

LAND RESOURCES PLANNING AND MANAGEMENT

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Summary

First of all, this article sets out the main characteristics of China's land resource utilization and the main problems concerning land utilization. The current situation

shows that China is a country with relatively poor land resources. The limited land resource is one of the most important factors affecting China's agricultural development, and it is essential to that land resources are managed effectively and rationally.

The article gives an introduction to China's land planning, including the contents and system of the overall land use plan and the methods for drawing up the plan. It then reviews the history of work on the overall land use plan.

The history and problems of land management are presented, and finally, it introduces methods of land management and the countermeasures that China has taken for land resources administration and management.

1. Characteristics of China's land resources utilization

China's agricultural problem—having to feed a population of more than one billion—has been of intense concern, not just to China but the whole world. The most outstanding feature of China's basic national conditions is that it feeds 22% of the world's population with only 7% of the world's farmland. However, average per capita agricultural resources in China is equivalent to only one-third of the average world level. So China is in a very unfavorable position to develop agricultural production compared with most countries in the world. The limited land resources are one of the most important factors that affect China's agricultural development. Therefore, it is essential that land resources are managed effectively and rationally, and the Chinese government is paying great attention to this issue. Four main characteristics can be summed up as follows:

a) Large total amount of land resources, less per capita. The total land area of China ranks third in the world, but the land area per capita is only 0.9 ha, representing one third of the world's average. China's arable land makes up 9% of the world's arable land, ranking fourth in the world. However, the per capita amount of arable land is only 0.12 ha, which is 41% of the world average—0.29 ha. The area of China's woodland ranks seventh in the world, but woodland per capita is only 0.12 ha, one seventh of the world's average—0.84 ha. Grassland for animal husbandry ranks approximately fourth in the world, but grassland per capita is only 0.25 ha, a little more than one third of the world's average—0.65 ha. This shows that the total amount of land resources in China ranks high the world, but land resources per capita is far lower than that of the world average. So China is a country with relatively poor land resources.

b) Large mountains and plateaus areas, insufficient reserve farmland. The area of mountains, plateaus and hills in China accounts for 69% of the total land area, while basins and plains occupy 31% of the total land area. Since China has a long history of land development and the population is large, there is very little land left which is suitable for reclamation and cultivation. According to preliminary survey, there is only 76 million ha of reserve land for development, among which only 13.8 million ha can be used as reserved land resources for cultivation.

c) Unbalanced land use distribution: obvious regional differences. The cultivated land is mainly distributed in the eastern and southern parts of China. Taking the 400mm isohyet as the boundary, the southeast monsoon region and the northwest inland region

can be distinguished as two regions with similar area. More than 90% of the cultivated land is concentrated in the southeast monsoon region. The woodland is mainly distributed in northeast, south and southwest China. The woodland in the agricultural and animal husbandry region, which occupies 50% of the land area of China, is less, especially so in northwest inland and north China. Eighty percent of the grassland in China is distributed concentrically over the arid and semi-arid regions and the Qinghai-Tibetan Plateau. Due to the unbalanced distribution of land resources suitable for agriculture and the different cultivation history, clear land use differences have developed between the southeast monsoon region and northwest inland region. Most land in the southeast region has been cultivated to various extents and the productivity is high. But because of intensively concentrated population and the relatively developed economy, much land is occupied by construction of various types. The contradiction between large population and less land is obvious. Even in northwest China where the population is less and the land area is vast, there is still a problem (of varying degree) of too many people and not enough farmland. This is because the climate is dry and cold and much of the land in northwest China is difficult to cultivate, so land productivity in the region is very low.

d) Uncoordinated distribution of land resources and water resources. About 80% of the total water resources in China are concentrated in the Yangtze River basin and the region to the south of it. But only 36% of China's cultivated land is in this region. The Huaihe river basin and the region to the north of it, has 20% of China's water resources, but the cultivated land of this area represents about 64% of that of the whole of China's. The mismatch of land resources and water resources creates great difficulties for land use, especially for agricultural production.

2. The main problems on land utilization

After a very long period of land development and adjustment of land use, the structure and distribution of the land use in China is generally reasonable, but there are still some serious problems, as described below.

a) Sharp contradiction between land supply and demand, declining farmland per capita. Because of the shortage of land resources, the demand for each kind of land use cannot be met. The contradictions between land use for construction, agriculture, forestry and animal husbandry are very sharp. Along with economic development and further advances of the reform and opening policy, the demand for land for construction will grow—a large amount of farmland will have to be set aside for construction every year. This, and the still increasing population, will ensure that the per capita amount of arable land will further decrease. In the year 1985, the cultivated land per capita in China was 0.12 ha, compared to 0.18 ha in 1949. Especially during the "Sixth Five Year Plan" period, about 0.47 million ha of cultivated land was lost each year. In addition, the net increment of population in this period was 14.29 million each year. The sharp decrease of cultivated land and rapid increase of population caused the sharp decline of cultivated land per capita, which directly limited the enhancement of people's living standard and development of the national economy.

b) Both land productivity and land utilization ratio are low. In the case of the land utilization, two thirds of the cultivated land belongs to the low or middle category. In

areas where the cultivated land can produce a higher yield, there is still some potential for further productivity enhancement. In many areas the production potential has not been achieved because of irrational allocation of crops and lack of regionalized cropping. Utilization ratio of the forestland is also quite low. The forested land (the land including timberland and shrubbery land with coverage over 0.2) only occupies 62% of all forestry land in China. The standing volume and yield only reach 75% of world average levels. Among the utilized grassland, pasture with high quality of herbage only occupies 27% of the total, and animal production per unit area only reaches one third of that of USA. The land for construction is also not used fully. Taking land use for house building in villages as example, most buildings in rural areas are of only one story, so the per capita amount of land used for construction in rural areas is very much higher than that in cities. Wasteland created by abandonment of state-owned industries and mines across the whole of China reaches 2 million ha, and only about 2% of it has been redeveloped to date.

c) Land degradation and destruction are serious, and the quality of land is decreasing. In the beginning of the New China, the soil erosion area was 1.5 million km². After several decades, about 0.5 million km² of eroded land has been managed and brought under control, but during this period, forest denudation, overgrazing of grassland and aimless reclamation has caused new soil erosion. According to remote sensing survey, 2.14 million km² of land are now subject to soil erosion. The area of desertification caused by wind erosion in China is 1.87 million km², and that caused by water erosion is 0.27 million km². Now, about one fifth of China's cultivated land is subject to environmental pollution to different degrees. The phenomenon of occupying forestland for other use is quite serious. From 1984 to 1988, 0.50 million ha of woodland was occupied for other uses each year, and finished up as non-forest land. From 1989 to 1991, this figure rose to 0.558 million ha per year. In China, more than 0.133 million ha of cultivated lands is destroyed each year by some kind of disaster. In addition, insufficient input to cultivated land also leads to decline of soil fertility, and this has an impact on land quality.

d) The problems of illegal occupation and misuse of land. Due to long-prevailing lack of macro-control, centralized management and any sound management system for land in China, the area of cultivation land decreased rapidly because farmland was used for construction or the use was changed by structural adjustment within agriculture. Some enterprises and institutions pay nothing for their use of land. Therefore, the phenomena of occupying more land than needed, and taking over land early without using it for a long time, or not at all, were widespread, and this brought about much waste of land.

After the initially practicing the policy of using land according to the "land use plan", there are still many problems, including using land without approval, poor management plans, using land without an overall plan, and setting up development zones in all administrative areas, at different levels, without planning. All of these created many new problems and made the situation of land waste and farmland occupation even more serious.

3. Land Resources Plan

In China, the "land resources plan" is the same as the "land use plan". The land use plan is a scheme of rational land use worked out on the basis of economic and social

development objectives. The purpose of this land use planning is to use land resources rationally, to coordinate and rationally allocate land use among different sections of the national economy, and to arrange land use for each kind of construction. In the light of the extent of the planning and the aim of the plan, the land use plan can be divided into three kinds, i.e. overall land use planning, detailed land use planning, and special land use planning. Of these, the most important planning is overall land use planning.

3.1. Overall Land Use Plan

Overall land use plan is the overall arrangement for land development, land use, land management and land protection in space and time in particular areas according to the requirements of national sustainable development of the social economy and local natural, economic and social conditions.

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Biographical Sketch

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