The Status and Developing Trend of Land Consolidation in China and Abroad

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Abstract: The developing trend of land consolidation in China Under the new situation is discussed based on analyzing the development and characteristics of land consolidation abroad and effectiveness and problems of land consolidation in China. The future development focus on land reclamation in China is: replenishing farmland, Improving land productivity, protecting the ecological environment and shaping the landscape, constructing the basic farmland, so to ensure the ecological rationality, the economical effectiveness and social acceptability, then to achieve sustainable development of land resources.

Keywords: Land Consolidation, Sustainable Development, Trends

1 Instruction

Land resources are an important support for sustainable development of economic and social. It has been proved that Land Consolidation has an unusual significance for maintaining the dynamic balance of total arable land, protecting the rural ecological environment and promoting the construction of new socialist countryside, as an essential way to improve plant efficiency and to achieve sustainable rural development.

2 Development and Characteristics of Land Consolidation Overseas

2.1 Development of land consolidation overseas
Several European countries including Germany, France and Russia are earlier to carry out land consolidation, so are the Canada, Japan and Hungary and other countries. Practice of land consolidation in Germany is more representative, and can be divided into four stages of development: The first stage substantially from the mid-16th century to the late 19th century take the merger of land plots and adjustment of road in fields as the major activities, aimed to facilitate agricultural production and Increase agricultural productivity. The second one roughly from the early 19th century to the 1950s is to perfect agricultural infrastructure so as to promote development. During this phase the results brought from land consolidation include not only increasing yield, but also a new farmland structure and layout Accords with modern management, in order to improve the conditions of agricultural production and to promote the agricultural development. The third one roughly from the 1950s to the 1970s attaches importance to comprehensive consolidation to promote rural development. During This phase the shaping of land consolidation area must conform to the rationality of agricultural structure, and attend participants’ interests and public welfare and public facilities, and enhance the construction of the rural residential areas, make it attractive. The fourth one up to now since 1970s aims to promote regional development with natural protection and synthetical rural consolidation. The stage truly become an important way for land resources use and protection for the key of land arrangement in this stage convert to promote regional economic development and protect and improve the ecological environment. Although the world other countries including Finland, Canada, the Netherlands are different with German on the content and target of land arrangement in a phase differences, But at now the performance of land arrangement f goals are all pluralism and comprehensivenes.
2.2 Characteristics of land consolidation abroad

The contents and goals of land consolidation have been gotten constant adjustment and perfect with development of natural environment and social economy, that can be watched from the development of land arrangement abroad\(^4\). Currently, foreign land consolidation presents following features:

2.2.1 Our government stress comprehensive land consolidation concept.

The land is basic resources concerning social economy development. In the process of the land consolidation, if a pure goal or measures are over pursued, the negative impact is often caused in varying degrees. So its contents and effects are needed assessed from the overall economic and social development. Such as land consolidation in Belgium from the connotation to the project measure reflect the comprehensive account of economic, social and ecological benefits, and other aspects of principles, and avoid over-emphasized one aspect to produce larger negative effects, giving full play to the land consolidation in the social and economic sustainable development.

2.2.2 Highlight landscape and ecological environment optimization.

The land consolidation is an optimization process which should follow the basic principles of protecting landscape and ecological protection on land resources and its utilization in the organization. Such as in Germany, the protection for landscape and ecological are paid special attention to, the ecological feasibility is ensured, decrease as far as possible the harmful biological effect from land consolidation. All active measures have been taken to prevent from continuous change and destruction of landscape. On this basis, more reasonable and more powerful landscape ecological environment is formed. Land consolidation bill of Dutch explicitly requests necessary measures need to be taken to protect land landscape in planning land consolidation. The focus of land consolidation is having been turned gradually from economic factors such as agricultural production to combination among land use, landscape quality and ecological process.

2.2.3 Enriching the Philosophy of sustainable land consolidation is stressed through scientific planning.

The key of Smooth implementation for land consolidation is scientific planning. Scientific planning and design are emphasized abroad. The requirements for land consolidation at a higher level and within a larger area are considered, so are coordination pushed between inside and outside project zone. For example, the land consolidation is named as "the mother of City Planning" in Japan, which embodies the interdependence between land preparation and planning. The planning and management are stand out in Canada, local governments ensure their own legitimacy to exercise their power of planning and management through legislation.

3 Development and Problems of Land Consolidation in China

At the early implementation of household contract responsibility system in 1980s, agricultural productivity has been promoted vigorously, but there have also been some problems in land use and agricultural mechanization, such as fragmentary land, too small farming plots, plots shape not suit for farming, unified farmers plots located in areas are not adjacent and lacking of irrigation and drainage systems, etc. In this context, as the primary means to promote rational use of land resources, improve agricultural productivity, increase the effective area of cultivated land, and achieve dynamic equilibrium of total arable land, land consolidation activities have been carried out which take land formation, combined plots, finishing the road ditches, improving shelterbelts forest as the main content in China. Now, there have got remarkable results.

3.1 Achievement in China

3.1.1 Increased effective cultivation.

Since the 1990s, comprehensive regulation on rural field, water, road, forest and village has been launched in China. Great progress has been made on Regulation of basic farmland and construction of demonstration area. The amount of cultivated land has been increasing through the land consolidation, since which was systematically proceeded at 1998. That has vital role to realize the balance of the farmland and to ensure 18 million hectares of arable land named...
red line. According to statistics, 625.66 thousand hectares were reclaimed per year on average from 2003 to 2007. It is a significant increase trend. The cultivated land balance come true all the provinces, the land use structure improved. The sustainable land use is promoted.

3.1.2 Optimize the rural land use structure. The land layout got more rational for farming, water facilities, road, forest and residential areas through the land consolidation and reclamation. The degree of land fragmentation has been reduced, farmland structure has been gotten better, land use efficiency and intensive level of cultivated land have been gotten obvious rise. The utilization degree of cultivated land has been generally improved 3%~10%. All these lay the foundation for the development of modern agriculture.

3.1.3 Improve the comprehensive agricultural production capacity. There have been about 84% of national investment land development and consolidation project and most provincial investment project of arable land focusing on existing land especially farmland arrangement. Farmland with high and stable yield arise generally which is in the regular shape and of which roads and tunnel connected in project area. And there are the matching facilities. All these ensure the harvest under drought or waterlogged.

3.1.4 Promote the farmland ecological protection and construction. There are nearly half national investment project in the west and disaster destroyed areas to strongly support ecological restoration and management in these regions. Cultivated land has made slope into terrace combined with small watershed management in some areas so as to effectively reduce soil erosion. For example, remove soil fertility buildup project which is becoming an ecological engineering in Three Gorges reservoir areas pay attention to the relationship between engineering construction and ecological environment protection to building permanent ecological farmland.

3.2 Our country land consolidation and the existing problems
Although great progress has been made on land consolidation in China, but there are certain gap compared with countries abroad\(^5\). On the whole, the problems resisting on organized land consolidation in China are as follows\(^6\): On the one hand, land consolidation work is facing greater challenges: population growth will make the demand for land increased greatly; the concept of extensive use of land is difficult to completely reverse in the short term; the amount of available land resource for development is getting gradually reduced. On the other hand, there are many obstacles on land consolidation implementation. A lot of ideas on land consolidation exist in some local governments such as “pay much attention to development, little to sort and reclamation”, “emphasize much on quantity, little on quality and ecological compensation”, “occupied much but compensate little, occupied good but compensate bad”, “emphasizing for farmland, light construction land”, etc.

4 Development Trend of Land Consolidation in China
Under the new situation, the basic goal of land consolidation in China should be as follows: to implement the concept of scientific development, to put the requirements on ecological civilization construction into practice, to conduct sustainable land consolidation with regional characteristics, to protect land resources, and to guarantee the coordinate development of the economic society. The current focus is: to replenish the cultivated land, to improve the land production capacity and the ecological environment, to carry out the construction of basic farmland.

4.1 Increase cultivated area, improve the land utilization
For guaranteeing food safety, the agricultural role as the foundation of economy can’t be shaken. It is a vital way to replenish land quantity through the land consolidation which can ensure 18 million hectares of arable land. The land consolidation can increase the effective land are by reclamation and reuse the glade, ridge, discarded sporadic and idly in the villages, it means to increase available land area and overall production ability.
4.2 Keep and raise cultivated land production capacity
At present, extensive utilization mode of land restricts agricultural modernization. During the land consolidation, both the quantity and quality of cultivated should be increased to keep the dynamic balance of the total amount of cultivated land. There are some important measures on improving land production capacity such as perfecting agricultural infrastructure, eliminating the limiting farming factors, expanding effective space of land use and improving the land quality.

4.3 Improve and protect landscape and ecological environment
Land consolidation is a promoting factor for the construction of ecological civilization. It is a new topic that moderately expanding content of land consolidation to make it drive the human and the nature harmonious effect based on the requirements ecological civilization construction for the healthy development of land consolidation in China. To improve the ecological environment in the outstanding position, make it as the main standard for land consolidation to improve the ecological environment, give full play to the construction of ecological civilization land consolidation in the main function, eliminate land consolidation project on regional ecological environment change.

4.4 Construct the basic farmland vigorously
As the essence of cultivated land, basic farmland is the security line to achieve self-sufficiency in grain. Resolutely implement the basic requirement of farmland protection that is "the total don't reduce, use don't change, quality does not reduce", it’s accomplish "to promote protection with the construction", put the basic farmland construction as the key work of land consolidation.

5 Conclusion
Land consolidation should fully absorb the idea of “quantity management, quality management, ecological management” to promote ecological civilization under land resource constraints and to improve guarantee ability of the land resources for sustainable development, base on our national condition and successful experience abroad. So the social economic construction can be unified harmoniously with ecological environment construction by land use. The sustainable development of land resources can be achieved from the ecological rationality, the effectiveness of the economic and social acceptance to ensure the social harmonious development.

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Acknowledgement:
The project was financially supported by Education Department Social Science Project of China (No. 10YJA630091)

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