

Country Revival Practice In China - From Land Consolidation Aspect

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SUMMARY

In the 19th CPC, country revival policy (rural vitalization strategy) has been released as a vital signal from national level for the first time. Definitely, it is an objective amendment to some old rural policy. Furthermore, it will have profound influence on rural area around China. Same as poverty alleviation, the difficult point of country revival is in mountainous area. Because of the endowment of land resources, adverse position conditions and impoverished living standard, there are severe land degradation and eco-problem in mountain areas. The phenomenon of abandonment of arable land has been in mountain areas for more than ten years, during which the eco-environment also is recovered to some extent which is the definite consequence of socio-economic transition. High mountains and steep slopes, water loss and soil erosion and shallow soil in the mountain regions are not suitable for cultivation, therefore, it is better to develop forestry and grass in this kind of regions. The focus of land consolidation in mountainous area is to restore the degraded land and reestablish the verdant hills and clear rivers. Only with the favorable landscape ecology, can the combination economy of primary industry plus tertiary industry be developed and peasants be enriched, so that the aim of country revival in mountainous regions can be reached.

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INTRODUCTION

Rural vitalization strategy is one of the most appealing reform approaches during the new period of China, this policy goal is to build rural areas with thriving businesses, pleasant living environments, social etiquette and civility, effective governance and prosperity in the next three decades, which has been put into the Party Constitution as one of the seven strategies of invigorating China. If the Rural vitalization strategy is effective, it will set up as a vigorous 'Chinese example' to the country revival activities throughout the whole world.

Some government sectors and provinces have introduced some supporting policies and regulations in succession to back the practice of country revival strategy since it has been proposed for the first time on the 19th National Congress of the Communist Party of China. Take Ministry of Land and Resources as an example, the first stage is to ensure the priority of the demand of country land resources in new industries and new types of business during the whole year land planning. Secondly, establishing the indicator for new added cultivated land and trans-provincial regulatory mechanism of the index of the connection of increase and decrease with savings for urban and rural construction land, all the proceeds are used to consolidate the achievements of poverty alleviation and support the implement of country revival strategy via expenditure budget. Thirdly, promoting the pilot of reform measures, such as 'rural homestead three rights division', 'rural collective commercial construction land to the market to revitalize the land assets and increase peasants' property income. The above three policies are pushed based on the rural residents, major joined with the requirement of 'industry prosperous' in rural revival strategies for which peasants can open up the third employment space (the employment opportunity combined with the primary, second and tertiary industry) and to be affluent in life as well as promote the rural civilization and rural governance directly.

Because of the disadvantages of natural resources, adverse position and backwardness of social economy, there are severe ecological degradation. The mountainous regions are highly overlapped with the large stretch of needy areas where has been set up with the target of building a moderately prosperous society in all respects till 2020, whose difficult point is right in the rural areas, especially in the mountainous regions. Same as the poverty alleviation, the difficulties of country revival are also in mountainous regions. However, land consolidation is the policy measure for improving the improper use of land and promoting rural development, what its force-point in the strategy of country revival in mountainous regions? As far as I concerned, it is a must to make clear the rural resources endowment, the development level of social economy and the problems of ecological environment, therefore, land consolidation can be targeted precisely in country revival and play a role of positive energy.

1. THE RESOURCES ENDOWMENT, SOCIAL ECONOMY AND ECOLOGICAL ENVIRONMENT PROBLEMS IN MOUNTAINOUS REGIONS

The feature of the landscape in China is more highlands and less lowlands, more mountains and less plains. This text focuses on the mountainous regions in China which accounts for 53.5% of the total area.

1.1. The land resources endowment in mountainous area is poor, and peasants work hard but still live an impoverished life

It is not suitable to reclaim and cultivate in mountains since the mountain slope is steep and the soil is shallow, which means that soil erosion will happen easily with cultivation. Nevertheless, in agricultural society, those peasants who lost their farmland or had less farmland to support themselves had to walk into the mountains to cultivate in order to make a living (ZHANG Bailin, etc.), under this condition, the reclamation rate in mountains reaches 18% and 39% in the hills.

The quality of the arable land in mountains is poorer than that in plains with less and unstable productivity. Generally, with the growth of altitude, the temperature drops and the accumulated temperature decreases. For instance, the crop in the valley of northern temperate region can be planted the crop with long growing period, like corn, while in the high mountain, only can plant the crop with short growing period, like, buckwheat, millet, etc.; In southern regions, two-stubble crops, like early and late season rice, rice and rape can be planted in valley; whereas it is only to grow one stubble crop in high mountain, like corn. Another reason is that hillside farmland is only rain-fed farmland with no irrigation conditions and is more susceptible to drought; in the event of a severe drought, the harvest fails. Thirdly, the soil is shallow, the soil texture is coarse, and the maintaining ability of water and nutrients is poor. According to the first national land survey, the cultivated land with a slope of more than 15 degrees is mainly concentrated in Guizhou, Yunnan, Shanxi, Sichuan and Gansu provinces. The cultivated land in these five provinces accounts for 23% of the whole country, but the grain output only occupies 9% collectively. (Li Yuan, etc. 1997)

In the mountainous areas, grain output is low and unstable, and in some places, the seasonal starvation often happens. Under the government's poverty aid policies in these years, although most mountain farmers basically solved the problem of food and clothing, by 2106, Chinese mountainous areas still had the needy closed to 30 million. Taking the mountainous areas of four provinces in southwest China as an example, the average rice yield per mu (fifteen mu equal to one hectare) is 425.4 kg, with an average rice area for each household is 2.45 mu. The input cost of the means of production is 700-900 yuan while the income per mu of land is less than 1000 yuan. Although each household still has a few mu rain-fed farmland, but from which the income is even lower, also the stability is inferior. As a consequence, the farmers depend on cultivation will definitely not be affluent.

1.2. Water loss and soil erosion is serious and ecological environment is deteriorated in mountainous areas

Once land in mountainous area is plowed, vegetation loss will cause more serious soil erosion, which mainly occurs on sloping cultivated land with a gradient of more than 8 degrees. According to the results of the national soil survey completed in 1980s (National soil survey Office, 1998), the sloping farmland in southwest China and Loess Plateau accounts for 71.44% and 54.98% of the cultivated land area respectively, of which 13.94% and 14.12% are steep slope cultivated land with more than 25 degrees. The most serious area of soil erosion is loess plateau area and southwest plateau mountain area. The area of cultivated land erosion is 11 million 280 thousand hectares and 10 million 170 thousand hectares respectively, accounting for 24.85% and 22.39% of the total area of farmland soil erosion in China respectively. The area of water loss and soil erosion in the cultivated land accounts for the proportion of local total area with 71.30% and 52.53% respectively, which is still the highest in the Loess Plateau and southwest plateau mountains. Serious water loss and soil erosion has caused rocky desertification in southwest China, and the Loess Plateau area has formed thousands of barren landscape.

1.3. A large number of abandoned arable land exist in mountainous areas

Abandonment of cultivated land is common in mountainous areas of China. It is studied that in 2011, the average rate of cultivated land abandoned in the mountainous areas of Chongqing (Shizhu, Wushan and Youyang) was 18% and sloping farmland and rainfed farmland were abandoned initially (SHI Tiechou, XU Xiaohong, 2016). The investigation of Shizhu Mountain area in Chongqing indicates that rainfed farmland abandonment occupies 83.99% of abandoned cultivated land area from 2002 to 2011 (SHAO Jing'an etc. 2014). A survey by the Sichuan Provincial Department of Land and Resources showed that in a mountainous county in northeast Sichuan, 40 percent of the cultivated land was abandoned seasonally, throughout the year in 30%, and 67 schools were idle. According to the data from Japanese Agriculture Ministry, the average abandonment rate of farmland in Japanese mountainous areas is three times larger than that in flat area (Keiji Ushiyama, 2012).

2. THE CONVERSION AND ABANDONMENT OF CULTIVATED LAND IN MOUNTAINOUS AREAS IS THE NECESSITY OF SOCIAL AND ECONOMIC DEVELOPMENT

Since the reform and opening up, industrialization and urbanization in China have entered the fast track and created a large number of non-agricultural employment opportunities. It is an inevitable trend that farmers give up the cultivation work to become the urban workers since the cost of agricultural opportunity increases. With the transfer of rural labor to cities and towns, the contract land belong to those farmers who work outside will not be planted. In plain areas, because mechanized management can be realized, farmers who go out to work can transfer their contracted land out, and the cultivated land will not be abandoned. Although the farming plots in plain area are small because of the division of contract right, the natural plots formed by the

road, ditch, canal and so on are not small. Different from the small plots caused by the division of contract management in the plain area, the natural plots of cultivated land in mountainous area are very small due to the terrain and soil thickness and the difficulty of land reclamation. Because the land size is too small to use large machinery to farm, some even cannot adopt small agricultural machinery, those kind of lands have to be abandoned.

Abandoned land in mountainous areas is a process of economic marginalization because the income from farming is far below the average social income. Like such wide terraced fields in the Loess Plateau, can use small agricultural machinery for farming. One middle-aged couple can undertake about 20-30 mu of land planting at most, and the net income is 15000-19500 yuan, far less than the payment of migrant workers. In southwest mountainous area rocky desertification is serious, land is scattered, and the soil is thin, often accompanied with "lying stone", thus, small machinery even cannot be used, and the income of farming is even lower.

3. ABANDONED CULTIVATED LAND IN MOUNTAINOUS AREAS IS CONDUCTIVE TO ECOLOGICAL RESTORATION

The return of farmland and the restoration of forest land in mountainous areas will increase the infiltration rate of the soil, reduce the surface water flow and raise the water holding capacity of the soil in the field, thus effectively reducing water loss and soil erosion. For example, with the transfer of rural labor force to non-agricultural employment and the increase of forest, irrigation and grass vegetation coverage in the three Gorges Reservoir area, the average soil erosion modulus and soil erosion amount show a decreasing trend. The moderate level and above erosion area are transferred to lower grade in different degree (LIU Ting, SHAO Jing'an, 2016). The results show that the precipitation of rural labor force alleviates the population pressure of relocation to some extent, and promotes the improvement of local vegetation cover condition (LI Shiji etc. 2015). With the gradual strengthening measures, such as tree planting, of water and soil conservation projects, the runoff and sediment amount in the middle reaches of the Yellow River decreased year by year from 1970s to 1990s (RAN Dachuan etc.). Therefore, whether the ecological conversion of farmland organized by the government or the spontaneous abandonment of farmers, will restore forest and grass vegetation, so that not only can reduce local soil erosion, but also can decline the threat of flooding downstream.

4. ENSURE THE CORRECT DIRECTION OF LAND USE AND LAND REGULATION IN MOUNTAINOUS AREAS

4.1. The enlightenment of foreign experience to us

Japan basically had completed industrialization and urbanization by 1970s, and began to implement the plan of revitalization and regeneration of rural areas, through the measures of farmland preparation, urban infrastructure to rural areas and so forth, in order to restore the rural economy and solve the problem of over sparse population. However, there are few rural areas with population return and economic recovery, population shrinking, cultivated land desolated and rural decline is still the mainstream.

This has not only caused the "process waste" of the government's investment during the mountainous area construction, but also resulted in a great financial burden to the government to maintain the infrastructure in the mountainous area (Ushiyama Keiji, 2012). These lessons should be taken as a warning when China formulates a rural revitalization plan.

From 1945 to 1965, German land reclamation aimed at improving agricultural production conditions and ensuring food security. Between 1965 to 1975, environmental problems began to appear in Germany, together with the people's consciousness of environmental protection began to sprout, and the criticism of land reclamation work arise in the society. In 1976, the environmental protection law issued with a binding indicator for land reclamation; and in 1982, landscape planning was introduced into the land reclamation. Karl Spindler, a land management expert in charge of Hanns–Seidel -Foundation in Germany, said that with economic growth and rising income, higher ecological standards, facilities and landscape planning could be set gradually and be payed by corporate profits, taxes and private contributions. At the same time new growth and jobs in environmental related industry and service was created. At present, there is a general consensus among German government agencies that preventing soil and water pollution as well as land degradation is cheaper and more effective than tackling, but the most effective approach is to reduce the interference to rural and nature from the source. A comprehensive ecological compensation system has been formed in Germany currently. The ecological background investigation of the project area must be carried out before the land renovation project is started, and the overall ecological service capacity should not be reduced after completion. Over all environmental law, planning and procedure stands the principle of “prohibition of deterioration”.

4.2. Re-cultivating abandoned arable land, especially reclaiming rural settlements for cultivation, is a waste of money

The arable land abandoned by the peasants is that with steep terrain, shallow soil, barren soil, teratogenic, scattered, narrow and small plots of land, which are difficult to mechanize farming. Because of the poor natural endowment, it is difficult to improve the quality and productivity by the land remediation, in addition, the position is far from the village which means farming is inconvenient, so the cultivated land can only be abandoned. Therefore, even if these cultivated land is renovated, the farmer also will not return to tillage.

If the index of the connection of increase with decrease is set up for urban and rural construction land in the plain area, the homestead/village reclamation is feasible and valuable. Because the farming radius of the plain is unlimited, reclaimed land can be mechanized. However, reclamation of rural settlements in remote mountainous areas that have been demolished and relocated has already had a large farming radius. When they move to new villages for immigration, the cultivation radius is even larger. Even the original cultivated land may be abandoned, and the quality of cultivated land in the reclaimed residential areas is even worse. How can it be planted?

4.3. Rehabilitation of abandoned and degraded farmland in mountainous areas is directed towards restoration of forest and grass vegetation and reconstruction of green mountains and rivers

The altitude is high in mountains but the temperature is low, and the accumulated temperature is limited; the slope is steep, thus it is prone to soil erosion; for the shallow soil, soil and fertilizer conservation capacity is poor; therefore, the mountain area is not suitable for reclamation and cultivation, but for the best land use of forest land. In the traditional agricultural society, the productivity of the cultivated land per unit area was low due to the backwardness of science and technology, so the peasants who lost land in the plain area had to enter the mountains and reclaimed the land for the sake of subsistence. But the cultivated land in the mountain area is the marginal cultivated land in economics, and it is also the ecological fragile cultivated land. In the period of social transformation, the marginal cultivated land in economics was abandoned first. Ecological fragile cultivated land is bound to be serious soil erosion, which causes land degradation, even rocky desertification, hence, the green mountains and rivers become destitute.

Today, agricultural science and technology have greatly increased the yield per unit area and do not need to rely on barren farmland in mountain areas to contribute to food security; and because the industrialization and urbanization also create more employment opportunities for farmers, thus they can go out of the mountains and make a living for non-agricultural employment. The national economic transformation of city feeding back to the countryside also creates a solid financial foundation for the economic compensation of ecological agriculture. Therefore, the restoration of forest and grass vegetation in mountain area has good social and economic conditions.

Consequently, the land remediation projects in mountainous areas will no longer transform those cultivated land with steep slope but the farmland with good natural endowment in river valley and gentle slope regions in order to improve its production capacity and production stability. Instead, the cultivated land with steep slope, shallow soil and inconvenient farming should be restored to woodland for restoring green hill and clear water. Only the green mountains and clear rivers can attract the city residents to ecological tourism, leisure agriculture, thus can develop primary industry plus tertiary industry integrated economy and increase the income of farmers. In recent years, whether it is the construction of a new rural area or the construction of a beautiful rural area, all the successful cases are to make use of the favorable ecological environment in the countryside and to integrate the primary and tertiary industries to develop the integrated economy. Yet, none of rural area with serious land degradation or ecological deterioration developed the primary and tertiary industries integrated economy. Therefore, cultivated land and residential areas in mountainous areas should be reduced, and woodland should be incremental. The land regulation project adjusted by such land use structure can conform to the direction of socialist ecological civilization and is the force point of rural revitalization.

CONCLUSION

“Opinions of the CPC Central Committee and the State Council on the implementation of the Strategy of Rural Revitalization” pointed out that “It is necessary to accurately grasp the scientific connotation of rural revitalization and tap into the various functions and values of rural areas.” By 2020, the rural ecological environment will obviously be better and the agricultural ecological service capacity will be further improved. By 2035, the rural ecological environment will fundamentally take a better turn and the beautiful and livable countryside will basically achieve. Furthermore, the supply of agro-ecological products and services should be increased. Also, we should correctly handle the relationship between development and protection and use modern science and technology and management means to turn the rural ecological advantages into the advantages of developing ecological economy. The author holds the opinion that the strategy of the rural revitalization from Party Central Committee provides a historical opportunity for the ecological restoration and landscape improvement in rural areas, and the land renovation work should conform to the trend of the times and the strategic adjustments should be made as soon as possible. Rural vitalization is the vitalization of the whole rural area, is to let rural settlements, farmland, mountains, lakes, roads, rivers and other elements perform their functions. Land remediation project is not only village regulation and high standard farmland construction, but also includes the returning farmland with serious soil erosion and severe degraded cultivated land to forest, reconstructing green mountains and clean rivers. Only by rebuilding the green mountains and rivers can the city residents be attracted to eco-tourism, leisure agriculture, also the primary and tertiary industries integrated economy can be developed and the rich life of peasants can be achieved.

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