also been shaped by my experience, over the past ten years or so, as a forester involved in research and intervention programs directed towards sustainable forest management. Thus, in this concluding chapter, I aim not only to revisit some central themes of the research but also to reveal some critical and at times frustrating experiences I have undergone in the course of my professional work in rural China.

Understanding policy interventions

Changes in forest tenure followed by terms of forest destruction

Cases in chapters 4 and 8 illustrate how forest tenure has shifted frequently and each change has been followed by a new turn in the direction of the destruction of forests. Before 1949, the forests in Stamp County of Gansu province were mostly owned by private households, and religious and community institutions. Only a few forests located in the more remote hinterlands were considered to be natural wilderness areas. This was followed by a period lasting from December 1949 until the early 1980s characterized by centralization and collectivization. This began with the land reform that expropriated the bulk of the lands of the landlords and richer farmers and distributed them among the poor households. At the same time a process of organizing individual private households into small self-help groups took place. But, within a relatively short period, the commune movement had wiped out private land ownership and introduced widespread collectivization of resources and people. This brought to an end the private ownership of forest lands.

With this came the serious destruction of forests that occurred especially in the period of steel-making, industrial expansion and the Communist Canteen Movements. Then in the 1960s, the window was opened slightly to allow for individual forest use rights, but this had a very limited impact on halting centralization and collectivization of forest ownership until the early 1980's when China initiated rural policy reforms geared to market ends.

During the collectivization of the rural economy, state ownership of forests was expanded to cover about 60% of the forest areas in Stamp County. This resulted mostly from the transfer of collective properties in the charge of local governments to specially created state organizations and was often the outcome of political struggles. Hence decisions concerning forest use were gradually centralized through the passing of new state initiated policies. But, then in the early 1980s, the tide shifted towards the goals of de-collectivization and de-centralization of forest use and management. This marked a pattern of reinstituting some degree of private ownership of forest rights, and concomitantly collective rights paid less and less a function in rural affairs including forest management. Somewhat paradoxically, however, whether collectivization or de-collectivization prevailed, the process was, as shown by my research, full of miserable stories of forest destruction. That is why China finally ended up with massive and largely centralized interventions in forests.

Government intervention in forest protection is not a pro-poor environmental policy

Chapters 5 and 6 of the thesis provide strong arguments for the view that, despite its 'sustainable natural forest' discourse and mixed forest regimes, the NFPP policy was not pro-poor. Policies with a preference towards forest protection rather than the extraction of forest products were implemented throughout the Xiaolongshan forest area, but this was primarily not so much in response to the specific needs of the rural population, but rather to support social and economic development at national and regional levels. Due to its critical geographical position and geological features, the major function of forests in this area was seen as maintaining ecological balance and safety. Before the NFPP, the survival of the state-owned forestry farms and the nearby rural communities had depended heavily on forest resources, primarily lumber and other wood products. That is, the utilization and eventual damage to forests had reached such a point that, viewed from a national and regional perspective, ecological interests were of paramount importance and concern. Thus the economic functions would inevitably have to be replaced by ecological functions. Hence the favored policy option for the region was natural forest protection.

After the NFPP established the Xiaolongshan State Forest Bureau, forest management objectives, mechanisms of reforestation, mechanisms of fund management, and the creation of specialist types of employment and industry changed markedly, and the various forestry farms under the bureau, whose forest resources and farm staff varied, were differently affected. The number of persons living from wood and its derivatives declined but those living from protection activities increased. This was facilitated by capital inputs from state funds targeting the reduction of wood products in favor of the new ecological tasks. In this way the NFPP has performed a cardiac operation so that the old system of state-owned forestry could survive, though this did not enhance institutional reforms at the community level where there was now an urgent need to decrease community and household dependence on forest resources. Another facet of this is that the identity of employees at the state forestry farms was reinforced. While such reinforcement turned into practical benefits (increases in salary and welfare), the

power of state forestry farms was also strengthened, as stricter measures were applied to maintain forests such as the prohibition of grazing livestock within forest zones. The nature of such measures was that, while in the past, state farm employees were often deprived of their traditional forest use rights, now they were given guardianship of the national forests, plus some practical economic benefits and increased bargaining power. In this way, the division between state-owned forestry farms and rural communities presented itself more sharply, that is, as two beneficiary groups in contradiction. This, in turn, affected the implementation of the NFPP and its efficiency.

However, the bureau and the forestry farms reinterpreted the NFPP as a source of employment for staff who were made redundant by the policy change; and of course the staff were keen to achieve salary and job security. In general, NFPP policy has been misinterpreted. The staff had got used to pinning their lives on the farm, or as they were wont to say, their 'imagined country house' or 'manor', which they expected to inherit from their parents. And they could not avoid feeling emotional about their home, while they hated corruption, and destruction of forests. And yet, on the other hand, they felt that one day they would be discarded with little hope of the 'manor'. This made them (especially the youngsters) confused about their future life, and so metaphorically they 'carried on playing majiang' most of the time.

From the rural community side, as chapter 6 brings out, the pattern of land use, household income, and daily life in the sampled villages continued to be closely related to the richness of the natural forest resource base. The NFPP program had negative impacts on grazing, wood fuel collection, gathering Chinese medicinal herbs and harvesting small-sized timber and bamboo, and thus dramatically on local farm household incomes.

Yet despite these negative impacts, there were more work opportunities in raising seedling stocks, reforestation, and tending junior tree stands. Organizing these activities became the monopoly of the state forestry farms, just as they had managed before many of the timber extraction and processing activities. They simply continued with what were traditional managing modes. After 1998, real incomes declined in the nine selected sample villages, while those in the villages in both Dangchuan and Elm forestry farms increased because the communities there showed greater adaptive capacities by taking on substitute activities for livelihoods. The richer the natural forest resource base, the greater the dependence by farmers before the NFPP and the more the transformation of rural livelihoods after its implementation. Farmers tried to solve such problems as timber for home use, wood for fuel, grazing and alternative energy sources etc. but they also expected that government would do something for them in respect to these issues. Beside this, farmers expected to be dealt with on a more equal basis in regard to the opportunities offered for raising seedling stocks, reforestation and tending of junior stands. However the existing state owned forest management system and institutional politics have become major barriers to farmers participating in the NFPP. The highly-centralized decision-making procedures exclude local households from participation, which was also a characteristic of the era of the planned economy. As I

underlined in chapter five, the implementation of NFPP intensified the discriminatory treatment associated with the identity of rural inhabitants as against those working for the forestry farms who were accorded urban citizen status with all the state benefits that went with this

The 'Area Development Approach' and its weaknesses

China is a developing country with its natural forests mainly distributed in the poorer and remoter mountain areas largely populated by ethnic groups. Region-targeting approaches have been applied to emphasize economic growth, to improve people's living standard, to facilitate the industrialization process, and to rehabilitate the vegetation for ecological functions in remoter areas. However, all development programmes, including, the Comprehensive Development Plan for Mountain Areas, the Poverty Eradication Plan, the National Land Conversion Program, and the Natural Forest Protection Program remain tied to a strategy of top-down decision-making and planned development.

Objectively speaking, this development strategy has brought tremendous achievements over the past 20 years of reform and opening-up, especially reducing those suffering extreme poverty (defined according to Chinese criteria as those earning 685 RMB or less, and 300 kilo grain per person per year). The number has dropped dramatically from 0.3 billion to less than 30 million. However, on the other hand, it has revealed serious shortcomings, such as rigid planning and a disconnection from local peoples' actual needs and demands. This has enabled actors in certain government sectors to engage in rent-seeking.

Ecological forestry construction is the core and entry-point for implementing the Great Western Development Program. The NFPP and the Conversion of Farmland into Forest and Pasture are major projects under the umbrella of this programme. However, as with most other anti-poverty and environmental development projects, these two initiatives use an area-approach for targeting, in which, general speaking, the basic unit for implementation is the county. The following weaknesses can be identified during the implementation of these two programs in western China.

1. They lack flexibility and thus implementation does not match the characteristics of the great diversity of social, economic, cultural as well as natural conditions throughout China.

2. To a certain extent, in the program area, the protection and restoration of forests is seen as running counter to improvement of farmers' livelihoods and economic development, leading to a deterioration in the relationship between local forest authorities, state forestry farm and community people.

3. Furthermore, the programs do not accept that local communities should be the key body for protecting and managing forests. On the contrary, they are often seen as the

enemy of forest management and protection. Therefore, a number of measures have been taken to prevent farmers from entering forests, using for instance, man-made separation fences, forest protection points/stations, and legislative measures. Obviously, then, farmers have a very limited voice in decision making and in implementing the protection and restoration of their forests. It is the forest technicians and forest officers who play the major role.

An area approach for targeting development in China is one of the products carried over from the long planned economy period. Today, China has a rather complete sector separation and hierarchical and "top-down" decision making system. It has not yet developed a system of democracy in decision making and for following market instruments for development initiated by government. Planned economy mechanisms are still the prevailing decision making procedure, which has the characteristics of low handling and transaction costs and fast decision making. However, with the width and depth of reforms aimed at developing a market economy in China, the weaknesses, including corruption, low efficiency and poor management, become increasingly severe. It is clear that China must look for a new development strategy – that is, beneficiary-oriented approaches should replace area approaches and centrally driven forms of development (Mol, 2006).

Seeking 'better' modes of intervention

Principal Guidelines

Chinese academics, as important actors, have contributed greatly to the accommodation of international arenas of sustainable forest management (SFM). This has mainly been achieved through 'testing' and 'piloting' SFM projects in different places in China, and in so doing they have had to deal with forestry politics and administration. Moreover, they have also, to some degree, contributed to articulating the discourse and meaning of SFM, although it has also been significantly shaped by the needs of macro political, economic and social development.

To avoid the above pitfalls, Chinese academics have discussed the following dimensions of SFM:

1. In poor areas, subsistence and environmental issues are closely interlocked. Economic growth and improvement of people's living standards must be achieved at the same time that environment protection is fulfilled.

2. Comprehensive development measures should be adopted; and farming, animal husbandry, and processing should be integrated with tourism and other agriculturally or ecologically related activities.

3. Adequate attention should be given to local people's basic needs. Poor villagers' needs for food and fuel should be the first priority.

4. It is necessary to increase the diversity of poor rural economic and subsistence activities to make rural livelihoods less vulnerable.

Thus, the guiding principles for intervention are defined in terms of:

1. Integration - Sustainable forest management must form part of a more integrated rural development;

2. Pro-poor policy – forest management policy should be pro-poor;

3. Holistic – natural, social, economic, and culture issues should all be taken into account;

4. Participation - Local community involvement is the key issue.

Conceptual roadmap - participatory forest management

After ten years field experience and efforts in the area of SFM in China, as both researcher practitioner and academic, I have reflected on the nature of forestry development attached to the new term 'participatory forestry' with my own definitions, that is, as a discourse towards SFM. My definition of 'participatory forestry' is oriented to macro issues, that is, it has the intention of reminding Chinese forestry authorities to emphasize forestry policy reforms in respect to tenure, income distribution and grassroots institutional development, and giving priority to equity and marginalizing efficiency for forest production. Hence, tenure, benefit and institutionalization of grassroots collective forest uses and practices are the three pillars of my connotation of participatory forestry. From the present study, we can draw a number of ideas and considerations to contribute to 'participatory forestry' development in China.

Institutional barriers are still the major constraints for local people involved in forest management. Local level forestry agencies are accustomed to top-down forms of decision-making. There are also serious deficiencies in staff and organizational capacity at almost all levels. The system of forestry land ownership remains unresolved midway through the reform process, and forestry suffers from a disproportionate burden of taxation and inappropriate management policies.

Step-wise approaches are required for effective policy making and institutional reform. That is, it is necessary to develop such a strategy gradually – step by step – and not to suddenly tear down one system and set up a new one. The process needs to be internalised. This need for gradual change is particularly pertinent in the light of the long-term production cycles associated with forest management. It is necessary to develop the strategy at the grass-roots in small initiatives and then to replicate these achievements on a larger scale. Significant attitudinal change and skills acquisition are required. It is necessary to allow time for all stakeholders including government officials, technicians and professionals to learn, interact, debate and think; and it is

necessary to put funding mechanisms in place that support the development of the role of local communities and the capacity of all stakeholders to this end.

Participatory action should provide an arena for all individuals, but this, of course, is an ideal and can only be undertaken as a long and gradual process. Participatory action should never be impetuous, and it is essential that it is realistic. Most importantly, it should continue … 'along the path of a thousand miles, reading thousands of books and meeting thousands of people.' In this way the foundations will be laid. Participation is not the only strategy for sustainable forestry management. However, without participatory processes, any efforts and strategies for sustainable forest and forestry management will be difficult to realize.

Developing a new approach – Village Forest Management Planning

As a product of fieldwork in the Xiaolongshan forest region, I proposed a new approach, which I called Village Forest Management Planning. This approach can be viewed as a tool for achieving the integration of environmental protection and rural development, in other words, achieving a 'win-win' strategy and outcome. Such an approach has to find a way of tackling some key elements if we are to develop it:

1. Removing institutional barriers, including changes in the orientation, attitudes and behaviors of local officials and technicians, and cutting back on the number of staff in government agencies;

2. Introducing various types of participatory methods and tools, and localizing these methods and tools to meet the site context;

3. Establishing community forest protection organizations, stipulating village rules and regulations, and improving awareness of forest protection;

4. Improving farmers' incomes, meanwhile achieving sustainable utilization and protection of forestry resources through assisting farmers to develop non-timber forestry products, eco-tourism, and enhancing their knowledge and capacity to explore and utilize different market opportunities;

5. Setting up support mechanisms for community organization and development;

6. Promoting partnership among officials, technicians and farmers, recognizing and emphasizing the contribution that science and technology can play, and developing extension methods and means to help farmers more easily comprehend and understand this contribution;

7. Assisting farmers to generalize and extend indigenous techniques and knowledge and promoting multi-disciplinary team approaches, and involving farmers in the research team;

8. Carrying out joint management of state-owned forests with local communities.

Intervention – a battlefield of social lives

As shown in chapters 6, 7, and 8, forest policy and use practices constitute arenas of struggle and conflict, in which trees are of central interest to a range of actors both from outside and within the forest area. However, forest dwellers as well as some outsiders, such as low level officials, often find themselves on the losing side. The high visibility of these unresolved conflicts has spurred theoretical development, policy interventions and institutional changes. But we seem not yet to have developed a 'scientific' basis, from a sociological angle, for resolving these conflicts. Indeed, we seem not to have progressed much further than the "tragedy of commons" and the "prisoner's dilemma" put forward by economists and political scientists in the 1970s and 1980s.

My research illustrates the Chinese sayings 'Wunai Gengjia Wunai' and 'Wulai Gengjia Wulai', which can be translated as "rascals get more rascally, and he who has less space gets yet lesser space". Personally I am opposed to classifying any society into binary or dualistic parts, characterized by contradiction, comprise, and conflict, since in real life people do not fit so neatly into two parts. In fact I do not want to categorize people as 'rascals' or 'marginalized' by the system or by social life. People have multiple identities and behavioral attributes that arise from and are revealed in the complexities of social life.

The interrelations of forest and people have changed many times over the past 50 years. But the redistribution of power and benefits has a strong tendency towards less and less balance between different groups, and, in particular, local people and communities lose more and more power, rights and access to forests. Local government and state forestry farm officials interpret central government policy to reinforce their own powers and slice of the forest cake. To put their interpretation in place, they need to align themselves with the more influential and powerful local groups in the communities. Power associated with benefits from forests has soared, with less and less space for accessing forests. However, village people live in the forest areas and used to be able to benefit from them. Nowadays it is those from far away who benefit most from them – all in the name of 'forest protection'.

If we accept that forests are a critical issue for environmental protection, we need to take action against the continuous decline in forest quantity and quality. As I have shown in this study, financial support for forest protection accelerates and concentrates the power and benefits away from ordinary people to their superiors, including in the latter state forestry farms, local government agencies and the rich and powerful in the communities. This strengthens the existing hierarchical system and inequity, thereby diminishing social harmony, which runs counter to China's stated goal of 'social' development. Also, as the research shows, the social cost of maintaining and reforming this system will increase as time goes by. Nevertheless, the forest is being given a

reprieve, at least temporarily. We have driven ourselves into a corner with mainstream theory, methodology and discourses of economic development and democracy. The metaphor of "Wunai" and "Wulai" refers to the fact that enlarging subsidies for forest development will never be enough and will simply be devoured by sector institutions and their own interests. To climb out of this pitfall we need both theoretical innovation and ideological change. My research suggests, first, that the strong link between local people and forests must be restored; and second, we need to find ways of recreating the collective awareness of the importance of forest management and strengthening collective action. These processes must be balanced by an appreciation of appropriate planning intervention by government that meaningfully supports collective action, and thus works to achieve individual freedoms as well as the protection of collective interests in resource management.

Actors produce their own notions of SFM

As shown in chapters 1 and 3, the notion of sustainable forest management is quite vague, and that gives space for different actors to interpret the meaning of SFM.

Central government and international debates on SFM have contributed to restoring the importance of the forestry sector in the Chinese political context. As shown in chapter 3, during 1994-1998, big debates took place on how to reorganize central government agencies and the forestry sector. Should the latter be dismantled and merged with other sectors or remain as a separate Ministry at the best? SFM became a burning international topic that contributed to the political struggle among government sector agencies for recognition of the importance of the forestry sector.

China displays some differences and similarities in terms of the international perspective of SFM. The similarities include interlocking legislation governing forest management, cross-cutting concepts of development, acknowledgement of multiple forest functions and services, law enforcement, strengthening scientific research, monitoring and evaluation, etc. However, poverty alleviation, the protection of indigenous knowledge, and participation are neglected in the context of SFM in Chinese forestry legislation. It is not because these elements of SFM are not important but because they are not included in the mission of the government forestry agency in China but are managed by other sector institutions. And these, including the mission of forestry agencies, such as desertification control, flower and potted plant businesses, were all a part of the discourse of SFM. But changes in the macro-political and economic context can quickly shift the contents of discourse. After 1998, following heavy losses by flooding, and the economic crisis in Asia, environmental issues and the need to expand domestic consumption narrowed the discourse of SFM to an environmental protection focus.

The actions vis-à-vis SFM are interrelated with knowledge deriving from historical experiences and professional understandings. Before 1998, the notion of SFM was "production" orientated, stressing sustainable harvests and supply of timber products to

meet people's needs. The improvement of the quality and quantity of timber stocks was seen as essential. After 1998, the notion of SFM swung towards an overall environmental focus led by macro political and social changes. However knowledge cannot be transformed in one day, and actions taken to improve the environmental function retained a 'quantity and quality of forests' focus – more investment in plantations, more investment in forest protection, and more investment in the improvement of seedling quality

Although China has a centralized decision making system, during the past two decades, decentralized fiscal and administrative reform has taken place and local government and state-owned enterprises are now much more development oriented. Although the NFPP and program for the conversion of farmland into forest had a strong environmental protection perspective, local government interpreted and accommodated funds and other interventions from central government to fit in with their own development strategies.

As shown in chapter 4, I did not propose any new concepts. What I did with the support of the EU funded project was to follow what had been done in the mid 1950s. Games, either political or economic, played by various actors in the field and notions of SFM produced by them seemed irrelevant to forest management. Rather it was who had power and who developed the rules of the game that were important. As chapter 7 elaborates, the benefits, either generated in the form of policy 'hand-outs' or more directly from forest resources were largely shared by the dominant actors – those running the state forestry farm, and the township and village leaders. Translating the discourses of the NFPP in the field, the message became: "on behalf of the state, tell lay farmers how to use forest land and forest resources". Thus, even the concept of village forest management planning, which was intended to support the poor in the village, entailed closer control of marginalized people by the dominant actors.

Exogenous and endogenous change in forest management

The research also highlights, through many illustrations, that there is no direct link between intervention and output. Chapter 7 reveals the vertical life structure of power relationships in practice associated with forest management. As a type of planned intervention, forest management - through its prevailing discourse and technical and programmatic components - creates space for actors (either collective or individual) to further interpret the discourse and to redesign the technical requirements and actions needed in order to suit their own understandings and knowledge. In this way, actors make what they consider to be good for their institutes or themselves an integral part of their own "projects" – even though the NFPP and the program for converting farmland into forest was centrally controlled – both in its technical and financial aspects – with clear statements about its objectives. Nevertheless, at the county and state forestry farm levels, these programs no longer conformed to the project as designed by central government. They had become part of 'local development projects' each with its own

perspective. Hence, no matter how hard local government or the state forestry tried to shape them, there remained a great diversity of 'farmer projects'.

Chapter 4 and 8 show the enormous changes, over the last 50 years, in the interrelations of people, communities and forests vis-à-vis macro political, economic and social environments, as well as changes at the micro level in terms of power relations, knowledge, and livelihood struggles. Frequent shifts in the macro and micro contexts have resulted in concomitant shifts in forest management and land use. This has brought at least one negative consequence, namely that short-term planning has ruined endogenous mechanisms for managing forests in the community and has perhaps disturbed the relatively harmonized power relationships existing between the different actors in the villages.

As the case studies show, villagers have to adapt to learning new ways of using the forests 'sustainably', which means for a while ceasing to harvest them and then developing endogenous mechanisms to manage them in particular ways. But, as I argue in the thesis, we need to work out how to transform the livelihoods of rural people towards using forests in more sustainable ways, emphasizing issues of knowledge and collective action or do we do it actively through policy reform and enforcement? This a core question for the sustainable management of forests. The response of local people to the NFPP and other forestry projects financed by central government has been to move their livelihoods in a direction that is less dependent on forests and more dependent on alternative sources of income, and it is interesting that the NFPP has only slightly contributed to this transformation. On the other hand, forestry staff have moved in the direction of becoming more dependent on forest-related jobs and resources, only made possible by financial allocations and subsidies from higher level authorities. My research has also shown that endogenous mechanisms for accessing forest resources, and the space to formulate their own solutions, have been restricted by the tight control placed upon them by these new measures in the name of sustainable forestry development.

Frustrations and puzzles

As explained in chapter 7, without commitment and enthusiasm at the grassroots to integrate local development with forestry management, we cannot make progress, no matter how wonderful the discourse and political commitment generated in the international arena by politicians and academics. My 'wonderful' village forest planning project was effectively dismantled by the dynamics of local political life and dominant sector interests. Yet at the coordination meeting of the VFMP piloting exercise, everyone talked about how important it was to implement the project. Sometimes, I wondered, do they really care for forests? Do they think we have problems of forest management? Do they agree that we need to look for alternatives?

In actual fact, I proposed no new alternative. Chapter 4 mapped out the trajectory of central discourses on forestry management. In the 1950s before the "Great Leap"

forward was initiated, there was a transition period allowed for the change over from private to collective ownership, during which it was requested that village forestry management committees be set up throughout the country, although in the end they did not function well and were short lived. Now, at the beginning of the 21st century, we are on the path to increased private ownership. But privatization has proved to be no solution for SFM, as we had believed it might.

Finally I had to accept that the township officials could not provide any help for piloting VFMP. The director of Willow Township visited me frequently with his deputies and offered a banquet. Spring was the rainy season and we were trapped in a household playing a gambling card game called "Wakeng", with a maximum loss of 20 Yuan per game. This game is played by higher status people in Southeast Gansu province, thus making it different from Majiang which is played by villagers with a loss of only 2 Yuan per a game. The Township Director turned to me and said frankly: "Finally, you understand the way to work in rural areas. Going to the village, playing cards, drinking and then telling the farmers what to do. You do not even need to talk to farmers directly, because we will do."

After the rain, a heavy mist descends over the hills, and then suddenly the peaks are clear. I have a strong feeling that everyone involved in sustainable forest management takes their magic boat to float into or out of the mist.

Annex

Annex 1 Map of the research site

Annex 2 Natural Forest Protection Program (NFPP) in China

In China, with a long history and civilization, large population and recurrent natural disasters, forests are of special importance, both for the economical development and for the environmental protection. The grave inundation that occurred in the southern and northeast rivers in the summer of 1998 gave us a bitter lesson; both scientists and masses believe that the long and over forest cutting is the main reason for the catastrophe. The forests in the middle and upper reaches of Yellow River, the upper reach of Yangtze River and the Northeast mountain areas play an important role in reducing silt content and regulating the volume of river flow. The Yangtze and the Yellow River are the two largest rivers and are also the most fragile environmental sites in China. Therefore, the forests in the middle and upper reach regions must be protected, so as to meet the needs of environmental protection and natural resource sustainable management.

In order to improve China's resources and environmental status, the Chinese government launched the National Natural Forest Protection Program (NFPP) to protect national natural forests and the ecological environment of some large rivers. The program involves key forest industrial areas, logging and silvicultural camps owned by state and privates, forest bureaus/farms and collective farms. These areas are located along the upper and middle reaches of the Yellow River, the upper reach of the Yangtze River, where natural forests are mainly distributed with significant ecological values, depending mainly on logging of natural forests. Activities will be undertaken in 18 provinces, autonomous regions and municipalities, namely Heilongjiang (including Daxing'anling area), Jilin, Inner Mongolia, Henan, Shaanxi, Shanxi, Gansu, Qinghai, Ningxia, Xinjiang, Yunnan, Sichuan, Chongqing, Guizhou, Hunan, Hubei, Jiangxi and Hainan. The program will also result in redirecting 1.2 million laid-off workers in forest areas to new jobs and will relate to the subsistence and development of nearly 5 million people in forest areas.

Annex 3 Xiaolongshan State Forestry Bureau

Xiaolongshan State Forestry Bureau (XSFB) of Gansu province is typical and important in terms of natural forest resources and national environment protection. It is situated at the upper reaches of both the Yangtze and the Yellow Rivers. The forests in the bureau are the typical natural forests and play a key role in protecting China's two largest rivers from sand and silver sediments and frequent flooding. Nevertheless, the economic development is relatively backward and the living conditions of the local residents are quite poor, timber-cutting and wood industries being the main economical income. Poverty prevented them from a sustainable use of the forest resources and caused the rapid decrement of forest resources, forest quality and forest functions. Therefore, natural disasters have often occurred, especially soil and water erosion in the nearby and lower reach regions. Xiaolongshan is, moreover, characterized by large areas of transit zones of forest-cultivated land, complicated community problems and almost depleted mature natural forests (2~3%).

XSFB is situated in southeast Gansu. The geographical location is 33031' ~34041' latitude and 104023'~106043' longitude and the climate has the typical characteristics of both the northern and the southern secondary forests. Qinling, one of the highest mountains and a protected site of the middle-upper reach of Yellow River of China, is situated in this region. The altitude ranges from 700 to 3200m, but for the most part is within 1500~2000m. The annual precipitation is about 600~800mm, the annual air temperature is about 7~12C and the total frost-free season is 170~220 days. The climate belongs to temperate semi-moisture and semi-arid forest grassland region which allows many kinds of animals and plants to live here. Within China's NFPP, XSFB is considered as the key natural forest conservation area, in terms of natural environmental conditions.

Xiaolongshan forestry bureau has 828,699 hm2 of managed lands, accounting for 1.83% of the total area of Gansu province, among which 617,078 hm2 are forest lands and 211,621 hm2 non-forest lands, accounting respectively for 74.5% and 25.5% of the total managing lands. Among the forest lands, the area of young growth, of the middle-aged forests and of the old-growth forests accounts for 18.8%, 7.0%, and 65.9%,; their respective stocking volume is 70.5%, 15.3% and 22.5%. The forest coverage is 52.5%.

The administrated areas of XSFB cross over Tianshui, Longnan and Dingxi city including 8 counties, 89 towns and 1920 villages inside and at the boundary of the forest region. There are 210,400 householders, 1,050,000 residents, of which 430,000 are peasant labors. In XSFB there are 470,000 residents, including more than 6,000 workers. Agriculture plays an important role in the local economy. According to 1994 statistics, the output value of agriculture, forestry, and pasture accounts for respectively 71%, 5.9% and 23.1%. The mean income of the local peasants is 800 RMB per capita. The transportation conditions are relatively convenient for the forest management or for the forestry by-product production. In general, the region is relatively poor and the economy is not well developed.

Forest management is relatively difficult because of the long history of human activities and disturbances in the region. Natural secondary forests dominate the whole bureau. The potential forest resources and plantations don't meet the wood needs for local development. In particular, there are complex relationships between the forestry bureau and the boundary agricultural areas. In order to implement the National Natural Forest Conservation Program, the Forestry bureau must solve not only the laid-off forestry worker problems, but also the poverty and starvation of the boundary peasants, followed by the sudden stop of wood harvesting in the whole areas.

With the implementation of the NFPP, most of the residents in the forest region lost,, to different extents, their living incomes. This made local people even poorer, therefore, nothing can be done before the problem of starvation is solved.

XSFB is facing many problems related to NFFP:

1. How to evaluate and classify natural forests, so as to conserve and restore the degraded ones;

2. How to rapidly develop the fast-growing commercial plantations in the near future, so as to unload the human pressure on natural forests

3. How to help more than 8000 laid-off workers and nearby relevant local people who depend, to a certain degree, on the forestry bureau to find new jobs after the wood production decreased since the implementation of NFPP;

4. How to find and develop new industries and new non-timber incomes, so as to alleviate poverty of the locals;

5. How to improve the decision-making, the management capacity and the scientific and technical level of administrators, engineers, technicians, and workers.

Annex 4 Profiles of Dangchuan, Elm and Shanmen State Forest Farm

Shanmen State Forest Farm

Shanmen State Forest Farm is located in the Guanshan forest area of the Yellow River catchment basin. It has 280 staff, including 252 active staff and 28 retired people. The forest farm total area is 643,000 Mu, with a standing timber stocking of 488,000 cubic meters and a forest coverage rate of 34.9%. According to historical records, this forest region was once fully covered by high quality natural secondary forests. Until 1998, before NFPP was implemented, due to over cutting, 149,000 Mu of forest land, only 23.2%,, were left. Therefore,, forest farms found it difficult to finance themselves and well manage forest resources. However, a large area of barren hills and ill-growth shrubs was included into the afforestation project of NFPP. This was a great opportunity for the development of the farm: the farm's financial and management activities were shifted from timber production to conservation management, afforestation and management of the public forests.

Dangchuan State Forest Farm

Dangchuan State Forest Farm, located in the Yangtze River catchments, was founded in 1962. It has 259 staff, of which 192 are active staff and 67 are retired people. The forest farm has a total area of 701,000 Mu, with 667,000 Mu of forestry land, 488,000 cubic meters of standing timber stockings and 93.3% of the forest coverage rate, one of the richest farms in forest resources of XSFB. It covers the Fangmatan scenic area of Maiji National Forest Park. Here, 13 Qin graves of the Warring States late period, 1 grave of the early Xihan Wen&Jing Emperor period and 7 wooden maps have been unearthed. Now the scenic area has met the tourism development requirements and is under construction. Before 1998, Dangchuan forest farm mainly produced timber, the output reached 12,000 m3 a year and resources consumption reached 30,000 m3 a year.

After NFPP was implemented, the farm stopped forests cutting and its survival depended on the protection fee under the NFPP provisions.

Elm State Forest Farm

Elm State Forest Farm is located in the Yangtze River valley. It has 262 staff, of which 242 are active staff and 20 are retired. The forest farm has a total area of 947,535 Mu with 337,386 Mu of forestry land, 890,000 cubic meters of standing timber stocking and 48.9% of the forest coverage rate. Among the forest farms in XSFB, Elm Forest Farm is moderately rich of forest resources.,

Before NFPP, Elm Forest Farm was one of the main forest logging regions. Nevertheless, because of over cutting, large areas of natural forest disappeared and the forest coverage rate dropped quickly. From 1992 to 1998, the amount of cutting timber amounted to 41,956 m3. Along with the decrease of natural forest resources, Elm Forest Farm faced a serious resources crisis. In fact, when the NFPP started, this farm could not harvest trees to secure the long-term harvest and environmental protection.

Annex 5 Profiles of the selected sample villages

At Shanmen State Forest Farm

Shanmen State Forest Farm includes 3 categories of forest landscapes: natural secondary forests; natural secondary shrubs; wastelands and barren hills. We selected three sample villages from each kind of landscape (basic information can be found in on table 10-1).

Goumen Village, Baisha Township and Qingshui County

Goumen Administrative village has 8 nature villages, 238 households and 1110 people including 610 labor forces, about 250 of whom are off-farming workers and 80 are out to work throughout the whole year. Its farming land area is 4164 Mu and all its farming lands are un-irrigated. The major staple crops are wheat, maize and soybean; the major cash crops are hemp and sesame. In 2001, the average net income was 720 Yuan per capita. The farmers make money mainly by selling maize, as well as by working out of the village. There are 250 cattle, 74 donkeys, 30 mules, 220 sheep, and 230 pigs in the village.

There are 4 village leaders, namely secretary, village head, accountant and director of the village women federation who are authorized to take responsibility for the forest management. No forest ranger is employed in the village. The villager's committee was totally run with 7000 Yuan of the budget allocated by the upper level authority each year.

Table Annex-1 Basic information on the Sample Villages in Shanmen State Forest Farm

Sample villages	Shanmen State Forest Farm		
	Daji village	Gaoqiao village	Goumen village
Vegetation	secondary forest	shrub	barren hills
Number of HHs	101	166	238
Population	461	727	1110
Farming land (Mu)	1540	1785	4164
State forest（Mu）	2000	2600	5000
Major staple crops	wheat, maize	wheat, maize	wheat, maize, soybean
Major cash crops	hemp, sesame, oats	hemp, sesame	hemp, sesame
Average education	primary	primary	primary
Cattle/per household	2	2.22	1.1
Yuan/per capita	3267.33	3132.52	3357.98
Utilization of forest resources	livestock, forest product, firewood	livestock, forest product, firewood	livestock, Chinese herbs, firewood

There are more than 5,000 Mu of state-owned land in the boundaries of the village. The collective land is interlocked with the state-owned land, without clear boundaries. Flat land plots in and among the hills are often reclaimed as collective lands. Before NFPP, this hill land was mainly used for public graze, and, occasionally, when the cropping failed, due to nature calamities affecting barren lands, for farming grain and cash crops. The village collectivity owns about 500 Mu of barren hill land. The administrative village has sometimes failed to carry out afforestation. The villager's committee once attempted to auction the barren hill land; this was contested by the villagers. During the implementation of NFPP in the spring of 2002, all the barren lands of state forest farm were afforested, mainly with locust trees. The Goumen Forest Protection Station, subordinated under the Shanmen Forest Farm was also established in the village and 10 employees were assigned there. These protection stations planned to afforest and manage more than 30,000 Mu of barren hill land in and around the village.

As a result of the reduction of large areas of wasteland and barren hills, the amount of cattle livestock correspondingly decreased, while the amount of donkey livestock increased. In 2001 and 2002, the number of cattle was, respectively, 360 and 250 and donkey were, respectively, 30 and 74. The village leader said that cattle need large open pasture areas for grazing, while donkeys can be raised in a cage.

Daji Village, Shanmen Township

Daji Village is located in the core zone of the forest region. It has 101 households and 461 people with 130 of labor forces, half of which are male labors. Its farming land

area amounts to 1,540 Mu, including 360 Mu of flatland. The major crops are wheat, maize, potato, hemp, sesame and oat. The cropping yields are rather low: 40-50 kg per Mu for wheat and 300 kg per Mu for maize. However, food production is generally sufficient for self-consumption.

Villagers widely adopted the plastic cover as a farming technique to improve the maize yield, and the technique to raise cattle in "green house". Every household has 2 pigs in average, one for sale and one for self-consumption. There are about 300 cattle in the village. The villagers sell about 100 cattle every two years. Off-farming work and participation in the afforestation project are also major resources for villagers' cash income. The off-farming work often takes place in the period from February to September of the lunar calendar, and mostly consists of construction activities in northwest China, which are organized by the villagers themselves. Every day, more than 100 people leave the village for work.

The township government once tried to organize the off-farming workers, but failed because the villagers often blamed the township government for not being able to generate income. When the NFPP started, the demand of seasonal workers increased, and about 80 villagers were involved in afforestation activities. Most of them were women, receiving a daily payment of 12 Yuan, which could last for about 3 months every year. At present, the pure number of people working during the planting season is about 80 everyday.

The NFPP greatly influenced the villagers gathering herbs, small bamboos and small bushes. Before the NFPP, the villagers used small bamboos to weave the coal mining tools, and used small bushes to make tool handles. The highest income of the villagers may reach 5,000 Yuan per year; because of NFPP they lost the source of income.

The village has 3,500 Mu of collective forests, all of which are natural forests which are forbidden to be cut, since the NFPP started. The village-owned forests were harvested twice, in 1987 and in 1990, and each villager's production group obtained 10,000 Yuan cash from the harvest.

The villagers began to build new houses since 1982, when the household contract was system-implemented. At present, 1/3 villagers still need to construct a new house. Usually each room needs 1.2 cubic meters of timber (commonly four rooms). However, after the logging ban was implemented, it is hard for villagers to obtain cheap timber for housing construction.

Gaoqiao Village

Gaoqiao Village has 44 households, 192 people and about 40 off-farming male workers. The farming lands were distributed to households in 1984, and adjusted twice, in 1991 and 1997, by reducing the farming land of those farmers who have moved out from the village for a long time and for families whose members have been naturally reduced.

At present, the average per capita farmland is 2.4 Mu, but the quality of farmland is poor; hence the insufficient grain production hinders the livestock raising (raising pigs, chickens and so on).

The Gaoqiao village is located in the buffer zone of natural forests, near to the township headquarter. Before NFPP was implemented, villagers' cash income relied on the mountain resources by gathering forest by-products, like small bushes, bamboo and wickers, then processed into farm tools, fruit baskets and so on. Expanding along with the afforestation area, the pasture area is reducing, therefore cattle livestock comes under a serious situation.

Before NFPP, there were few off-farming workers. When the NFPP was implemented, because of strict limits on gathering natural resources from forests, off-farming work became the only choice for most households cash resource. The barren hill area close to the village is extremely large. The state forest farm has organized afforestation activities for many years before NFPP. Most villagers had technical experiences in afforestation, so it would be easy to mobilize labor for afforestation. The male labor force mostly left the village to work (on average, one person in each household), while female labor participated in afforestation and tendering of young stands, which alleviates their poverty to a certain degree, especially solving the problem of children education fees, daily life expenditure and so on.

At Dangchuan Forest Farm

Dangchuan, Shizui and Huamiao were the villages selected (basic information are provided on tables 10-12).

Shizui Village, Dangchuan Township

Shizui Village is 13 kilometers away from Dangchuan Township headquarter. It has 98 households, 462 people and 6 production groups (nature village). The amount of off-farming workers accounted for 1/3 of all labor forces.

There is 1581 Mu of farming land, with 670 Mu of flat land. The average yields of major crops for 1 Mu are 200-300 kg of wheat and 500 kg of maize with plastic cover, 150 kg of maize without plastic cover, 70-80 kg of rape seeds, and 1500-1600 kg of potatoes respectively.

362 Mu of state forests, owned by Xiaolongshan State Forest Farm, were transferred to village collective forests for self-sufficient timber, mainly in 1991. Villagers and state farm staff told different story for about it: villagers said that the collective has transferred a piece of waste land to obtain this part of forest, whereas the farm employees said that the farm gave up this part of forests to avoid tenure conflicts with villagers.

Table Annex-2 Basic information on Sample Villages in Dangchuan State Forest Farm

Item	Dangchuan village	Shizui village	Huamiao village
Household	164	98	138
Population	743	462	653
Farming land (Mu)	2400	1581	1490
Area state forest（Mu）	1300	362	500
Major staple crops	wheat, maize	wheat, maize	wheat, maize
Major cash crops	Thorowax, Gastrodia	potato, rape	bunge pricklyash
Average education	Junior	Primary	Primary
Average cattle per HH	2.44	5.17	3.23
Yuan/per capital	3293.29	3863.27	3188.41
Primary energy	firewood	firewood	firewood
Substitution energy	coal	coal	none
Utilization of forest resources	livestock, forest product, Chinese herbs	bamboo, Chinese herbs, firewood, farming tool	bamboo, Chinese herbs, farming tool

The village collective has more than 4000 Mu of barren hills, 2767 of which have been separately afforested, in 1984 with China larch, and in 1994 with Japanese larch. However, as these barren hills don't constitute waste land, villagers have practiced shifting cultivation for a long period. The County forest Bureau provided free seedlings to auction parts of hills to individual households for afforestation. 4 households contracted more than 100 Mu and 37 households contracted more than 20 Mu of land. It was clarified that, at that time, the contract duration would be invariable in 30-50 years.

About 667 Mu were supposed to be afforested within the Farmland Conversion into Forests Programme, but only 380 Mu were approved by the programme. However, the afforestated lands are not actually long- term cultivation land, shifting cultivation being practiced before.

Huamiao Village, Dangchuan Township

Huamiao Village has 138 households, 653 people, 6 nature villages, 1490 Mu of farming land, half of which is flat land. It also has 500 Mu of abandoned shifting cultivations and 100 Mu of wasteland. 500 Mu of state forests close to the village were transferred to village collective in 1991. The village planned to afforest more than 400 Mu under the conversion of farmland into forests programme, but only 160 Mu were officially approved.

Dangchuan Village, Dangchuan Township

Dangchuan Village has 164 households, 743 people, 10 villagers' groups, 2400 Mu of farming land, with 1200 Mu of flat land and more than 1300 Mu of village collective forest. The yield of wheat is 150 kg per Mu and that of maize is 300 kg per Mu. 60% households have sufficient grain food. There are about 80 male off-farming labors, mostly employed in the construction sector in Xinjiang province. There are a total of 400 sheep, with a poor variety of qualities. If one household raises more than 2 sheep, they have to pay a tax of about 2 Yuan per capita. The average number of cattle is 2 cattle per household. Every household who raises less than 2 cattle must not pay the tax of 6 Yuan per capita. Besides; there are 7 transporters in the village with an annual net income of 10,000 Yuan. Before NFPP, they used to transport mainly timber, but now they have not much work anymore. The 20 tractors in the village are mainly for farming and short haul (sand and stone etc.).

At Elm Forest Farm

Yushu village, Wangzhuang village and Shibei village were selected at the Elm Forest Farm (basic information are provided on tables 10-13)

Shibei Village, Yushu Township

Shibei Village has 92 households, 438 people, 5 nature villages, 1200 Mu of farming land, with 100 Mu of flat land. The average yield per Mu is 150 kg of wheat, 225 kg of maize and 50 kg of soybean. Due to it's location at the mountain's feet and to the high temperature, plastic covering technology is not suitable.

The Yushu Township has 32,000 Mu of collective forests, 15 administrative villages, 6932 people, with an average of 5 Mu of forest land per capita. The Shibei Village has 1420 Mu of village collective forests, one third of which are brush field. The main tree specie is the oriental oak. There is no appointed forest ranger here. The village collective forest is primarily for firewood. In 1982, the village cut almost all the forest up to the hill, to establishing the rural electricity supply.

Yushu Village, Yushu Township

Yushu Village has 120 households, 548 people, 5 village groups, 2000 Mu of farming land, with 40% of flat land. The average yield per Mu is 200 kg of wheat on flat land and 75-150 kg of wheat on sloping land; 400-500 kg of maize on flat land and 250 kg of maize on sloping land; 75 kg of soybean. Terracing and high breading seeds are highly adopted in the village, but plastic cover technology is not adequate for this village.

The village has 1888 Mu of collective forests and 6000 Mu of abandoned farmland. These abandoned lands were used for shifting cultivation. Farmers usually did farming

for 2 years after burning the bushes, which requires 8 years for the land to recover. The villagers did farming in these lands when the grain price was high, and abandoned it when the grain price became low.

Table Annex-3 Basic Situation of Sample Villages in Elm State Forest Farm

Village	Yushu village	Wangzhuang village	Shibei village
Household	120	107	92
Population	548	529	438
Farming land (Mu)	2000	1090	1200
Area state forest（Mu）	1888	2700	1420
Major staple crops	wheat, maize	wheat, maize	wheat, maize
Major cash crops	Soybean	Rice	Soybean
Average education	Junior	Primary	Primary
Major cash income source	Fungus, herbs and bamboos	Fungus, herbs and bamboos	Firewood sale, char
Yuan/per capital	5169.67	7271.03	4869.57
Utilization of forest resources	Herbs and bamboos, plant fungus	Herbs and bamboos, plant fungus	Firewood, forest product, plant fungus

Wangzhuang Village, Yushu Township

Wangzhuang Village has 107 households, 529 people, 3 nature villages, 690 Mu of farming land, including 100 Mu of paddy land. There are 2700 Mu of village collective forests and 300 Mu of wastelands. All these forest lands have been contracted out to individual households.

Annex 6 Questionnaire for household survey

1. General profile of the households interviewed

Name	Sex	Age	Education level	Occupation	Other occupation	Annual income

2. House quality and date of construction

Size of house (m^2)	House materials	Construction time
	Brick & Wood	1950s
	Earth & Wood	1960s
	Mixed bricks, Earth & Wood	1970s
		1980s
		1990s
		After 2000

3. Land resource

Type	Farmland		Forest land			
	Upper land	Irrigated land	Timber forests	Cash trees	Bamboo	Others

4. Energy situation

Cooking: ☐fuel woods ☐ coal ☐gas ☐crop straw Electricity: ☐access ☐not

5. Household income structure (Unit: Yuan)

Source	Farming	Forestry	Husbandry	Processing	Off farm works	Others
Amount						
%						

6. Household income from forestry activities (Unit: Yuan)

Source	Timber	Fuel wood	NTFPs	Processing	Labor for the farm	Other
Before NFPP						
After NFPP						
Margin						

7. Situation of Average household foodstuff in the sample villages (Unit: Yuan/hh)

		Amount	Percentage
Wheat	Production		
	Sale		
	Consumption		
Corn	Production		
	Sale		
	Consumption		
Governmental tax			
Net cash income			

8. Household expenditure composition

Item	Purpose of expenses	Amount (Yuan)	%
Living expenses	House-building		
	Medical care		
	Education		
	Other		
Sub-total			
Expense of production	Seeds, seedlings, fertilizer, agri-chemicals, farming tools, farming plastic etc.		
Taxes	Agricultural taxes and fees		
Total			

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Summary

This study analyzed the dynamics of people's livelihoods and their reactions to the introduction of the Natural Forests Protection Program in Xiaolongshan forest regions in the western part of China to illustrate forest policy practices and forest use practices in the field.

Since 1992, in response to the international concerns about forest development, the discourse on Sustainable Forest Management (SFM) has been imported into China and has become a dominant issue in the national forest development. However, until 1998, due to the national concerns about environmental protection and about the reduction of economic disparities between the western and the other regions, SFM was integrated, at the national level, into program interventions, such as the Natural Forests Protection Program (NFPP) and the Conversion Farmland into Forest Program. The NFPP involved a great variety of actors, either individual, such as rural farmers, foresters, officials working at various levels in government agencies, or institutions, such as the community, state forest farms, and government agencies. Dealing with planned interventions which suddenly modify the existing policy and forest use practices, means that rural people, foresters, communities, state forest farms have to discontinue those forest practices they are familiar with, and gotten used to, and seek new kinds of livelihoods. Officials have to adopt new and unfamiliar policies, laws and enforcement measures. Such social changes also bring a reconfiguration of power, knowledge and networking. In this research, I intended to examine the following questions: 1) how and why do various actors react to planned forest programs and how do they translate and interpret the SFM discourse? 2) How do the various actors develop their own policy and/or forest use practices, which represent compromises and accommodations between the actors involved? How do their understanding and actions contribute to the shaping of different power relationships?

I have employed an actor-oriented approach as a core perspective to make known and describe the various actors, either institutional or individual, their lives and strategies associated with forests, the struggles, conflicts or compromises among them, forestry policy and forest use practices. I adopted the Foucauldian approach to the discourse in the analysis of SFM, and the Long's actor-oriented approach to the debates on planned interventions regarding the relationship between agencies, structure, knowledge and power, concerning sustainable development and forest management.

My study in the research focused area lasted for 4 and a half years, starting in 2002. I carefully analyzed Xiaolongshan State Forestry Bureau, its subordinated state farms, various officials and technicians, how they faced problematic situations and how they respond to the intervention of NFPP. I also analyzed the various actors and the response of the county-township-village administration system to the introduction of NFPP and of the Village Forest Management Planning pilot project. Along with my

over 10 years of experience as a forester in China involved in SFM interventions and programs, I present my major findings as follows.

Forest tenure has been frequently shifted and each shifting has been followed by a new turn of massive forestry destruction. The process of centralization or decentralization, either collectivization or de-collectivization, is full of sad stories of forest destruction in the field, as shown in my research. Forestry management in the field is full of conflicts and struggles, and, at the end, both forest and community people were losers. This is the reason why China finally ended up with massive and largely centralized interventions on forests.

However, governmental intervention on forest protection is not a pro-poor environmental policy. After NFPP was implemented in Xiaolongshan State Forest Bureau, forest management objectives, mechanisms of reforestation, of funds and forest management, the establishment of job positions and the development of industry have all been subject to great changes The influence on forest farms in the bureau, which have different forest resource bases and farm staff at different position, has been different. After the implementation of NFPP, the identity of state-owned forestry farm employees has been reinforced. While such reinforcement turns into practical benefits (increase in salary and welfare), state-owned forestry farms' power is also strengthened: stricter measures were applied to maintain forests, for instance the ban on grazing. These measures also result in deprivation of farmers' traditional use right over forests to replace it with guardianship over the national forests, practical economic benefits and power. In this way, the division between state-owned forest farms and rural communities, as two contradicting beneficiary groups, becomes more obvious, which, in turns, shall impact the NFPP implementation and its efficiency. As for the rural community, the pattern of land use, household income, and daily life in the sample villages are closely interrelated to nature forest resources bases. The dependence on natural forest resources by local farmers is also closely related to the richness of local natural forest resources. NFPP program has negative impacts on grazing, fuel collection, Chinese medicine herbs collection, harvesting of small-size wood, and bamboos, thus leading to the dramatic reduction of local farms' income. NFPP implementation intensifies discriminatory treatments based on people identity of people from rural community and state forest farms.

Taking the "better intervention" (holistic, integrated, pro-poor and participatory) as a major guiding principle I created, as an academic in China, a conceptual roadmap towards SFM, the "Participatory forest management', focusing on institutional, benefits and tenure policy reform in China. As a result of a field work on participatory forest management in Xiaolongshan forest regions, I proposed a new approach – the Village Forestry Management Planning- whose key points are: removing the institutional barriers, establishing community-based organizations, promoting partnership among different actors, carrying out joint management of state-owned forests with the local community, enhancing ecology-friendly alternative livelihoods, etc.

My study also questioned the direct linkage between outcomes from good "intervention". The interrelationships between forest and people have been changing over 50 years, but the redistribution of power and benefits has a strong tendency: there is less and less balance among different groups and community peoples lose more and more power access to forests. Local governments and state forest farms reinterpreted the central governmental policy to strengthen their power and sharing of benefits from forests, and cut off community's people from the forest. To achieve this, the local government and state forest farm had to associate with powerful groups in the communities. Power associated with benefits from forests has soared up from communities' people, with less and less space to have access to forests. , The community people live in the forests, on the forests- at least it used to be- and for the forests, but those who are far away from forests get more power and more benefits from forests themselves in the name of forest protection. That results in the hierarchy system, inequity and a less-harmonic society, which are in contradiction with our goal of social development. Furthermore, the social cost for maintaining and reforming this system will become higher and higher in the future.

As the notion of sustainable forest management is quite vague, great space has been provided to different actors to interpret its meaning. At the central government level, international debates on SFM contributed to retain the importance of the forestry sector in the Chinese political context. International issues relating to SFM have been screened up to be included into the mandate of the State Forestry Administration, a high governmental body on forestry. The SFM discourse can be used in response to the needs of macro- level political, economic and social development.

In the past two decades, as an effect of decentralized fiscal and administrative reform, local governments and state-owned enterprises have been very development-oriented. Funding and other interventions of the central government have been reinterpreted by local governments and adapted to their local development strategies, although the NFPP and the Conversion of Farmland into Forest Program have already a strong environmental protection perspective

The study strongly demonstrates that there is no direct linkage between intervention and output. In the planning of intervention for forest management dominated by the discourse, as well as in the technical and programmatic implementation, the various actors, either institutions representing a group of people, or individuals, have space and create further space to reinterpret this discourse and re-define technical requirements and actions, according to their understanding, knowledge and benefits, which become part of the "projects". NFPP and the Conversion of Farmland into Forest Program are centrally controlled, either technically or financially, on the basis of clear and objective statements. Nevertheless, with the decentralization to the county level authority and state forest farm level, they will be no longer part of the "project" set by the central government and it has become part of local development project with their own perspectives. However, heterogeneous farmers have great diversity on their own "project" regarding to the forest management practices, while it has been under the

great changes over 50 years, no matter how hardly local government or state forest farm work to reshape farmer projects.

My study also illustrated the enormous changes occurred in the interrelationships among political, economic and social environments as well as in power relationships, knowledge and life struggling at the micro-level. It can be concluded that there is a discontinuity of exogenous forces in the forest management changes. However, so frequent shifts at macro and micro level have led to frequent shifts in forest management. This has brought a negative impact at least on the short-term planning of forest management and land use, and ruining of endogenous mechanisms to manage forests in the community, may-be and relatively harmonized power relationship among different actors in the villagers.

NFPP and others forestry projects financed by the central government has shown positive response to the livelihood transformation to less dependent on forests and more economical choices. This provides us with a potential way to orientate the proposed interventions, although we found NFPP has provided slightly contribution to this transformation. Without grassroots people commitment and enthusiasm to integrate development with forestry management, we cannot achieve a progress, despite how wonderful fashion discourses and political commitment created by international society, politicians, and academics. My "wonderful" planning was dismantled by dominated sector oriented institution and local political life.

Samenvatting

Deze studie onderzoekt de dinamiek van lokale overlevings-strategieen in de Xiaolongshan bos-gebieden in het westen van China, in het bijzonder de reakties op de introduktie van het zogeheten programma voor de "Bescherming van Natuurlijke Bossen." De nadruk ligt op praktische bosgebruik en op de uitvoering van bosbeleid in de praktijk.

Sinds 1992, en als een antwoord op internationale ongerustheid over bos-ontwikkeling, is Sociaal Bos-Beheer (SBB; in het Engels: *Social Forestry Management*) in China in gebruik. Het is nu een belangrijk onderdeel vande nationale bos-ontwikkeling. Het duurde echter tot 1998 voordat SBB op nationaal niveau was geintegreerd in verschillende programmas, zoals het "Nationale Bos-Beschermings Programma" (NBBP), en het "Programma voor de Conversie van Landbouw-grond naar Bosbouw-grond." Toenemende aandacht voor milieu-bescherming en de noodzaak om de groeiende ekonomische vershillen tussen her westen van het land en de overige regios te verkleinen, waren belangrijke drijvers voor deze integratie op nationaal niveau.

Met het NBBP waren verscheidene sociale aktoren betrokken, op individueel niveau (boeren, bosbouwers, overheids-ambtenaren werkzaam op verschillende niveaus) en op institutioneel niveau (locale gemeenschappen, staats-bosbedrijven, en overheids-instellingen). De geplande nieuwe programmas brachten veranderingen teweeg in bestaand beleid en bosgebruik. Dit genoodzaakte de betrokken sociale actoren (zojuist vernoemd), gewend aan bestaande praktijken, om hun oude gebruiken te beeindigen en nieuwe overlevings-strategieen te ontwikkelen. Ambtenaren zijn verplicht om nieuwe en onbekende beleids-regels, wetten, nalevings-maatregelen aan te nemen. Dit soort veranderingen leidt to andere kennis-, machts-, en sociale verhoudingen. In het licht van het voorafgaande, stel ik in dit onderzoek de volgende vragen:

- Op welke wijze reageren verscheide sociale actoren op geplande bos-beheer programmas? Waarom reageren ze zo? Hoe interpreteren ze Social Bos-Beheer?
- Op welke manier ontwikkelen de verscheidene sociale actoren hun eigen "bossen-politiek" en bos-gebruiken? Zijn deze politiek en gebruiken het resultaat van een kompromie tussen de verscheidene sociale actoren?
- Op welke wijze dragen hun interpretaties en akties bij tot veranderende machts-relaties?

I maak gebruik van een sociale actor benadering om de verscheidene sociale actoren en hun overlevings-strategieen, bosbouw praktijken, konflikten, en kompromieen te introduceren en beschrijven, op individueel of institutioneel niveau. Daarnaast gebruik ik de inzichten van Michel Foucault om SBB "discourse" te analizeren, en Norman Long's sociale actoren benadering om geplande ontwikkeling interventies te begrijpen, met name wat betreft de verhoudingen tussen "agencies," struktuur, kennis en macht op het gebied van duurzame ontwikkeling en bosbeheer.

Ik begon mijn onderzoek op lokaaal niveau in 2002; het duurde in totaal 4 ½ jaar. I bestuurde hoe het Xiaolongshan Staats-Bos Bureau, de ondergeschikte staats-bosbedrijven, verschillende ambtenaren en technische deskundigen, omgingen met moeilijke omstandigheden en hoe ze reageerden op de interventies van het NBBP. Ik bestudeerde eveneens de verschillende sociale actoren aktief in het gemeentelijke apparaat (van district's niveau tot stadsraad- tot dorps-niveau) en hun reakties op de introduktie van het NBBP en de eerste "Dorps Bos-Beheer Planning" projekten. In de volgende paginas beschrijf ik de voornaamste resultaten van mijn onderzoek, ondersteund door mijn 10 jaar ervaring als bosbouwer in China, nauw betrokken bij SBB programmas en interventies.

Toegangs-rechten tot bossen hebben vele veranderingen ondergaan. Na iedere verandering zijn de bossen verder vernietigd. Mijn onderzoek toont aan dat iedere golf van centralisering en decentralisering, van kollektivisering en dekollektivisering, gepaard gaat met trieste verhalen over de vernietiging van bossen. De praktijk van bos-beheer bestaat uit konflikten en strijd. Uiteneindelijk zijn zowel lokale bewoners en bossen de verliezers. Dit is de reden waarom China dezer dagen bijna volledig is overgestapt naar centraal gestuurde, grootschalige bos-beheer interventies.

De overheids-interventies op het gebied van bosbeheer zijn echter niet ten voordeel van de armsten. Na de invoering van het NBBP door het Xialongshan Staats-Bos Bureau, vonden vele grote veranderingen plaats, met betrekking tot de doelstellingen van bosbeheer, uitvoeringen van herbebossing, fondsen verlening, personeels-beleid, en industriele ontwikkeling. De doorwerking van deze verandering op de staats-bosbedrijven varieert van bedrijf to bedrijf, beinvloed door het soort bossen onder beheer en de samenstelling van het personeel. Na de invoering van het NBBP is de identiteit van de werknemers op de staats-bosbedrjven versterkt. Hoewel dit zeker praktische voordelen had (betere salarissen en verhoogd welzijn), ging het ook samen met meer macht: strengere maatregelen werden ingesteld om bossen te beschermen, zoals bijvoorbeeld de ban op het grazen in bossen.

Deze maatregelen hadden ook tot gevolg dat boeren hun traditionele bos-gebruiks rechten kwijt raakten. In plaats daarvan werden ze aangesteld als staats-bosbewakers. Dat leverde enige ekonomische voordelen op in de vorm van subsidies. Deze situatie leidde tot een vergrote twee-deling tussen de staats-bosbedrijven en rurale gemeenschappen, en dit beinvloedde vervolgens de uitvoering en de effektiviteit van het NBBP. De voor mijn onderzoek geselekteerde rurale gemeenschappen zijn allemaal sterk verbonden met de bos-bronnen wat betreft land-gebruik, inkomsten van het huishouden, en dagelijks leven. De intensiteit van deze verbondenheid is direkt gerelateed aan de kwaliteit van de bos-bronnen bepaald door de diversiteit's graad en mate van overvloedigheid. Het NBBP heeft een negatieve invloed op grazen, het sprokkelen van brandhout, het vergaren van medicinale planten, en het oogsten van bamboe en andere mindere houtsoorten. Dit leidt tot een dramatische vermindering in het inkomen van boeren. De uitvoering van het NBBP verhevigt aldus de diskriminatie gebaseerd op identiteit; leden van rurale gemeenschappen zijn er slechter vanaf dan werknemers van staats-bos bedrijven.

Met "betere interventie" als principeel uitgangspunt voor mijn akademische studie (d.w.z., geintegreerd, participatief, en gericht of de armen), heb ik geprobeerd om een conceptueel trajekt uit te zetten naar participatief bos-beheer met een centrale plaats voor het kreeren van institutionele voordelen en de hervorming van (bos-) eigendoms beleid. Gebaseerd op mijn veldonderzoek in de Xiaolongshan regios heb ik een nieuwe benadering ontwikkeld: dorps-bosbeheer planning, met als pilaren de verwijdering van institutionele hindernissen, de vestiging van gemeenschaps-organisaties, de promotie van samenwerkingsverbanden tussen de verscheidene sociale aktoren, gezamelijk bosbeheer (staats-bosbedrijven én lokale gemeenschappen), en ekologische produktie principes.

Mijn onderzoek bekijkt eveneens op kritische wijze de veronderstelde direktie relatie tussen "goede interventies" en resultaten. Gedurende de afgelopen 50 jaar is de verbondenheid tussen het bos en lokale gemeenschappen volop veranderd, maar de hervedeling van macht en voordelen wordt gekenmerkt door een tendentie in de richting van grotere verschillen tussen verscheidene groepen en lokale gemeenschappen. Lokale gemeenschappen verliezen meer en meer macht en toegang tot de bossen. Lokale overheden en staats-bosbedrijven slagen erin om het centrale regerings-beleid ten eigen voordeel te "vertalen," leidend tot meer macht, een groter aandeel in de inkomsten van de bosbouw, en het uitsluiten van lokale gemeenschappen van de toegang tot bossen. Deze algehele machts-uitbreiding maakt het steeds moeilijker voor lokale gemeenschappen om nog van de bossen te profiteren. In het verleden leefden de lokale gemeenschappen in, rondom en van het bos, maar tegenwoordig zijn het de mensen die ver van het bos vandaan verblijven, zogenaamd om het bos te "beschermen," er met de winsten van door gaan. Dit leidt tot een hierarchisch systeem, ongelijkheid en een minder harmonieuze samenleving, in tegenspraak met de doelstellingen van social ontwikkeling. Daar komt nog bij dat in de toekomst de sociale kosten van het in stand houden van dit systeem, alleen maar hoger en hoger worden.

Duurzaam bosbeheer is een vaag begrip. Dit geeft de verschillende sociale actoren de ruimte om het naar eigen inzicht te vertalen. Op centraal regerings niveau blijft de bosbouw sektor van politiek belang vanwege internationale debatten met betrekking tot het begrip. De Staats Bos-Administratie, de hoogste politieke eenheid wat bosbeheer betreft, heeft een aantal van de internationaal geaccepteerde duurzaaam bosbeheer elementen opgenomen in haar mandaat. Duurzaam bosbeheer "discourse" kan handig gebruikt worden om macro-politieke, sociale, en ekonomiesche ontwikkelingen te beinvloeden.

Gedurende de laaste 20 jaar, als gevolg van fiskale en administratieve decentralisering, zijn lokale overheden and staats-bedrijven zeer ontwikkelings gezind (geworden). Lokale overheden hebben financierings- en andere centrale overheads-interventies vertaald naar eigen inzichten en ontwikkelings-plannen. Als onderdeel daarvan, hebben ze het NBBP en het Programma voor de Conversie van Landbouw-grond naar Bosbouw-grond een sterke mileu-beschermings perspektief gegeven.

Mijn onderzoek toont duidelijk aan dat er geen direkt verband bestaat tussen interventie en resultaten. Zowel de planning als de technische en programmatische uitvoering van het Chinese bosbeheer worden gedomineerd door "discourse." De vershillende sociale actoren, of het nu individuen of groepen zijn die schuil gaan achter instituties, hebben de ruimte (en sommigen kreeren meer ruimte) om dit "discourse" en de gerelateerde technische vereisten naar eigen inzicht, kennis en voordelen te vertalen. Aldus komen de "projekten" tot uitvoering. Het NBBP en het Programma voor de Conversie van Landbouw-grond naar Bosbouw-grond worden centraal gekontroleerd, technisch oftewel financieel, op basis van duidelijk geformuleerde doelstellingen. Maar de praktische decentralisering van deze programmas naar district's en staats-bosbedriif niveau, leidt er toe dat ze buiten het bereik van de door de centrale regering bepaalde "projekten" komen. Ze worden een onderdeel van lokale ontwikkelings-"projekten" die een eigen gezicht hebben. Op lokaal niveau zijn ook de "projekten" van boeren van belang in relatie to andere sociale actoren, hun gemeenschappen, en het bos. Hoewel de macro-veranderingen van de laatste 50 jaar van enorme invloed zijn geweest, inklusief de pogingen van lokale overheden en staats-bosbedrijven om de praktijken van boeren te veranderen, hebben lokale gemeenschappen hun eigen "projekt" ervaringen.

Mijn onderzoek werpt licht of the enorme veranderingen op micro-niveau. Deze veranderingen betreffen persoonlijke verhoudingen op social, ekonomisch en politiek gebied, kennis en machts-relaties, en overlevings-strategieen. Mijn konklusie is dat er sprake is van een onderbreking in de van buiten-af gestuurde bos-beheers veranderingen. Al deze veranderingen en de daarop volgende reakties maken bosbeheer onevenwichtig. Dit heeft tot negatieve gevolgen geleid ten aanzien de korte termijn planning van bosbeheer en land-gebruik. Het heeft ook van binnen-uit ontwikkelde gemeenschaps- bosbeheer praktijken geruineerd, en waarschijnlijk ook de lokale, min of meer evenwichtige machts-relaties.

Het NBBP en andere door de centrale overheid gefinancieerde bosbouw projekten, hebben een zekere positieve invloed (gehad) op de transformatie van overlevings-strategieen. De afhankelijkheid van het bos neemt af; ekonomische kansen nemen toe. Dit zou ons op het goede interventie spoor kunnen zetten, maar helaas zijn de resultaten van het NBBP niet echt overtuigend. Vooruitgang is onmogelijk zonder volledige betrokkenheid en enthusiasme om lokale gemeenschappen te betrekken bij de integratie van bosbeheer en ontwikkeling. Hoe mooi dan ook de mode-bewuste "discourses" en zogenaamde politieke betrokkenheid van internationale kringen, politici, en wetenschappers. Mijn eigen "fantastische" planning was ontmanteld door instituties gericht op de dominerende sektor en door toedoen van lokale politieke gebeurtenissen.

Curriculum Vitae

Liu Jinlong was born on 12 July 1966 in Jiangsu, China. In 1987, he obtained his B. Sc Degree in Forestry from Nanjing Forestry University. He continued his study in the same university, and obtained M.Sc degree in silviculture in 1990.

In 1990, He joined the Chinese Academy of Forestry and has been working there up to now. Since 1990, he has implemented, as an team member or team leader, several international and national funded projects in China, such as: "Farmer-centred Agriculture Resource Management Program" (FAO/UNDP); "Decentralization and Privatization of Forests in China and their impact on poverty alleviation and sustainable forestry management" (FAO); "Forestry Property Right Policy Reform" (FAO); "Assessing impact on regional development from pulp industry development in China" (CIFOR/EC); "Piloting VFMP in Gansu Province" (EC); "Fiscal policy contributed to SFM in China" (Ford Foundation, FAO); etc. He has been engaged in many development activities and consultancies in China as well as outside China, such as: Assessing China's Request under the Special Incentive Arrangement for The Protection of Environment (EC); GEF-PRC partnership on land gradation in dry land ecosystems (ADB); Participatory Poverty Assessment (PPA) Project (WB); "Human Development Initiative" programme (Myanmar) (UNDP), etc.

In 2001, He began PhD study on the livelihood and responses to the governmental intervention of Nature Forest Protection program. His research was as a part of the projects, 'Capacity Building for the Implementing of Nature Forest Protection Program in China' funded by UNDP and 'Piloting Village Forests Management Planning in Gansu Province' funded by EC, and supported by Actionaid China Policy Program.

Since 1999, he has been an Associate Research Professor of the Sustainable Forestry Research Centre of The Chinese Academy of Forestry.

His main research fields are participatory forestry and forestry policy, rural development sociology. His main publications include: '*Participation, Organization and Development*', '*Forestry Taxation and Charges Study in Collective Forestry Regions in China*'.

Completed Training and Supervision Plan

Description	Department /Institute	Month/year	Credits
I. Orientation			
- Presentation of pre-proposal	Chinese Academy of Forestry	March, 2002	1
- Literature review and proposal writing	Wageningen University	August – December 2002	4
- Presentation of research proposal	Wageningen University	December,2002	1
II. Research Methods and Techniques			
- Participatory tools for agricultural research and development	Chinese Academy of Forestry	June, 2002	2
- Participatory and quantitative methodologies for rural development research	Chinese Academy of Forestry	August 2003	1
- Rural development approaches and nature resource management	China State Forestry Administration	April 2004	1
- Rural development approaches and application of international poverty alleviation experiences in China	ActionAid International/ Gansu Poverty Alleviation Agency	May 2004	1
- Actor-Oriented Approaches	China Agriculture University	May 2005	2
- Rural development and immigrants	China Agriculture University	May 2005	1

(Continue)

Description	**Department /Institute**	**Month/year**	**Credits**
III. Seminar Presentations			
- "Impacts on farmers' livelihood and rural development of the implementation of NFPP in China"	State Forestry Administration, Xi'an, Beijing	October 2003	1
- "Toward a win-win strategy of forestry management and poverty alleviation in China"	Asia-Pacific Forestry Commission, Fiji	April 2004	2
- "Plantation development and its implications for policy practices in China"	FAO, Ho Chi Min City, Vietnam	February 2004	1
- "Afforestation in degraded land in China and recommendations proposed to AFP"	2nd Asia Forestry Partnership Conference, CIFOR, Yogyakarta, Indonesia	August 2004	1
- "Village Forestry Management: Concepts and application in the NFPP programme"	Chinese Academy of Forestry, Beijing	June 2005	1
- "Rethinking the forest program and policy interventions in China with perspectives of development sociology"	Chinese Academy of Forestry, China	August 2006	1
- "Participatory forestry management in China"	International Conference on Forest roles in Rural Development and environments	April 2006	1
Total			22