

Chapter 5

Policy Impact

Influenced by the policy of sustainable agricultural development, more than 1,200 experimental sites with an area over 6.67 million ha had been established in China by the end of 1995. Policies of agricultural resource conservation and environmental protection have played positive roles in agricultural development. Although food security is an important objective, government also makes an effort to conserve agricultural resources and environment rather than merely increase production. Projects have been undertaken for soil conservation and the establishment of basic farmland, agricultural infrastructure, water conservation, shelter forest, and so on.

The present policy of agricultural investment is not effective. In some remote areas, both communities and individuals are too poor to invest in the land. Agricultural products only satisfy local subsistence needs. The investment for agriculture can only be raised through non-agricultural employment. In recent years, however, there has not been adequate employment opportunities in towns and cities for labourers from the countryside. In addition, farmers cannot obtain adequate loans

from banks because of state limits on agricultural loans. As a result, limited inputs lead to lower production efficiency and inadequate land investment. The government should increase agricultural investment or loans, encourage farmers to invest in agriculture, and renew the idea of self-sufficiency. These practices will increase production and labour efficiency, and prevent land degradation and protect the environment.

The agricultural policy in China encourages the development of village and township enterprises (VTE). VTE appeared because of the conflict between excess labour in countryside and limited employment opportunities in cities. Since 1979, VTE have developed rapidly. In 1990, for example, the total output value of VTE accounted for 30 per cent of the national total. VTE have changed the binary economic structure of countryside-city and agriculture-industry. It has contributed much to improvements in farmers' living standards. However, VTE also engenders problems such as resource waste and environmental pollution owing to their poor equipment, technology, and management. The development of VTE

has occupied large areas of cropland. The small scale of VTE usually results in poor land-use efficiency and wasting of land resources. The conflict between land scarcity and the large population becomes more serious. Owing to lack of technology, talents and investment, VTE often operate in an extensive and underdeveloped manner. The environment is polluted and resources are seriously wasted and destroyed. Exploitation without reclamation causes heavy erosion. In some poor areas, policies for economic growth and poverty elimination are given preference, and environmental protection and resource conservation are usually ignored.

Policies, such as those on pricing and distribution of agricultural products, agricultural subsidy and international agricultural trade, are established in China. They can influence changes in land-use patterns. Low prices of agricultural products can inhibit farmers from investing in agriculture. When agricultural products are brought into the market economy, their price increases gradually, which stimulates farmers to invest in and protect their croplands. The policy of state monopoly for purchasing and marketing solves the difficulties of selling and storing agricultural products. The policy of agricultural subsidy gives some assistance to the distribution of basic agricultural materials such as fertiliser and agricultural membranes. Reduction of taxes after natural disasters is beneficial for restoring production. These policies increase the farmers' capacity for investment, promote proper land use and prevent land degradation. The government imports grain to areas where land is short so cultivated slopes can be returned to forest or grassland. This reduces pressure on land and is beneficial for better land utilisation and management and for control of land degradation on a wide scale.

The new forest law has played an important role in encouraging people to plant

trees, improve the environment, and practise sustainable development. The 'Three Fixations' in forestry policy, however, have an impact on deforestation. They are too simple and lack support (Zhang Jianguo *et al.* 1992). The problems concentrate on uncertain forestry ownership. Forest farmers fear that the policy might change again as in the past. So, after woodlands were reallocated to farmers, they cut down the trees. If large areas of mountain forest were reallocated to farmers, the inevitable outcome was the acceleration of deforestation. No money was allocated for planting new woodlands. Under the policy of afforestation, two kinds of forest bases were established in Yunnan Province during the period from 1976 to 1994. They were the timber forest base and economic forest base. The main species of timber forests are Chinese fir, Armand pine, and *Eucalyptus*. The planting area has reached 0.35 million ha. The main species in the economic forest base are Persian walnut, hairy chestnut, and oil tea. The area has reached 53,000 ha. Dry fruits and fast growing timber forests were planted in 1995. The planned planting area is 0.28 million ha. The main species in the latter forest type are Chinese fir, Yunnan pine, Armand pine, *Eucalyptus*, bamboo, westsouth birch, common teak, and Chinese yew. A shelter forest project for the middle and upper Yangtze River was completed during the period from 1989 to 1995 and covers 0.31 million ha.

5.1 Policy Impact in Luquan County

In the following sections, the impact of policy on farmland per capita, the production of grain and flue-cured tobacco, forest, water, and soil erosion will be examined. The years 1949, 1957, 1965, 1980, 1990 and 1997 have been chosen as points at which to measure the impact of these policies. Among these years,

1949 marked the establishment of new China, 1958-59 is the period of the Great Leap Forward that advocated the rapid production of steel and emphasised rapid increase in grain production. There was a major natural disaster from 1960 to 1962. The subsequent three years were a period of economic readjustment. Between 1966 and 1976 was the so-called Cultural Revolution that impacted on every aspect of the society. This was followed in 1978 by the beginning of reform and opening up in China. The Contract Responsibility System began in 1980, when the period of contract was stipulated as 15 years. The new Law on Land Administration has now prolonged the contract period for another 30 years.

In Luquan County, the farmland per capita decreased by 15.6 per cent from 1949 to 1957 (from 0.171 ha to 0.144 ha). It was cut by 39.2 per cent from 1958 to 1965 and by 12.1 per cent from 1980 to 1997. The decrease in farmland per capita was 57.9 per cent from 1957 to 1997. During the past 40 years, the population in Luquan County increased by 98.8 per cent and the agricultural population reached 425,447 at the end of 1997. The rate of population growth is slowing down but this cannot be attributed to one specific policy.

The average grain output decreased by 27 per cent, from 2,250 kg per ha in 1957 to 1,642 kg per ha in 1965. Subsequently the yield of grain rose by 69.8 per cent to 2,789 kg per ha. It fell sharply from 1980 to 1990 by 31.6 per cent and less sharply between 1990 and 1997. Since 1980, China has carried out the Contract Responsibility System which encouraged farmers to take part in agricultural production and manage their land. It was intended that the grain output per ha would rise. In fact, the reality in Luquan County shows the reverse. There are many factors that can influence grain yield, and they are

difficult to separate. Land degradation is one such factor.

As with grain production, flue-cured tobacco production is also erratic. Except for 1960, the yield per ha of flue-cured tobacco generally increased during 1942 to 1975. After 1975 the average yield generally decreased, but 1990 is another exception. From 1980 to 1985 yield was cut by 5.1 per cent from 1792 kg per ha to 1700 kg per ha. Yield decreased by 21.1 per cent from 1990 to 1997. Yield decreases can be attributed to land degradation because flue-cured tobacco not only needs lots of soil nutrients but also contributes to deterioration in soil structure.

In 1950, the forest coverage rate in Luquan County was 46.2 per cent. After the Great Leap Forward and Cultural Revolution, coverage rate decreased to 23.4 per cent in 1978. It increased to 28.4 per cent in 1990. In the period from 1953 to 1990, the tree-planting area on bare mountains was 93,000 ha. The total conserved area was 33,000 ha, including 25,000 ha of timber forest. The area renewed was between 133.3 and 666.7 ha per year. The number of trees planted compulsorily was 1.5 million, but the survival rate was only about 30 per cent because of improper management.

The forest of each township in Luquan County has changed greatly since 1980. The total area of all categories of forest in Luquan County increased by 0.53 per cent from 1980 to 1990. However the area of quality forest decreased by 51.8 per cent, and sparse forest area decreased by 94.0 per cent. The change in area of brush forest and barren mountain suited to forest rose by 143.5 and 289 per cent respectively. The main reason for this is that farmers cut down many trees at the beginning of the contract responsibility system for forest land. During the past ten years, local farmers opened up lots of

farmland by destroying forest land because of the pressure of an ever-increasing population.

One notable impact on forest has been from the policy of natural reserves. Jiaozi Mountain Natural Reserve has been established in Luquan County. Before its establishment, precious plants and wildlife were randomly destroyed owing to illegal felling and hunting and poor management. The situation in this natural reserve is now gradually improving.

In Luquan County, the policy on population control has controlled the increase of population and decreased the pressure on land. During the period from 1977 to 1990, the birth rate remained between 14.62 and 17.32 per cent. The percentage of second births was 37.32 per cent. The percentage of first births rose to 51.13 per cent. Birth control has reached 81.48 per cent. Otherwise there would have been an additional 84,835 children in the past 14 years. This has contributed to an increase in living standards and eased social and economic conditions such as conflicts between less land and fewer opportunities of education, housing and employment, and greater population. Local farmers said that they do not want to have more than two children because more children means a greater burden and less land per capita.

In Shangyan Village of Yanwachong Office of Luquan County, there was a small reservoir at the bottom of the valley before 1978. However, the reservoir has been almost fully silted in the past 20 years because of severe soil erosion. It has even become paddy field during dry years; its surface is about 3m higher than the valley bottom outside the dam. This situation resulted from the lack of strict policies at the village level to manage soil erosion. Also villagers abandoned penstocks that had

been destroyed or partially filled by eroded soil. During the period of the Great Leap Forward, villagers spent a lot of time building a long penstock for the purpose of irrigation and erosion control. Nevertheless, this penstock has never been used because deforestation led to drying up of the water source.

Policies of poverty elimination have problems. In Yanwachong Office of Luquan County, many villagers complained that they have not received enough help although the policies are there. For example, a subsidy of 70 yuan per 0.067 ha should have been received for planting chestnut trees, but only 7 yuan per 0.067 ha was distributed. In another example, the government encourages the establishment of township enterprises, such as mining, to develop the local economy. An enterprise contracted two mountain sites for five years mining at the cost of 5,000 yuan. Now the mountain is degraded because of opencast mining. In the summer of 1998, severe soil erosion caused by the destruction of the mountain damaged more than 10 per cent of the cropland in the village. The village lost 10 tonnes of grain and 1.33 ha of farm land.

One leader from Yanwachong Office also spoke about another effect of the poverty elimination policy. *"Although the government carries out compulsory education and has a preferential policy in minority regions, tuition fees are still high."* Tuition for children is a major expenditure for most rural families. For example, 20-30 per cent of students could not graduate from junior middle school and no more than 10 per cent could graduate from senior middle school in Yanwachong Office.

The village is a smelting furnace of various policies that mix together and fuse at last.

The main aim of poverty elimination is to help farmers overcome poverty and build an income through promoting agricultural productivity. However, the farmers

have found that crop cultivation cannot make them rich; they are bound by the limits on land that restrict their creativity and lessen their choices.

Chapter 6 Stage, Community

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