

Adjustment Measures of the Overall Planning for Land Use in Tongde County

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Abstract: With the rapid and sustainable development of Tongde County's social economy, many new situations and problems have arisen in the use and management of land resources. There is an inconsistency between the current planning and the actual development needs of Tongde County, which affects the sustainable development there. So the current planning is urgently needed to be adjusted and improved. In this article, the author advocates the comprehensively implementing the spirit of the 19th National Congress of the CPC and taking the thought of socialism with Chinese characteristics in the new era as the guide. Moreover, the measurements proposed in this article are closely in line with the development philosophy of "1, 2, 3, 4, 50", the strictest farmland protection system and the most stringent land conservation. Through the adjustment and perfection of the overall planning for land use, enhancement of the planning management and usage control as well as the rapid construction of ecological civilization, Tongde County will be able to better achieve sustained and healthy economic development and social harmony and stability.

1. Introduction

In 2014, the total agricultural land area of Tongde County was 457434.82 hectares, accounting for 98.32% of the total land area. Among them, the farmland area was 11,507.24 hectares, accounting for 2.47% of the total land area, mainly distributed in Bagou Township and Gabasongduo Township; the forest area was 103618.24 hectares, accounting for 22.27% of the total; the grassplot area was 340,237.69 hectares, accounting for 73.13% of the total; other cultivated land covers an area of 2071.65 hectares, accounting for 0.45% of the total. The scope of this adjustment and improvement is consistent with that of the overall planning -- it covers all the land within the administrative jurisdiction of Tongde County, including two towns (Gabasongduo Town and Tanggu Town), three townships (Bagou Township, Xiuma Township, and Hebei Township) and the provincial pasture breeding ground; and the total land area is 465279.82 hectares, as shown in Figure 1 and Figure 2.

Since the implementation of the overall planning, the comprehensive development, utilization, and protection of land have been greatly improved, effectively controlling the area of cultivated land occupied by construction and the area of permanent basic farmland. At the same time, the strengthening of land macro-control capabilities and the land use control system ensures the rational use of land for urban and rural development as well as ecological environment, which has played an important role in the overall arrangement of key construction projects in the county. However, there are increasing construction projects, with the rapid economic and social development of Tongde County, the adjustment of industrial structure and the transformation of regional economic diversification. During the implementation of the current plans, the construction land of the overall planning layout cannot be well connected with that of the anticipated projects. These differences require optimization and adjustment of the layout of construction land.

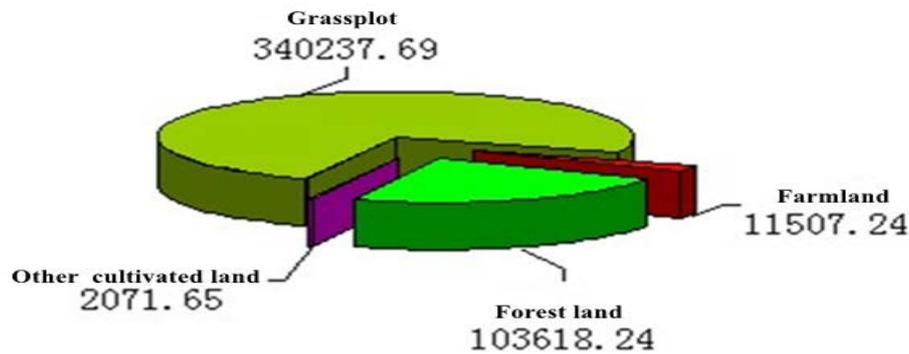


Fig.1 Current Status of Agricultural Land Utilization in Tongde County

2. Implementation of the Main Indicators of the Current Plan

Since the current plan was approved and implemented by the People's Government of Qinghai Province in 2012, Tongde County has strictly implemented arable land protection responsibilities, optimized land use structure and insisted on saving and intensive land use, so as to ensure the sustainable use of land resources in accordance with national land use management policies. The implementation of its main planning indicators is as follows:

2.1 Target of Cultivated Land Retention

In 2014, the total cultivated land in Tongde County was 11,507.24 hectares while the target by the current plan is 10966.91 hectares in 2020, and the planned target had achieved 104.93% by 2014. The actual amount of cultivated land is much higher than the protection target, and thus cultivated land has been effectively protected during the implementation of the plan.

2.2 Target of Permanent Basic Farmland Protection

As of 2014, the county had designated 9,641.88 hectares of permanent basic farmland protection. According to the current plan, the protection target of permanent basic farmland by 2020 will be 9610.00 hectares, and the realization degree of the planned target has reached 100.33% by 2014. During the implementation of the plan, the permanent basic farmland has been effectively protected.

2.3 Total Scale of Construction Land

By 2014, the total scale of construction land had reached 2113.47 hectares. According to the current plan, the total construction land scale of this county should be controlled below 2242.72 hectares by 2020, and the planned goal had realized 87.24%.

2.4 Scale of Land for Urban and Rural Construction Projects

By 2014, the scale of land for urban and rural construction projects had reached 1808.74 hectares. According to the current plan, the total scale of the county's land for urban and rural construction projects should be controlled at 1719.60 hectares by 2020, and the planned target had reached 105.18% as of 2014, which has exceeded the planned scale of the target year.

2.5 Scale of Land for Industrial and Mining Projects

According to the current plan, by 2020, the total scale of the county's land for industrial and mining projects should be controlled at 316.14 hectares. By 2014, the total land of this county for industrial and mining projects had been 350.60 hectares, and the planning target had reached 110.90%, which has exceeded the target for 2020.

2.6 Land for Industrial and Mining Projects Per Capita

According to the current plan, the total land per capita for industrial and mining projects in this county should be controlled within 84.18 square meters by 2020. In 2014, the total land per capita for land for industrial and mining projects in this county was 291.83 square meters per person, which has exceeded the target for 2020.

3. Main Problems Existing in the Implementation of the Current Plan

3.1 Planning is Difficult to Adapt to the New Situation of the County's Social and Economic Development

The implementation of the “Three-year Poverty Alleviation Plan” in Tongde County will face the problem of incoordination between development space and planning layout. According to the forecast of the future trend of social and economic development and the overall development goals proposed in the “Outline of the Thirteenth Five-Year Plan for National Economic and Social Development of Tongde County”, as well as in the context the development space of new districts in the county has been beyond the scope of the planned construction area, the plan is difficult to adapt to the new situation of this county's economic and social development.

3.2 The Degree of Land Saving and Intensive Land Use Needs to Be Improved

During the implementation of the plan, the level of economical and intensive land use is relatively low both in cities and towns and needs to be further improved, and there is still much room for improvement in the disposal of idle land. The land area per capita for industrial and mining projects is relatively large, and the degree of land intensiveness is low.

3.3 The Scale of Land for Urban and Rural Construction Projects Has Exceeded the Current Planning Target and Cannot Meet Future Development Needs

The land scale of urban and rural construction projects in Tongde County by 2014 had exceeded the current planning target of 89.14 hectares. From the perspective of ensuring the construction of key projects and promoting the economic and social development of Tongde County, the pressure on the indicators of construction land in Tongde County from 2015 to 2020 is relatively high and cannot meet the needs of economic and social development there.

3.4 Inadequate Connection with Other Plans

Due to the inconsistency of the preparation cycle, the preparation planning period of the overall plan of land use is longer than the planning period of other plans (town planning, transportation and water conservancy development planning, tourism development planning, etc.). New construction plans will inevitably generate new project requirements, leading to insufficient guarantees for newly included major projects in the overall plan of land use.

4. Adjustment Measures for the Overall Planning of Land Use of Tongde County

4.1 Adjustment and Implementation of Planning Indicators

The development positioning of land use determines that Tongde County needs to seize the new strategic opportunities of the province participating in the construction of the “Belt and Road”, and give full play to its unique humanistic advantages. In this context, Tongde County is planned to be built into a demonstration area for integrating the Sanjiangyuan Region into the “Belt and Road” construction. Based on the main functional zoning and ecological red lines, Tongde County will build a new spatial development pattern featured by “four districts, four bases, two lines, two screens and one center”. Tongde County needs to implement a land use strategy of “ecology first, protection of arable land, space optimization, and conservation and intensive”, so as to effectively change planning concepts and protect the cultivated land and ecological environment. It is also very important to optimize the structure and layout of urban and rural land and strictly control the scale of construction land. In addition, there is a need to optimize the structure and layout of land use as

the main line to achieve the overall goal of “adjusting structure, optimizing the pattern, and promoting development”.

4.2 Decomposition and Implementation of Planning Indicators

4.2.1 Target of Cultivated Land Retention

According to this adjustment plan, the scale of cultivated land in this county will reach 11156.91 hectares by 2020, with an increase of 190.00 hectares compared with the current plan. Table 1 shows the adjustment of the cultivated land retention index of each township.

Table 1 Adjustments to The Amount of Cultivated Land in Tongde County Unit: Hectares

Administrative District	Cultivated land area in 2014	2020 (before adjustment)	2020 (after adjustment)	Adjustment situation
Tongde County	11507.24	10966.91	11156.91	190.00
Gabasongduo Town	4813.86	4461.14	4648.27	187.13
Tanggu Town	2023.74	1925.63	1975.30	49.67
Bagou Township	2721.06	2663.92	2688.63	24.71
Xiuma Township	187.50	187.50	112.47	-75.03
Hebei Township	42.96	42.96	30.96	-12.00
Provincial pasture breeding ground	1746.20	1685.76	1701.28	15.52

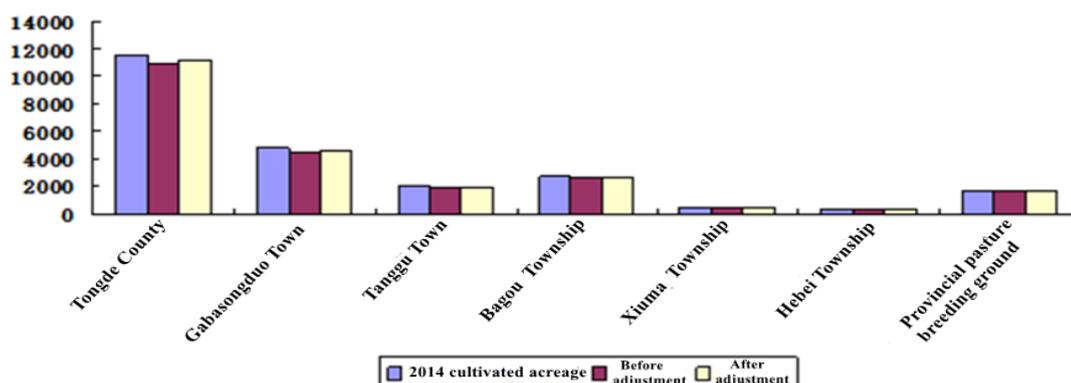


Fig.2 Analysis of Adjustment of Cultivated Land Retention in Tongde County

4.2.2 The Protection Target of Permanent Basic Farmland

According to this adjustment, the state level has assigned the protection target area of 9,695.00 hectares of permanent basic farmland. Tongde County has actually implemented 9,696.25 hectares, with an increase of 54.15 hectares from the current planning target of 9,641.88 hectares. The adjustment of the protected area of permanent basic farmland in each township is shown in Table 2.

Table 2 Adjustment of Protected Area of Permanent Basic Farmland in Tongde County Unit: Hectare

Administrative District	2020 (before adjustment)	2020 (after adjustment)	Adjustment situation
Tongde County	9641.88	9696.03	54.15
Gabasongduo Town	4287.02	4275.69	-11.33
Tanggu Town	1774.18	1823.27	49.09
Bagou Township	2231.65	2247.85	16.20
Provincial pasture breeding ground	1349.03	1349.22	0.19

4.2.3 Scale Control of Construction Land and Newly Added Construction Land

Through this adjustment and improvement, the total scale of construction land is controlled within 2438.47 hectares. The scale of urban and rural construction land is controlled within 2017.74 hectares; the scale of industrial and mining land is controlled within 498.60 hectares, and the per

capita urban industrial and mining land is less than 220.00m² per person. According to the current plan, the scale of new construction land will be controlled within 652.15 hectares by 2020. The adjustment of the overall plan will control the new construction land index of the county within 325.00 hectares in the period from 2015 to 2020.

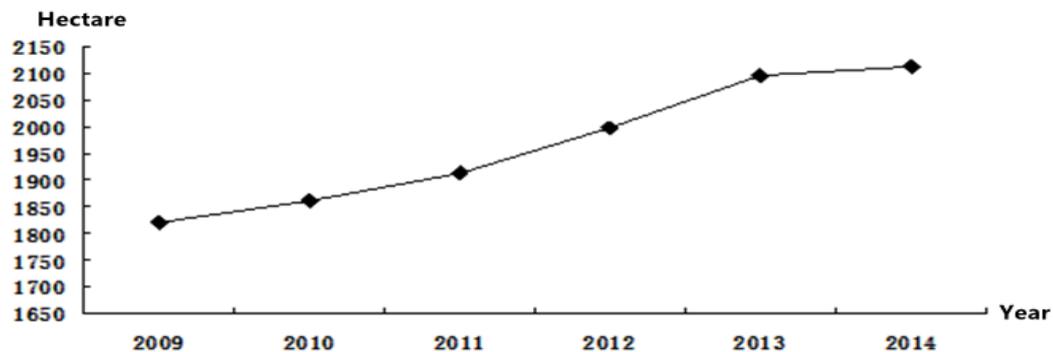


Fig.3 The Change Curve of Construction Land in Tongde County over the Years

The construction land in Tongde County showed an increasing trend in the period from 2009 to 2014. Using trend extrapolation to perform linear fitting, the linear function is obtained as:

$$Y=172.47X+1619.13$$

According to the prediction of the county's construction land scale in 2020 based on the linear function, the author combined the county's key construction projects and key town development plans during the 13th Five-Year Plan period, and finally determined that the total scale of construction land would be 2,481.48 hectares, with an increase of 368.01 hectares based on that of 2014.

5. Conservation and Intensive Use of Land

5.1 The Overall Goal of Economical and Intensive Utilization

Leveraging the stock with increments will be used to link the newly added construction land index with the saving and intensive index as well as the digestion and utilization of approved land, thereby promoting the transformation of land use patterns. According to the actual situation, Tongde County will promote the level of land intensive use, increase the potential of construction land in stock, expand new space for construction land, establish a new mechanism for land consolidation in towns and villages, integrate idle land, and increase land utilization.

5.2 Planning for Economical and Intensive Land Use

5.2.1 Planning for Intensive Use of Construction Land

In accordance with the principle of “tapping the potential of stock, intensive new addition, and total control”, Tongde County will leverage the stock with increments, accelerate the “potential tapping and efficiency enhancement” of the existing construction land, promote industrial transformation and upgrading, and improve land use efficiency. Attention will also be placed on steadily promoting the organic renewal of cities and towns, the redevelopment of inefficient land, the digestion of approved unused land, and the revitalization of stock construction land, so as to fully tap the potential of existing stock construction land. At the same time, in addition to strengthening the management of planning and construction of villages and towns, various ways like poverty alleviation construction in agricultural and pastoral areas, nomad settlement projects and village renovation will be implemented to encourage and support farmers to build relatively concentrated houses, so as to orderly promote the moderate concentration of scattered rural settlements. .

5.2.2 Planning for Intensive Use of Agricultural Land

It is extremely important to promote the scientific layout of various types of rural land, encourage agricultural land to combine various production functions in accordance with the circular economy model, thereby achieving compound and three-dimensional use of land. Stress will be placed on coordinating the improvement of agricultural land, increasing the area of arable land, enhancing the quality of farmland, improving agricultural facilities and production conditions. Combined with the red line of permanent basic farmland protection and the red line delineation of ecological protection, Tongde County will retain contiguous high-quality farmland and vegetable plots. It is necessary to improve agricultural production technology and increase agricultural labor productivity through the implementation of agricultural industrialization and large-scale operations. There is also a need to optimize the structure and layout of agricultural land, realize the modernization of agricultural production, and improve the efficiency and level of agricultural land utilization.

6. Regulation and Arrangement of Urban and Rural Construction Land

6.1 Make Overall Arrangements for Urban and Rural Construction Land

In accordance with the requirements of overall planning and reasonable arrangements, it is needed to first follow the principle of avoiding areas prone to geological disasters and prohibiting laying out land for construction purpose in areas prone to geological disasters. Secondly, Tongde County should guarantee the use of land for central urban areas and major infrastructure, guide the scientific and rational layout of urban and rural construction land, adjust the structure and promote the coordinated development of urban and rural areas. It is significant to effectively control the total amount of construction land, rationally arrange new construction land, tap the potential of stock construction land, and scientifically delimit the expansion boundary of construction land. Tongde County should focus on guaranteeing construction land for the development of “a central town, a sub-central town, four key market town core areas and key industrial platforms”, coordinating the needs of various industries and various types of land, and enhancing the spatial agglomeration and planning control capabilities of construction land.

6.2 Reasonably Arrange Land Use for Rural Residential Areas

It is needed to coordinate urban and rural development and promote the process of urban-rural integration in accordance with the layout framework planned by the urban system. Attention should be also paid to accelerating the process of urban-rural integration in dense urban areas, steadily promoting urbanization, and improving the quality of urbanization. In general agricultural development areas, it is necessary to speed up the construction of central towns and central villages, and integrate scattered rural settlements. Tongde County can take the projects “Plateau Beautiful Village” and “Poverty Alleviation Village Construction” as the carrier to carry out the construction of new countryside, transform rural housing, rectify the rural environment, improve rural public services and basic supporting facilities, and build a community-based new countryside. On the basis of summarizing and objectively evaluating the effects of urbanization and resettlement of farmers and herdsmen in recent years, Tongde County should continue to implement the housing construction project for farmers and herdsmen, and promote the transfer of them from the core areas of important water source reservoirs and “high, distant, remote, and small” areas to central urban areas, central towns and central villages. It is significant to strengthen the construction of an integrated urban-rural forest ecological network and build a green home. The planned village reconstruction is divided into three categories: overall relocation, upgrading and integration, and reconstruction and improvement.

The prediction of land use in rural residential areas adopts the index prediction method, which is calculated based on the rural population and the per capita land use indicators in rural residential areas. The calculation formula is as follows:

$$Z = P * J$$

In the formula, Z refers to the area of rural settlements in the planned year; P refers to the rural

population in the planning year; J refers to the per capita land use scale of rural settlements. The specific steps of the calculation are as follows:

1) Determine the per capita land use of rural residential areas during the planning period. In 2014, the rural residential area in Tongde County was 1,458.14 hectares, the rural population was 49,297, and the per capita land use was 295.79 m²/person. According to the actual situation in Tongde County, the implementation of the nomadic settlement project and the increase in rural infrastructure construction, the per capita land use of rural residents in 2020 was planned to be 327.40 m²/person.

2) According to the forecast of the overall planning, the rural population of Tongde County in 2020 will be 46,339.

3) Based on the determined per capita construction land scale of rural residents and the rural population, the scale of village residential land use in 2020 will be 1517.14 hectares according to formula calculations.

6.3 Land Use Arrangement for Key Construction Projects

The construction of key projects and facilities is related to the overall national economy and long-term development of Tongde County, and the achievement of the planning is mainly supported by key projects. Therefore, key guarantees should be given to land use for infrastructure projects during the planning period, such as transportation, water conservancy, and energy.

6.3.1 Transportation Project

By 2020 (after adjustment), the transportation land will increase to 367.56 hectares -- 98.99 hectares more than that in 2014. During the planning period, it is necessary to ensure the construction land for national and provincial key transportation projects, satisfy the land demand for the main traffic in the province, and rationally arrange the land for rural roads. It is feasible to focus on the construction of high-grade highways and road networks in central urban areas, while improving the urban and rural transportation network. Tongde County can rely on the regional backbone transportation network to promote the construction of rural networked road projects, strengthen the transformation and maintenance of county and township roads, and further increase the construction of graded roads and road security projects in tourist resorts, industrial parks, central towns, and central villages, with a view to building an “ecological transportation” network system that interconnects urban and rural areas and interoperates functions within the county.

6.3.2 Water Conservancy Projects

By 2020 (after adjustment), land for water conservancy construction will reach 44.80 hectares, with an increase of 14.01 hectares compared to 2014. During the planning period, the land use standards for water conservancy facilities should focus on ensuring the safety of water resources and resisting natural disasters. Tongde County should give priority to ensuring the improvement of the protection and allocation of water and soil resources, resisting storm surges and floods, and guaranteeing the land for various projects whose main content is to meet urban water demand and improve farmland water conservancy conditions.

6.3.3 Tourism Projects

By 2020 (after adjustment), the scale of tourist attractions and special use land will reach 8.37 hectares, with an increase of 3.00 hectares compared to 2014. During the planning period, relevant departments should fully tap the resource advantages of religious temples, virgin forests, and Yellow River canyons in Tongde County, and accelerate the development of the tourism industry which focuses on religious and cultural tourism and ecological tourism. It is necessary to attach great importance to building a number of religious tourist attractions with regional, cultural, ethnic, and cultural connotations. Relying on the existing Tibetan culture film and television production bases, Zongri ancient cultural remains, ancient tamarisk plants and unique plateau scenery, Tongde ecological and cultural tourism can be included in the province's tourism circle. Tongde County should make every effort to promote the deep integration of eco-tourism and humanistic culture in

the county, and develop religious and cultural tourism, focusing on building a number of religious tourist attractions with regional, cultural, ethnic and cultural connotations, such as Shizang Temple, Douhouzong, Sailihai, Deqian, Xiangchi Temple, etc. Humanities and ecological tourism can be developed, and the development of the Hebei Forest Farm, Jiangqun Forest Farm and other ecological tourism sightseeing areas can be accelerated, thereby creating a number of well-known tourist attractions such as “a place for fairies to play”, “the last Shangri-La, the hometown of myths, a paradise for forests and birds”, and “the home of King Gesar”. The development of “Yellow River Canyon Adventure Tour” is also a good strategy.

7. Conclusion

The adjustment and improvement of the overall land use plan of Tongde County is mainly to implement the new development concepts of being innovative, coordinative, green, open and sharing, and to promote better integration of various plans with the overall land use plan in terms of land use scale and layout. The focus is also on rationally adjusting the land use structure, optimizing the spatial layout of land use, adhering to the red line of cultivated land protection, coordinating and advancing the delineation of the “three lines”, and actively advancing the supply-side structural reform. At the same time, it is advocated to improve the level of conservation and intensive use of land resources, and ensure the land demand for economic and social development in Tongde County during the “13th Five-Year Plan” period, so as to provide a solid resource guarantee for the decisive victory in building a well-off society in an all-round way.

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