Chapter 7
Conclusion

Since the establishment of the People's Republic of China, the government at all levels has made policies, laws and stipulations on land resource conservation. These policies have played a role in land use and prevention of land degradation. However, the government has also enforced some inappropriate policies. The policy of increasing steel production during the Great Leap Forward is the most outstanding example as it led to the destruction of the forests in China. The policy of harvesting Grain Production led to vast reclamation of range and forest lands. The land contract responsibility system also caused disorder in the beginning.

The impact of policy on land degradation takes various forms. Some nation-wide policies, such as increasing steel production can directly cause land degradation or environmental changes. Some policies do not show negative effects immediately but long after their implementation. The chemical fertiliser policy is one example. In order to produce more grain to meet the demands of the increasing population, the government has encouraged farmers to use nitrogenous, phosphate, potash, and compound fertilisers and pesticides since the beginning of the 1950s. Until recently, people did not realise that chemical fertilisers and pesticides had polluted the environment. So the government introduced a new policy of sustainable and ecological agriculture. Policy impacts may be caused by overlaps. Many inappropriate policies mixed together may result in land degradation. In China, policies for the environment, resources, agriculture, forestry, and land are separate, and different administrative departments implement them. This scattering of laws and legislation and the disunited administration easily cause chaos through unidentified authority and responsibilities. Conflicts also arise in China's huge special localities; it is necessary for local government to make detailed policies and enforcement provisions according to local conditions.

Farmers' attitudes and actions are important factors influencing land use, land management, and land degradation. Most present policies and stipulations pay more attention to abstract national interests and neglect local farmers' immediate

benefits. They neglect the active participation and abilities and initiatives of local farmers in policy-making and policy implementation. They regard local farmers as passive policy-acceptors and do not encourage participation, which leads to a separation of policy-making and implementation.

The understanding of farmers would be improved through education and training. This is an important and urgent task because greater understanding is the premise of sustainable development.

The present pattern of policy-making and implementation from the top should be combined with a bottom-up process. In order to prevent an overload of information feedback during policy implementation, a supervising organisation should be established.

At present, there are no accurate data on land resources and their dynamics either at the national or local levels. The situation will increase difficulties for quantitative research on land degradation. In addition, local land administration agencies often lack capital to prevent and control land degradation.

The process of land degradation can be regarded as the result of interaction between physical processes and human activities. In developing countries, land degradation and poverty are closely linked. Land degradation is not only an environmental issue, but also a social issue (Blaikie 1987) as people are trapped in the poverty, population, and land degradation spiral. It is also influenced by international and inter-regional factors such as international economics, international trade patterns, international financial aid, international disputes over debt, domestic regional differentiation, and regional policies.

Generally, if degraded land is taken out of high-intensity use and allowed to recover for a period, it can be restored. Basically, the restoration (including 'managed' restoration) of degraded land is a process of natural evolution. However, as it is typically slow and protracted, it is necessary to adopt more direct measures based on large-scale social investment to rapidly enhance land capability to meet the needs of local development and people's needs, as well as achieving a relatively stable ecological balance.

Land degradation occurs when there are problems of balance within the 'population-resources-environment-development' system. Reconstruction of degraded land must address the root socioeconomic causes. The social approaches to the ecological reconstruction of degraded land are summarised theoretically in the following passages.

- Laying the foundation for 'sustainable development'

Sustainable development is defined as "*development that meets the needs of the present without compromising the ability of future generations to meet those of the future*" (WCED 1987). The most urgent problem in land-degraded regions is securing resources for basic living. In degraded areas basic farmland has to be improved with high and stable yields to ensure grain supply and basic needs. Only in this way, will it be possible to return cultivated slopeland to economic forests and grassland.

- Importance of social investment

Different from restoration, the process of reconstruction requires large-scale social investment to bring about a rapid change in degraded lands. Social investment includes labour and capital from both inside and outside the area.

- Optimising landscape ecology based on local conditions

Ecological reconstruction of degraded land should be carried out in accordance with local landscape and environmental conditions. In this way, ecological reconstruction will not only improve the degraded land, but also establish an eco-economic system with high and stable yields.

- Innovating ideology

In many regions where land has deteriorated, it is often the case that the main obstacle to reconstruction is the ideas of local people. They are often hesitant to adopt new approaches. Local people should be encouraged to move away from the idea of a closed small-scaled farm economy and develop an economy based on commodity production.

- Transforming institutions and policy

Ecological reconstruction of degraded land and the fight against poverty require the transformation of institutions and policy. Firstly, socioeconomic structural reforms in poor regions where land is degraded are necessary. For example, constructing basic farmland can be taken as one of the major goals of the land contract responsibility system, and the task of land reconstruction should be written into policy. A corresponding family planning policy controls the pressure of population on land resources. In addition, village leaders should be open to new ideas, willing to take risks, and committed to working together. Secondly, the design and administration of land reconstruction and anti-poverty efforts also need to be transformed. China's anti-poverty programmes should be transformed from focussing on humanitarian support for the poor to institutionalised support, from relief programmes to development programmes, from individual anti-poverty projects to comprehensive projects, and from support of poor regions to support for poor people (Kang Xiaoguang 1996). The central government should adopt an equitable investment policy and increase investment to poor regions where the per capita investment has been at a low level for a long time.

- Introduction and popularisation of suitable science and technology

Reconstruction of degraded land needs scientific planning and design. The development of a poor region should be based on appropriate technology, but this does not mean it is always necessary to employ the newest technology. Often, it is better to use ready-made 'intermediate technologies' (Schumacher, 1973). These are simple and suitable methods that are easy to popularise. Ecological reconstruction on a larger scale should take advantage of science and technology to tackle key problems. The implementation of educational assistance plans is important to improve farmers' knowledge.

- Identification of key issues and strategy

The reconstruction of degraded land involves issues not only at the local community level, but also on larger inter-regional scales. Reconstruction of degraded land should lay down realistic plans appropriate for different time frames. They should be co-ordinated so as to relieve poverty and achieve long-term sustainable development.