Research on the Countermeasures of Rural Ecological Environment Governance: Taking Qingyanggang Village in Hubei Province

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Abstract. The problem of inadequate development and inadequate development in my country is evident in rural areas, especially in ecological governance. This article takes Qingyanggang Village, a village in the Jianghan Plain, a land of fish and rice as an example, to focus on analyzing and studying the difficulties and problems in its ecological governance: lack of infrastructure for domestic sewage treatment, the slow accumulation of domestic garbage, lack of environmental awareness among villagers, and serious rural agricultural pollution. In view of the existing problems, and in accordance with the basic requirements of national ecological civilization construction and rural ecological revitalization, corresponding suggestions were put forward to promote the Qingyanggang village revitalization plan as a whole, increase the effective utilization of resources, accelerate the ecological environment governance, and promote Qingyanggang village Revitalize green and sustainable development.

Keywords. Ecological environment; governance measures; rural; Qingyanggang village.

1. Introduction

Since the Eighteenth National Congress of the Party, the Party Central Committee with Comrade Xi Jinping at its core has taken ecological civilization construction as an important part of overall planning to advance the overall layout of the "five in one" and coordinated advancement of the strategic layout of the "four comprehensives", and has proposed a series of new concepts and ideas New strategy [1]. Adhering to the harmonious coexistence of man and nature, protecting the ecological environment, promoting green development, and building a beautiful China are the fundamental followers for promoting the construction of ecological civilization in the new era. They also have important guiding significance for solving the "three rural" issues and building beautiful villages. At present, the problem of uneven development and inadequate development in my country is manifested in rural areas, especially in ecological governance. In 2018, the Central Document No. 1 “Opinions of the Central Committee of the Communist Party of China on the Implementation of the Rural Revitalization Strategy” emphasized that: by 2020, important progress will be made in the rural revitalization and the rural ecological environment will be significantly improved [2]; The governance system has been further improved; the rural ecological environment has fundamentally improved, and beautiful and livable villages have been realized. As a large agricultural country with a long history, the rural area covers a vast area and a large number of people. Rural ecological governance is essential
to comprehensively promote the construction of ecological civilization. Establish and improve the urban-rural integration development system mechanism and policy system, coordinate the promotion of rural economic construction, political construction, cultural construction, social construction, ecological civilization construction and party building [3], accelerate the modernization of the rural governance system and governance capacity, and accelerate the modernization of agricultural and rural take the path of revitalizing socialist villages with Chinese characteristics, make agriculture a leading industry, make farmers an attractive profession, and make villages a beautiful home for living and working in peace and contentment.

2. Background of Qingyanggang Village
Qingyanggang Village is affiliated with Maojiagang Town, Gong'an County, Jingzhou City, Hubei Province. It is located in the northwest of Maojiagang Town, connected to Yuhu Lake in the east, Songzi River in the west, Guangou Market Town in the south, and Xinshuguang Village in the north. The topography of the village is flat, the overall west is high and the east is low, the land is fertile, the ditches are interlaced, the water system is developed, and the wetland resources are abundant. The village is close to the Jingjiang Flood Diversion Project Monument, Beizha National Water Conservancy Scenic Area, Baoci Temple, Jade Lake, Niulang Lake and other tourist attractions. Its rural features and ecological environment contribute to the sustainable development of nearby scenic spots.

After a long period of development, the primary industry of Qingyanggang Village has formed relatively mature industry types, mainly including food crops, cash crops, animal husbandry and aquaculture. The types of different types of crops are rich and diverse, and realize a diversified breeding pattern. At present, Qingyanggang Village has formed three pillar industries, leading the development of the whole village, mainly including the lotus root lobster interplanting and breeding base in Chuyunshui Township, Lvyinkang Family Farm in Gong'an County and Jingzhou Binhu Beef Cattle Breeding Co., Ltd., vigorously promoting ecological agriculture Development, relying on the rural ecological industries such as shrimp-rice industry and special planting and breeding, not only promotes rural economic development, expands rural employment, but also reduces agricultural non-point source pollution, forms a green growth model, and effectively drives the development of the village economy.

The population of Tujia people in Qingyanggang Village reached 52%. In 2008, the People’s Government of Gong'an County named Qingyanggang Village "Qingyanggang Tujia Village". It is the only minority village in Gong'an County. It promotes rural culture and rural economic development. Combining ecological and environmental protection, combining with the requirements of the times to inherit and innovate, integrate culture with tourism, agriculture, science and technology, ecology, finance, etc., do a good job of rural ecological environment governance [4], promote the transformation and upgrading of rural construction, and promote the integration of "culture +" diversity Model, continuously improve the creativity and productivity of rural culture and economy, create distinctive ethnic villages, and create a new trend of rural development.

3. Problems in the Ecological Environment Management of Qingyanggang Village
The ecological environment pollution of Qingyanggang Village can be roughly divided into the following parts: breeding and breeding pollution, large-scale livestock and poultry pollution to the surrounding surface water, and its odor cause discomfort to the surrounding residents, and at the same time, fertilizer, pesticides, and plastic film in the process of agricultural breeding It also causes water pollution; landfill pollution not only occupies land space, but also has certain pollution to soil and groundwater; domestic pollution, residents’ domestic wastewater is directly discharged into adjacent water bodies, causing water pollution and deterioration of water quality. The reason is:
3.1. Domestic Sewage Treatment Facilities are not Centralized

At present, there is no centralized domestic sewage treatment facility in Qingyanggang Village, and domestic sewage is randomly discharged, which has a greater impact on the revitalization of the rural water environment. Local rural sewage is mainly toilets, baths, laundry, kitchen sewage, etc., which is basically free of heavy metals and toxic and hazardous substances, contains a certain amount of nitrogen and phosphorus, and has good biodegradability [5]; scattered households, lack of system drainage pipes, and centralized sewage treatment difficult. There is no sewage treatment plant in Qingyanggang Village and no agricultural water-saving system. It is necessary to improve agricultural water-saving engineering measures, give priority to promoting the development of water-saving irrigation in major agricultural production areas and areas with a fragile ecological environment, and improve the utilization rate of field irrigation water.

The construction of tap water pipes in the village is perfect, and the water in the ditches is only used for irrigation. The large-scale treatment of the ditch requires project support and insufficient funds. There are excavators to clean the ditch every year. The 600-meter ditch is treated ten times a year. The cost of medicine and herbicide is about 1700 Yuan once. There are planning intentions for building residential quarters on both sides of the ditch. Due to a large number of lakes and lakes in Maojiagang Township in Gong'an County, rivers and ditches in this village are passing through. The plan combines the current situation to control the village water surface. The water surface and ditches along the main road of the village or nearby rivers are divided into different distances, and the nature and size of the water surface are combined with environmental transformation and beautification. It not only protects the water surface but also enriches the cultural life environment of the villagers. In the whole village, multiple public properties and living facilities are evenly arranged, and houses are planned according to the intention to fully meet and improve the production and living needs of the villagers.

3.2. Serious Agricultural Pollution, No Organic Agriculture and Ecological Green Development Related Industries

Rural agriculture is seriously polluted, and villagers still lack awareness and clean methods. The fertilizer used directly permeates the ditches, resulting in eutrophication of the river, the ditches are blocked for many years, and the environmental conditions are worrying. Village chicken farms and pig farms also have serious water pollution, and waste from pig farms has been discharged from small to large, resulting in clogged ditches. By closing the farm with the farmer ditch, a certain compensation will be given at the same time, because there is no corresponding subsidy for the farmer who pollutes the water body. However, farmers need to raise income through breeding, and there is no way to completely solve the problem of pollution. Although the breeding of ducks and geese is forbidden in the river, and subsidies for land farming such as chicken farmers are provided, there are still a few pollution problems.

There is no ecological green development related industries in the village, and no brand has been formed. The rice industry is owned by the Qingyanggang Rice Factory in Maojiagang Town, Gong'an County. It is located in the fifth group of Qingyanggang Village. It is a private enterprise and mainly deals in rice purchase, processing and sales. Navel oranges are also grown by individual households and are sold only as finished products without related processing industries.

3.3. The Accumulation of Domestic Garbage is Serious, and the Villagers Lack Awareness of Environmental Protection

There are about 350 garbage bins in the village, and there are no facilities such as garbage ponds, dumps, transfer stations, etc. There is no effective garbage disposal method. Rubbish has quickly appeared and new land is needed to dispose of it. Garbage sorting is difficult, domestic garbage construction waste is randomly thrown away, there are garbage accumulations on the road and the river, and the phenomenon of littering everywhere still exists. On the one hand, because the trash cans
are not set up densely, villagers may want to throw away the trash but the trash cans are far away; on
the other hand, the villagers are not conscious and do not develop a good habit of trash into the basket.

4. Countermeasures for Improving the Ecological Environment of Qingyanggang Village

4.1. Increase Capital Investment and Promote Ecological Environment Improvement Projects

Increase investment in ecological environment management, strengthen agricultural non-point source pollution control, and implement comprehensive prevention and control combining source control, process interception, terminal control and recycling. Carry out a detailed survey of the soil pollution status of agricultural land, focus on solving the problem of soil acidification, and carry out actions to repair and adjust the structure of polluted cultivated land. Strengthen the pollution control of fishery farming in the village, explore the implementation of the total fishery farming control system, promote the ecological farming model, strengthen the monitoring of tailings discharge in farming, and implement compliance discharge in ponds and personal farming. Carrying out river ecological remediation projects and using river basins as the scale for river ecological restoration planning can better reflect the overall characteristics of the ecosystem [6]. Implement dredging and dredging projects. Dredging and dredging not only increase the flood discharge capacity of the river, but also clean up the silt and garbage, thereby improving the water environment of the river. It should be noted that it is not possible to blindly pursue river flow like dredging channels. Implement national agricultural water-saving actions and build water-saving villages. Deeply promote the total control and quota management of agricultural irrigation water, establish and improve the long-term mechanism and policy system of agricultural water saving [7].

4.2. Reduce the Use of Chemical Fertilizers and Pesticides and Promote Green Agricultural Production

Promote the reduction of fertilizers and pesticides, improve the technical standard system for pesticide risk assessment, and strictly control feed quality and safety. Facing the pollution sources of agricultural chemical fertilizers and pesticides, we can gradually implement actions to reduce pesticides and increase efficiency, introduce soil testing and fertilization technologies, strengthen the use and management of inputs such as chemical fertilizers, pesticides, and feed additives, and promote the systematic prevention and control of pests and diseases. Vigorously promote the integrated cycle of breeding and breeding industry, accelerate the construction and standardization of manure treatment facilities in large-scale livestock and poultry farms, promote the construction of biogas digesters, and free-range farmers gradually realize the collection and centralized treatment of livestock and poultry manure. Improve the comprehensive utilization rate of livestock and poultry manure and the matching rate of treatment facilities and equipment. At the same time as cleaner production, recycling treatment of the waste plastic film and packaging waste should be carried out to eliminate soil residues and reduce pollution.

Strengthen the standardized management of agricultural inputs, improve the input traceability system, accelerate the integration of the cultivation and breeding cycle, establish a network system for the collection, conversion, and utilization of rural organic waste, promote the resource utilization of agricultural and forestry product processing residues, and implement the straw burning ban system. Comprehensive utilization, carry out pilot projects to promote the utilization of livestock and poultry manure resources throughout the county [8]. Raise the villagers' willingness to develop green ecological breeding and cultivation, and create a farming ecosystem that combines agriculture with cultivation, ecological circulation, and beautiful environment. Improve the construction of agricultural ecological infrastructure, protect and improve farmland ecosystems, and vigorously develop organic ecological agriculture. For example, navel orange + chrysanthemum can be planned to be picked by the farmhouse, and the chrysanthemum festival is held in a suitable season, which attracts people to experience the farmhouse. It is also conducive to the increase of farmers' income in all aspects. Achieve green and sustainable development of agriculture.
4.3. Accelerate the Completion of Highlighting Shortcomings and Raise the Environmental Awareness of Villagers

Promote the treatment of rural domestic garbage, establish and improve a system of domestic garbage collection, transportation and disposal that is in line with rural reality and diversified methods, and promote on-site classification and resource utilization of garbage in areas where conditions permit [9]. With the continuous improvement of the living standards of rural people, it is necessary to control the source of garbage. Garbage should be classified according to organic waste, inorganic waste and harmful waste; organic waste is put into the inlet of biogas digester, inorganic waste and toxic and harmful waste are put into the garbage collection point set up in the village, and collected separately. The garbage at the collection point is sorted and collected by a rickshaw to a garbage transfer point, and then transported by a small agricultural vehicle to a unified burial site according to the classification. Carry out inspection and rectification of irregular garbage dumping sites [10]. The implementation of the "toilet revolution", combined with the actual popularization of different types of sanitary toilets in various places, promote the harmless treatment and resource utilization of toilet fences. Step by step to promote rural sewage treatment, areas where conditions permit to promote urban sewage pipe network to extend coverage to surrounding villages. Gradually eliminate black and odorous water in rural areas and strengthen the protection of drinking water sources in rural areas.

Strengthen publicity and education on environmental protection, awaken villagers' long-standing lack of awareness of environmental pollution hazards, mobilize village democracy and enthusiasm, make full use of the Internet, newspapers and other media, increase publicity on environmental protection, and continue to promote urban and rural Environmental sanitation and cleanliness actions, intensify efforts to create sanitary townships. The local government should guide people to actively participate in ecological environment protection, strengthen the awareness of protecting the ecological environment, make villagers the main force of environmental protection and environmental construction, and support ecological protection with practical actions. Encourage qualified areas to build a series of beautiful and ecologically livable villages in a contiguous manner, comprehensively improve the style of Tianshui Village, and promote the village form to complement the natural environment [11].

5. Conclusion

An ecologically livable beautiful village must not only beautify the rural environment, but also improve the rural infrastructure and improve the level of public services, and fundamentally rectify the ecological environment. The construction of an ecologically livable and beautiful village has just started, and the construction of a beautiful village requires sufficient patience, unrelenting efforts to improve the long-term mechanism of local clean villages and ecological villages, and better promote rural green sustainable development.

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