

LINKAGES OF OFF-FARM ACTIVITIES

The most important and obvious linkage between off-farm activities and the farming system is the interrelationship between livestock and cropping. In Shuimo, most of the animal fodder comes from cropping. Maize is the staple feed for pigs, cattle, and fowls. On the other hand, livestock contributes manure and draft power to cropping. Pigs are the principal source of manure. In Shuimo, the use of manure is at par with that of chemical fertilizer. Cattle are the solitary source of power, and their role in cropping will not be replaced by other means for a long time. Another critical contribution of livestock to the farming system is that livestock is the most important source of cash income in farm households in Shuimo. In Shuimo, the expenditure incurred in farming operations and daily life is heavily reliant on livestock. In fact, in many sample households the money for purchasing seeds and fertilizer comes directly from the sale of animal products.

Horticulture (including medicinal plants) has both positive and negative influences on the farming system. The development of *Shanmuyaochai* and *moyu* has increased, and will continue to increase land use. At present, all the *Shanmuyaochai* and *Moyu* are interplanted with cereal crops. This interplantation has increased the multiple crop index of cultivated land. Therefore it has promoted the full use of limited cultivated land, but negative effects are also apparent. For example, soil fertility has declined due to interplanting. Another negative effect is that after *Shanmuyaochai* have grown high enough, these medicinal trees hinder seriously the growth of other crops. Therefore, it is crucial to encourage and guide farmers to plant *Shanmuyaochai* on uncultivated land, although it is more convenient to plant them directly on cultivated land.

Development of off-farm agro-activities has promoted the diversification of the farming system. A few newly-introduced activities, such as planting *Shanmuyaochai* and *moyu*, raising rabbits, and beekeeping activities have helped to make the farming system more diverse and more stable.

The negative effects of the development of off-farm agro-activities on the farming system are also obvious. One of the negative effects is that an increase in the scale of off-farm agro-activities may lead to a conflict with the cropping system in terms of the demand for labour. The high output-input rate will attract the farmers' interest from cropping to off-farm activities. This situation may harm grain production.

In Shuimo, non-agricultural activities are the source of inputs to cropping. Agro-based industrial enterprises depend heavily upon the sustainable development of the farming system.