Research on the Strategy of Rural Territorial Space Renovation under the Background of Rural Revitalization -- Take Gaozhai Village, Xing'an County as an Example

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Abstract. Rural Revitalization is a major national strategy in the new period, and how to implement the land space renovation and ecological restoration with "landscape, forest, farmland, lake, grass" system as the main content has become a major problem directly affecting rural development. Taking Gaozhai village in Xing'an County as an example, the paper analyzes the problems existing in the territorial space renovation by analyzing its land space situation, and puts forward corresponding suggestions and specific measures, so as to provide reference for improving the ecological conditions of rural production and living and comprehensively realizing the Rural Revitalization.

1. Introduction
Rural revitalization is the party central committee to build a well-off society in an all-round way and the construction of modern socialist country in the party's "The 19th National Congress of CPC" major strategic decisions made in [1], bearing the historical task of building a well-off society in an all-round way and building a modern socialist country, as well as an important mission to solve the "three agriculture" problems in the new period overall requirements are "prosperous industry, livable ecology, civilized countryside, effective governance and prosperous life" [2-3], including industrial revitalization, talent revitalization, cultural revitalization, ecological revitalization and organizational revitalization, which is the overall layout of "five-in-one" and the embodiment of "four comprehensive" strategy layout in the work of "agriculture, rural areas and farmers" [4]. In 2018, the State issued the "Opinions on Implementing the Rural Revitalization Strategy" (Zhongfa [2018]No.1) and formulated the "Rural Revitalization Strategic Plan(2018-2022)" [5]. Rural revitalization requires not only the consideration of land use, industrial development, distribution of residential areas, improvement of living environment, ecological protection and historical and cultural inheritance, but also need the support and guidance of territorial space planning [6]. Territorial space planning is the foundation for the implementation of the rural revitalization strategy. In 2019, the state issued "Several Opinions on The Establishment of Territorial Space Planning System and Supervision of its Implementation"(Zhongfa [2019] No.18), making a major deployment for the compilation of land and space planning throughout the country [7]. In order to coordinate the ecological protection and restoration of mountains, rivers, forests, fields, lakes and grasses in the new era, the Ministry of Natural Resources requires that the territorial space renovation and ecological restoration, Starting
from the perspective of promoting the use of natural resources and environmental protection and the relationship between man and land, and become an important helper for rural revitalization [8-11].

Territorial space planning renovation and ecological restoration is to protect the degraded and damaged ecosystem of mountains, rivers, forests, fields, lakes and grasses, adjust and optimize the structure of land space elements and the pattern of land space development, create an intensive and efficient production space, a pleasant and livable living space, and a beautiful ecological space, so as to comprehensively promote resource conservation and improve the utilization efficiency of regional resources, and increase the natural ecosystem and Environmental protection efforts to promote the security and stability of the ecosystem and the comprehensive, coordinated and sustainable development of the region [12-13]. As an important way to improve agricultural production conditions, rural living environment and ecological conditions, Territorial space renovation and ecological restoration are the basis for realizing the strategic goal of Rural Revitalization and building harmonious and unified characteristic villages. Gaozhai village, located in the periphery of Maoer Mountain National Nature Reserve, is the third batch of famous scenic tourism towns and villages with national characteristics. Under the background of rural revitalization, strengthening the land and space management of Gaozhai village is of great practical significance for improving the quality of ecological environment and build a beautiful countryside in Gaozhai.

2. Composition and renovation of Gaozhai Village's territorial space

2.1. General situation of Gaozhai Village
Gaozhai village is subordinate to Huajiang Township, Xing'an County. It is located in the north of Huajiang Township and at the south foot of Maoer Mountain, the highest peak in South China. Gaozhai village is about 15 km away from Huajiang township government, 67 km from Xing'an County Government, and 90 km from Guilin downtown. It has jurisdiction over 10 natural villages, with 350 households and 1162 people in total. The average natural population growth rate in the past three years is 3.2% (government statistical report). At present, the economic income of villagers mainly comes from the operation of agritainment, go out to find work, planting bamboo and medicinal materials, and breeding native chickens and ducks. The annual per capita disposable income of residents' families reaches 18235 yuan (in 2018). In addition to 54 families that develop and operate the agritainment, due to the low income of planting moso bamboo and medicinal materials and breeding native chickens and ducks, most of the villagers' family income mainly comes from go out to find work, engaged in road construction, bamboo cutting and other work in the surrounding areas, with an average income of 30000-40000 yuan. In terms of ethnic customs, Gaozhai village, as a gathering village of ethnic minorities, is represented by Yao, Dong and Miao ethnic groups, of which the majority are Yao, which retains a strong traditional Yao culture. Yao compatriots are good at singing and dancing. They should sing accompanying songs at weddings of men and women, and like to sing folk songs when working. Folk customs have become a major feature of Gaozhai village and an important resource for future development.

2.2. Composition of territory space
According to the "Notice of the Ministry of Natural Resources on the Comprehensive Development of Land and Space Planning" (Ministry of Natural Resources [2019] No.87) and the Guangxi Department of Natural Resources "Guangxi Zhuang Autonomous Region Village Planning and Compilation Technical Guidelines (for trial implementation in 2019)"[14]. The land use of Gaozhai village is divided into basic farmland protection area, general agricultural area, rural construction area, independent industrial and mining area, scenic tourism area, ecological security control area, forestry area and other areas. In 2019, the total land area of Gaozhai Village is 4,137.5514 hectares, with agricultural land accounting for 95.79% of the total land area of the village. There are 109.19 hectares of arable land; Construction land accounts for 1.15% of the total land area of the village; The residential land area accounts for 47.68% of the total construction land area. Other land, including
river water and bare rock and gravel, accounts for 3.06% of the total land area of the village. Forest land accounts for 92.70% of the total land area of the village. According to the "Production-Life-Ecology" space division, Gaozhai Village ecological space area 3206.28 hectares, accounting for 77.49%, production space area 890 hectares, accounting for 21.51%; Living space area 41.57 hectares, accounting for 1.00%; The ecological space category is the natural forest within the village area, mainly arbor forest, and some national protected plants such as hemlock, which are called "living fossils". The production space consists of 688.18 hectares of artificial bamboo forest. The living space type is the construction land based on human activities.

![Distribution map of resource elements in Gaozhai Village](Picture from the author painting)

Figure 1. Distribution map of resource elements in Gaozhai Village

2.3. Territorial space renovation

(1) Renovation of production space. The comprehensive improvement of agricultural land mainly includes comprehensive improvement of agricultural land, comprehensive improvement of low-efficiency artificial forests and improvement of the quality of agritainment. The comprehensive improvement of agricultural land has level off the village land, improved irrigation and drainage, paved field roads, improved dry land and small and large pieces, etc., which shall be financed by the government and implemented by the village Committee. Comprehensive improvement of low-efficiency artificial forests is the of artificial bamboo forest structure adjustment, increase evergreen trees planted area appropriately, to develop bamboo varieties selection, breeding and
popularization and investigations of the moso bamboo forest ecology, close to nature management forests economy development, establish characteristic planting demonstration garden and aquaculture demonstration garden, is solved by the government funds and organize their implementation, village and the villagers to participate in the relevant work; The improvement of the quality of agritainment is to comprehensively improve the catering and accommodation environment, optimize the service projects and contents, and improve the service level and quality. The local residents are responsible for the implementation with their own funds.

(2) Renovation of living space. It mainly includes the renovation of rural infrastructure and living environment, including the renovation and expansion of second-level tourist roads and internal roads from Ruwei to Gaozhai, supporting construction and renovation of bus shelters and road greening, etc. The government is the main investor in construction, and the county, township and village committees coordinate to solve the construction occupation problem. The renovation of living environment refers to the renovation of residences, orderly withdrawal homestead and renovation of old or idle it; The environmental renovation and landscape construction in the village are mainly to standardize the management of the village garbage, village greening, the construction of Yaoyun leisure cultural square and public toilets, and the renovation of residential features, etc. Public facilities such as Yaoyun leisure cultural square and public toilets shall be financed by the government, and the construction shall be organized by the village Committee. Other funds shall be jointly solved by the government, the village Committee and the villagers, and the villagers shall carry out the specific work.

(3) Ecological space renovation. It mainly focuses on the comprehensive improvement of the river landscape ecology in the village, including river dredging, riverbank reinforcement and ecological restoration, riverbank landscape beautification, as well as the key improvement of the polluted water area and the disorderly discharge of domestic garbage and sewage. The government shall solve the expenses, and the village Committee shall organize the implementation.

3. Existing problems in the utilization of territorial space

3.1. Low operating benefit of production space

3.1.1. Degradation of cultivated land production and management.
At present, the per capita available arable land area in Gaozhai Village is small and too dispersed, with complicated and long roads, uneven land, poor irrigation and farming conditions, poor quality of cultivated land and poor agricultural production conditions. Some cultivated land has been abandoned for planting Chinese fir and other trees. Most villagers lease or sell cultivated land and forestland to enterprises or individuals, who grow medicinal materials and fruits, etc. However, due to the lack of professional technology, improper selection of varieties, and no specific measures to deal with rainy season, diseases and insect pests, the phenomenon of cultivated land being abandoned after lease is prominent.

3.1.2. Decline in production and management benefits of forest land.
Gaozhai Village has a total of 688.18 hectares of artificial bamboo forest, planting area is large, used to be the main source of prosperity for local residents. However, in recent years, due to the impact of bamboo variety, management technology and market changes and other factors, especially extensive management, the surrounding lack of bamboo deep processing enterprises and rising labor force cost, the annual net income per mu of bamboo planting and management is 50-60 yuan, the income is even lower than the put bamboo forest rent to enterprises. Decline in moso bamboo forest management benefit, damage to the production and operation of the villagers enthusiasm, so that the moso bamboo forest production and operation in reducing, form a vicious circle.
3.2. Low quality and disorder of living space construction

3.2.1. Imperfect transportation infrastructure.
At present, in and out of Huajiang township and only 1 Gaozhai village roads, village road system is not perfect, not only the level is not high, and some roads pavement damage is serious, the trunk road is not flat, no hardening of part of the road, road surface wet muddy the rainy season, the road width not only can't meet the provisions of the state of 6 meters, and have not reached the village road safety construction standard. Between various hamlet tiny narrow roads, camber, large slope, most no hardening, no bus pass, small vehicle passing each other can't normal, and there is no parking or public facilities such as parking Spaces, the villagers of the private cars parked in the yard of a narrow or roadside fields, serious impact on road traffic and traffic safety.

3.2.2. The living environment is in disorder.
With the acceleration of village construction, more and more villagers built new houses on both sides of the old houses, which gradually collapsed and collapsed, forming scattered abandoned and idle village house sites and construction land. Modern small house and old house interlock, due to the lack of professional planning and design, architectural style is inconsistent, destroyed the original harmony and unity of the aesthetic. At present, the village has built public service facilities, such as the village committee, village clinic, village kindergarten, etc., and lacks libraries, express stations, nursing homes, sports and fitness activities venues and other places. The existing basic public service facilities cannot meet the villagers' material and cultural needs.

3.3. Potential risks of ecological space are large

3.3.1. Environmental pollution is common.
Gaozhai Village is located in the Ecological protection zone of Li River, which is a region with strong ecological sensitivity. If the ecological environment is damaged, the side effects and harms will be great. According to the field investigation, it is found that there is no tap water or unified and complete water supply system in Gaozhai Village. The villagers use mountain spring water alone or jointly by several households together. The water body has not been treated with basic filtration, precipitation and disinfection, and the drinking water quality of residents cannot be guaranteed. Secondly, in the dry season, mountain spring is often cut off, and severe weather, such as rainstorm, can easily lead to the blockage of water pipeline, and the basic water for daily life cannot be guaranteed. Since the village does not have any sewage system, the sewage from each household septic tank is discharged into the nearby river or fields along the natural or artificially modified storm gutters, which pollute the river and fields.

3.3.2. Management of public welfare forests is not scientific.
First of all, there is no regular monitoring and management of the growth and protection status of ancient trees in the village, which results in scattered vegetation growth and damage to different degrees within the scope of the village. Second, bamboo industry as an important rely on rural economic development, the current operation and management is not science, because of the economic benefits of bamboo industry, the villagers to excessive development of forest land, deforestation, destruction, Lin line phenomenon occurs frequently, will not only cause the loss of forest ecological function and degradation, is also a cause of pollution increases the risk of the Li river valley. Finally, due to the impact of non-human environmental factors, such as landslides and natural disasters such as soil erosion, the vegetation in mountain areas is also damaged to varying degrees.
4. Countermeasures for the Renovation of village territorial space

4.1. Strengthen the control of cultivated land and consolidate the foundation of agricultural production development

We will keep to the red line of arable land and basic farmland, make overall arrangements for agricultural, forestry and by-product production, and promote the development of circular and ecological agriculture. We will guide villagers to level off land, increase the effective area of cultivated land, and improve the ecological environment. Improve the layout of supporting facilities for irrigation and water conservancy, improve the quality of effective cultivated land through irrigation and drainage transformation, meet agricultural production conditions, and guarantee the reasonable development space of facility agriculture and agricultural industrial parks [15]. We will promote agricultural mechanization operation, paved roads through the plot, the quality of land concentrated, we can build ecological agriculture tourism create conditions and can also improve the land production capacity, to help the villagers increase revenue. Help Gaozhai village to achieve the strategy of rejuvenating the country prosperous industry, life of abundance.

4.2. Innovate forestland management and increase the comprehensive benefits of forestry management

Optimize the scale of forestry land, reasonably adjust the structure of artificial forest land with low economic value, especially optimize the proportion of bamboo forest and Chinese fir forest structure. On the premise of voluntary participation, the villagers should be reasonably guided to carry out diversified management, gradually transform artificial bamboo forest and Chinese fir forest with single structure and function, and appropriately increase the planting area of evergreen trees under the condition of ensuring the stability of ecological. Secondly, focus on the improvement of new bamboo varieties and breeding of fine varieties, and bamboo forest ecological, near natural management technology innovation exploration, expand the bamboo industry chain, improve the added value of bamboo industry, steadily improve the output and quality of Bamboo. Under the background of rural revitalization, under the guidance of government funds, policies and technologies, the villagers are encouraged to actively develop the undergrowth economy, establish characteristic planting demonstration parks and characteristic breeding demonstration parks, improve the production and ecological value of forest land, and realize the transformation and upgrading of forest industry.

4.3. Strengthen courtyard construction and innovate rural development mechanism

Make an overall plan for the scale and scope of house site construction, take into account the cultural characteristics of local Yao nationality and residents' living habits, put forward the style control requirements of new housing according to local conditions, and strictly implement the policy of "one house for one family" [15]. Guiding and exhorting farmers who have two houses or more than one house. At present, Gaozhai Village still has more than one household or idle homestead. Through the implementation of the linking project of urban and rural construction land increase or decrease, the villagers are guided to withdraw from the old or idle homestead in an orderly manner, and the government will give appropriate economic compensation or reward to the cleared homestead according to the national policy. In line with the rural revitalization strategy, we will build "micro-farmland, micro-vegetable garden, micro-orchard and micro-courtyard" in accordance with the surrounding environment of the land plots to promote the development of the secondary and tertiary industries. For the homestead with restored value, it can be built into a special minshuku or shop according to its own characteristics to assist the integrated development of the primary, secondary and tertiary industries.

4.4. Strengthen environmental remediation to increase the quality of living environment

The main problems facing the living environment of Gaozhai village are household garbage and sewage treatment. First of all, rural garbage classification should be advocated, by entering the home
to promote, villagers should be instructed to classify household garbage according to dry and wet garbage. The wet garbage is treated in the mode of "household concentration and household treatment". The wet garbage is used as fertilizer, and the closed loop of wet garbage recycling and utilization is completed by means of on-site landfill, fermentation and transformation. Dry garbage adopts the mode of "household collection, village collection, town transfer and county treatment" to transfer dry garbage to the garbage disposal site for centralized treatment. Secondly, a village-level sewage collection and treatment system should be established to improve the design of sewage pipe network in the village to prevent the occurrence of backward irrigation of sewage in rivers and fields. Finally, repair the road in the village, achieve the road level, road width to reach the standard. Guide villagers to protect road property and ensure highway safety and smooth traffic. Create a clean, comfortable, safe and unobstructed living environment.

4.5 Strengthen environmental remediation and increase ecological protection capability

Every year, flood disaster occurs in Gaozhai Village, which not only seriously affects the safety of life and property of surrounding residents, but also causes great damage to the landscape around the river. Therefore, it is necessary to dredge, reinforce and beautify the river so as to prevent canalization, maintain the natural shoreline and tidal flats, and enhance the self-purification capacity of water body. Specific measures include: to protect river natural form, is strictly prohibited illegal take the disruptive behavior such as sand, clear in time dredge channel, ensure smooth flow of water, prone to washed out location for key repair, strengthen the construction of village sewage system, control source interception pollution, and strict with rain sewage diversion, strictly strictly prohibit raw sewage directly into the waterways, reduce pressure on pollution [16]. Protect the original natural form and ecological scenery of Gaozhai Village, implement the ecological protection scope, clarify the ecological space system such as forest, lake and grassland, and strive to achieve a clear and unobstructed water environment with water quality and beautiful and green riverbank ecology, and create an ecological and livable natural environment.

5. Conclusion

The strategy of territorial space renovation, ecological restoration and Rural Revitalization, Their goal is the same, all for better and faster development of rural areas. By improving rural production and living conditions, the strategic needs of rural revitalization, including prosperous industry, ecology livable, civilized countryside, effective governance and rich life, are realized, It's going to be built on a belief that is "mountains, rivers, forests, fields, lakes and grasses is community of destiny" and "lucid waters and lush mountains are invaluable assets." [3]. Gaozhai Village, the case, under the background of rural revitalization strategy, has studied the living environment, industrial development, ecological construction and other aspects. The territorial space renovation and ecological restoration projects are carried out by using rural cultivated land quality improvement and transformation projects, urban and rural construction land increase and decrease link project, rural environment comprehensive improvement project, inefficient artificial forest improvement project and river landscape ecological comprehensive improvement project. First, use of concentrated cultivated land resources, the use of modern production technology, adjust the industrial structure, vigorously develop vice, forestry, animal husbandry and fishery industries, to realize 1, 2, 3 industry integration development, at the same time, strengthen the construction of infrastructure, improve the rural road network, make transportation fast and convenient, and help the rural industry to thrive and live a prosperous life. Secondly, through the water and forest remediation projects help ecological livable, and move villages and sites by carrying out urban and rural construction land increase and decrease linked projects, so as to guide village farmers to live in a centralized way and make intensive use of resources. The road construction, water conservancy and transportation facilities, sewage and garbage treatment and collection were rectified to create a harmonious environment between man and nature. Finally, government departments at all levels help rural governance to be effective. Relevant government departments take the initiative to organize project implementation and management, and farmers
collectively actively participate in and cooperate with the project, earnestly express their demands, and promote the smooth implementation of the project. With the rural revitalization as the background, land space renovation and ecological restoration as the means, to meet people's production and living needs, reduce the damage to the ecosystem as the goal, and comprehensively optimize the ratio of rural land space elements. The above contents provide reference for strengthening the construction of civilized ecological village, saving and intensive land use, and promoting the overall progress of economy and society.

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