ISSUES RELATING TO THE REFORM OF
FOREST MANAGEMENT IN CHINA

Zhang Kun
National Forestry Economics and Development Research Center (FEDRC)
Beijing, China PRC

Introduction

Since the foundation of the People's Republic of China in 1949, the government has formulated and issued numerous policies, laws, rules and measures designed to achieve a flourishing economy and gradually enhance people's living standards. In the late 1970s, China began a period of unprecedented reform.

Reform has taken place in all sectors, and in the forestry sector a range of policy reforms and incentives for farmers has transformed forest management. Prior to the late 1970s, forest management was based on two operational modes: government managed forestland and collectively managed forest land. Even though the country always stressed that both development and protection were at the heart of forest resource management, the reality on the ground was an overwhelming emphasis on timber production. This type of management progressively led to a decrease in forest resources.

Since the 1970s, the government has implemented a number of programs to shift control of forest management from the central level to the local government level. Subsequently, forest management principles were diversified and operational modes experienced significant alterations. It is during the last 20 years that the greatest achievements in forest resource reconstruction have been achieved. This paper briefly describes some of the important reforms and outstanding issues.

Distribution of Hilly Forestland to Individual Families

Between the late 1970s and early 1980s, the government transferred management rights of large areas of the country's barren lands to individual families. On one hand, these measures aimed to address the shortages in forestland for fuelwood and other on-farm needs. On the other hand, the transfers sought to encourage farmers to afforest and protect barren hills. Up to 1984, some 50 million families were granted management rights to a total of 31.33 million ha of barren hills and about 40 million ha of so-called "responsibility hills" - usually forested (Newsroom of China Forestry Yearbook 1987). This contracting of responsibility changed the face of Chinese forest management and gradually led to greater forest production and protection. However, in some areas the initial effects of the policy were mixed. In many instances, farmers continued to neglect forest areas because they feared a reversal of such unprecedented policies. To assure farmers of their newly gained rights and reinforce incentives, in March 1981, the government issued the so-called "Three Clarifications" to stabilize forest management responsibilities and use rights and further encourage farmer
participation.

The Three Clarifications

The Three Clarifications addressed the stabilization of ownership of, and management rights to forests and hills, the distribution of Forest Lands for Family Needs (FLFFN), and the formulation of a responsibility system for forestry production. The following policy measures were stipulated by the Three Clarifications. First, forestry department staff were directed to prepare an inventory of state-owned and collective forestland, private forest area and forestland where use rights could be granted to individuals. Second, local governments at the county level issued inventory-based use right certificates, which clarified the tenure systems on FLFFN and "responsibility hills". Whereas the collectives retained ownership of FLFFN (usually barren hills), farmers assumed long-term use rights. Third, for the period under which families were granted use rights, those rights could be inherited or transferred through a market-based system. Fourth, management rights to forested "responsibility hills" owned by collectives were distributed to individual families, which are to manage them according to assigned responsibilities, usually expressed as specific tasks, criteria and duration. Income from the "responsibility hills" is to be divided between farmers and collectives at a predetermined ratio. Farmers who fail to fulfill their responsibilities lose their management rights. Usually the use-right terms for "responsibility hills" is shorter than for FLFFN areas because the forested hills usually regenerate quicker.

The effects of the Three Clarifications in general have been beneficial, and forest area and production has expanded because:

- a direct link was made between production and producers' material benefits;
- the management of collectively owned hills was decentralized to the local managers with real use rights; and
- specific responsibilities were attached to the newly acquired rights and the fulfillment of these responsibilities was based upon incentives and material benefits.

Cooperative Shares System

Even though the Three Clarifications have encouraged farmer participation, a number of problems have arisen. In some areas, single families manage entire hills, in other areas hills have been subdivided into a number of small plots, and yet in other areas families manage plots on several different hills. These complexities create problems of inadequate investment, small-scale operations and inefficient production. In order to address these shortcomings, the Cooperatives Shares System was created. This new arrangement has two distinct management mechanisms.

The first mechanism emerged in the late 1980s in the collective forest regions of South China, where families' hill forests (including FLFFN and "responsibility hills") were converted into shares and cooperative operations and contractual management agreements were introduced.
In other areas of China, management rights were not transferred to families but were retained by the collectives that managed the forests through a representative organization. The second mechanism consisted of converting entire collective forest areas into shares and then distributing those shares to individual families. Collective operations and contractual management systems were established in both instances and the redistribution of profits, rather than actual forests, was emphasized.

One of main differences between the two systems is that the second mechanism did not distribute forest use rights to individual families. Another difference is that under the first system ownership and use rights are linked (families decide on management questions), while in the second system they were separated (shareholder committees determine the nature of management and employ forest managers through a public bidding process).

Production can be contracted not only to a group of families but also to individual families. This type of arrangement is essentially of a cooperative nature, with respect to labor, capital and other production inputs. The cooperative shares mechanisms resulted in expanding production, improved forest protection, and direct linkage between development and utilization.

**Contractual Management in State-owned Forests**

Another area that underwent major reform were the state-owned forest enterprises. In order to improve the performance of state-owned forestry enterprises, in 1984 the government initiated a contractual management system which gradually linked rights, responsibilities and benefits to the market economy. Based on the separation of ownership and management rights, employees were allowed to contract projects from their enterprise, which determined duration, product criteria, production tasks and bonuses. This generated positive incentives for increased production, augmented staff salaries, and enhanced the quality of reforestation activities.

**Adoption of market principles in forest management**

Formerly, state forest enterprises integrated all production stages and transferred raw and intermediate products between them at no cost. The primary shortcomings of this system were the inefficient use of forest resources and equipment. From the late 1980s to the early 1990s, these problems were gradually addressed through the introduction of independent sub-enterprises for reforestation, harvesting, transportation and processing. Intermediate products were now bought and sold within a market-based system at the time of transfer to the next production stage within the company. Thus, afforestation units "sold" their allowable cut to harvesting units at prices based on planting costs, which then "sold" the wood to transportation units at prices based on harvesting costs. Transactions were handled by the company's internal bank. In addition, previously fixed wages were complemented by performance-based bonuses.

These innovations drastically changed the forest economy as each sub-enterprise was forced to keep careful account of its operations. The main effect of these measures was more efficient resource utilization (particularly on the part of the reforestation units) which helped generate higher quality forests and enlarge reforested areas.
Transfer of Forest Resource Ownership through the Market Economy

In the late 1980s, the transfer of forest resource ownership through a market-based system was introduced nationwide. The transfer of forest resource ownership also meant that young and middle-aged stands could now be sold and thus, some of the notorious difficulties which stem from the slow pace of forest capital maturation were relieved. Forest managers are able to recover initial capital outlays and obtain profits much earlier than hitherto possible. This early realization of benefits has provided forest managers with much greater flexibility in dealing with evolving needs and changing economic conditions. The effects of this innovation have greatly improved farmers' attitudes towards forest cultivation and protection, and encouraged more individuals to participate in reforestation projects.

Auctioning of use rights for wastelands

A large share of the country's wastelands (including barren hills, gullies, and undeveloped waterways) consists of lands designated for forestry use. In 1992, some local governments introduced a competitive auctioning system for the use rights of these lands. Under the new system, management rights to previously unallocated, or long unused, wastelands (and the resources on them including sparse trees, grass slopes, dykes and dams) were auctioned to individuals (mostly farmers), and organizations using a process of competitive bidding.

Through the initiation of such transfers, the government encouraged the use of idle capital in wasteland development. According to recent statistics, about 1.92 million farmers have bought use rights to wastelands, and about 106,000 laid off personnel in 14 provinces have invested in the improvement of wastelands (Yongjian 1998). At the same time, farmers' incomes increased through the sale of products from greened waste-lands (such as fruit and bamboo), collectives benefited materially from the sale of use rights, and society at large gained from an improved environment. These examples show that the auctioning of use rights for wastelands has proven to be an effective means both for mobilizing society to take part in forest conservation and for encouraging farmers to generate wealth from reforestation activities.

The Comprehensive Development of Mountain Areas (CDOMA)

In China, mountains and hills make up nearly 70 percent of the whole country, and the population in mountainous areas represents about 57 percent of the population. Of China's 58 million poor people, 90 percent live in mountainous areas. In 1994, the government initiated CDOMA to improve the environment, living conditions, and alleviate rural poverty through soil improvement, harnessing of waters, reforestation, road construction, and generation of electric power.

CDOMA has been carried out through pilot projects, and at present, 114 counties participate in these pilot projects. In the last two years, some of the main achievements include:

- improvement of about 168,000 ha of low and middle-yield fields;
- construction of 170,000 hydro-engineering units;
reforestation of 325,000 ha of land (of which economic forests were 130,000 ha); 
construction of 12,000 kilometers of rural roads; and 
construction of more than fifty small-scale hydraulic power plants.

In these pilot projects' areas, the average farmers' net income has increased by more than 10 percent, and now exceeds the average farmers' net income in surrounding counties by more than 20 percent (Lei 1998).

**Forest Ecological Programs**

In 1978, the government initiated the world's largest shelterbelt forest program in the wind erosion-prone regions of the North. Nine other large-scale ecological programs were successively initiated to address a variety of ecological problems. These ten shelterbelt programs cover a total of 7.06 million km² or 73.5 percent of China. Collectively, they constitute the basic framework for the national forestry ecological program. More than 20 million ha are designated for reforestation. By the end of 1995, 18.51 million ha had been reforested under the "Three-Norths" Shelterbelt Development Program, and forest coverage increased from 5.05 percent to 8.28 percent. Due to the establishment of these shelterbelts, more than 4 million ha of deserts have been greened and more than 1.3 million ha of sandy lands transformed into good farmland, pastureland and orchards. In addition, more than 12 percent of desert areas have been improved and desertification checked on another 10 percent (Newsroom of China Forestry Yearbook 1995). Soil erosion has decreased to varying degrees on 8.8 million ha, and grass harvests on 8.93 million ha of recovered grassland increased by over 20 percent (Newsroom of China Forestry Yearbook 1996). One-third of the land in the "Three-Norths" region has sufficiently improved for agricultural use. Several of the ecological programs, begun after the "Three-Norths" Shelterbelt Development Program, have already generated significant ecological benefits.

The extensive flooding in 1998 prompted the government to focus on arresting ecological deterioration in the Yangtze and Huanghe river valleys. Aside from accelerating progress in the ten shelterbelt programs, the government has recently decided to initiate the Protection Program of Natural Forest Resources. This policy will force wood-based industrial enterprises in the ecologically fragile river valleys to abandon harvesting and processing and switch to reforestation and forest protection. The phasing-out of harvesting from natural forests has started in parts of the provinces and autonomous regions of Southwest and Northwest China.

This program will require the redeployment of a large number of workers and staff after harvesting is completely phased out; a burden the central government announced it will share with local governments through the provision of necessary funds (Yongjian 1998). On the other hand, local protection programs will be supported exclusively by local government finances. In concrete terms, workers and staff will be able to chose among four options:

1. Forest resource protection, where they will be organized as an institution funded by the central and local governments;
2. Plantation of ecological forests (government financing) or commercial forests (financed
through low-interest national forestry loans);

3. Diversified management including crop farming, livestock breeding, mining and tourism evolving around the utilization of non-timber forest products (financed through low-interest national forestry loans); or

4. Staff who cannot be redeployed will be listed in the local insurance system.

Conclusion

China's extensive forest management reforms over the past twenty years have produced several tangible results. According to the data of the fourth national forest resources inventory (1989-1993), both forest area and volume of forest stands have increased and forest growth has exceeded consumption. Compared with data from the previous forest resources inventory (1984-1988), forest area has increased from 120 to 130 million ha, standing volume from 10.6 to 11.8 billion cubic meters, of which forest stock has grown from 9.141 to 10.137 billion cubic meters, and forest coverage from 12.98 to 13.92 percent.

References


Notes

1They include the Program on Soil and Water Conservation Forests along the Upper and Middle Reaches of the Yangtze River; the Coastal Shelterbelt Development Program; the Plain Farmland Shelterbelt Development Program; the Taihang Mountain Afforestation Program; the National Program to Combat Desertification; the Shelterbelt Program to Comprehensively Harness the Valley of Huaihe River and Taihu Lake; the Shelterbelt Program to Comprehensively Harness the Zhujiang River Valley; the Shelterbelt Program to Comprehensively Harness the Liaohe River Valley; and the Program on Soil and Water Conservation Forests along the Middle Reaches of the Huanghe River.