

Prevention and Control of Rural Environmental Pollution Based on Rural Revitalization Strategy

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Abstract In 2018, the rural revitalization strategy proposed by the No. 1 Document of the central government. Based on the current situation of rural environmental pollution in China, this paper explored the relationship between rural revitalization strategy and prevention and control of rural environmental pollution. On this basis, it analyzed the causes of serious rural environmental pollution in China. Finally, it came up with recommendations including establishing a sound rural environmental governance system, making diversified capital investment for nurturing "green farmers".

Key words Rural revitalization strategy, Prevention and control, Rural environmental pollution

1 Introduction

In 2018, Xi Jinping, general secretary of central committee of the Communist Party of China, clearly put forward the strategy of rural revitalization in the *19th National Congress of the Communist Party of China*, and deeply expounded the significance and scientific connotation of the implementation of the strategy of rural revitalization at the central rural work conference^[1]. The rural revitalization strategy sets down the development requirements of "eco-living", which indicates the urgent need for people to improve their living conditions after material life is getting rich. However, the current situation of rural environment in China is not optimistic. Compared with the living environment of urban residents, the living environment of rural residents is worse. "Dirty, disorderly and bad" have become three key words when describing rural areas. Based on this, in 2018, the General Office of the State Council promulgated the *Three-Year Action Plan for the Rehabilitation of Rural Human Settlements*, which demonstrates the determination of the central government to rectify the rural environment in order to realize the "ecological livability" in the rural revitalization strategy.

2 Relationship between rural revitalization strategy and prevention and control of rural environmental pollution

2.1 Current situation of environmental pollution in rural areas and the necessity for prevention and control At present, there are about 600 million people living in the rural areas, so large population has brought great pressure. In general, the pollution of rural areas is still serious in China. Every year there are about 2.8 million t of domestic waste in rural areas, but only 1.6 million t have been effectively treated, and 1.2 million t of garbage can only be dumped in fields, rivers and roads. At the

same time, the abuse of agricultural products, the discharge of wastewater from rural enterprises and animal manure aggravate the rural environment. In recent years, due to the importance and investment of rural environmental governance, the rural environment in some places is more suitable for living, while some places still remain to be treated, the rural living environment is very unbalanced and the problem of "dirty, disorderly and bad" is still more prominent in some areas, so it is required to build a well-off society in an all-round way in China. There is still a certain gap between the rural residents and the living environment of "ecological livability", so the poor living environment in rural areas is still a prominent short board for the economic and social development of China. In order to make up for this short board, it is necessary to further manage the rural environment and restore it to a livable state.

2.2 Relationship between rural revitalization strategy and prevention and control of rural environment In 2018, the No. 1 Document of central government clearly pointed out the strategy of rural revitalization, in which ecological livability is the key link. Ecological livability refers to narrowing the difference between urban and rural living environment. Compared with the urban environment, the rural environment is much worse than the urban environment, and the rural environment is characterized by dirty, disorderly, and bad situations. To make up for this short board, it is necessary to further manage the rural environment so as to restore the livable conditions.

Rural revitalization includes the revitalization of rural ecology, and excellent ecological environment is the greatest advantage and precious wealth of rural areas. Xi Jinping, general secretary of central committee of the Communist Party of China, pointed out that "lucid waters and lush mountains are invaluable assets", which indicates that there is no contradiction between the ecological environment and economic development. While pursuing economic development, we must pay attention to the protection of the

ecological environment to developing economy. We should not sacrifice the good ecological environment to developing economy. At present, for historical reasons, China's development focuses on cities, which makes the development of rural areas lag much behind, and its ecological environment is also very poor. Compared with the mountains and rivers decades ago, now mountains are not mountains, water is not water, the pollution is very serious. Rural environmental governance is an important part of promoting the construction of ecological civilization in China and the successful implementation of the strategy of rural revitalization. It is also a key measure to improve the quality of rural environment, optimize the living environment of rural residents and improve the well-being of the farmers.

3 Sources of environmental pollution in rural areas

3.1 Rural domestic pollution The bad habits of rural residents will have a great negative impact on the living environment, which can be divided into two types: domestic sewage and domestic waste. Because of the limited rural economic level and the limited cultural level of rural residents, most of the rural residents have not developed the lifestyle of shower, and most of the sewage is directly poured. At the same time, most of the sewage after daily washing in the rural areas is directly discharged, and it will slowly flow into the lakes, rivers, or infiltrate into the groundwater, consequently leading to water pollution.

3.2 Agricultural pollution In recent years, the use of pesticides in China has been stable at 1.8 million t per year, and the use of chemical fertilizers in China remains at 60 million t. The annual fertilizer use in agricultural production is higher than the national standard. At the same time, the use of chemical fertilizers is obviously not scientific and non-standard, leading to a huge loss of chemical fertilizers under the scouring of rainwater, which eventually leads to water pollution. Regarding the use of agricultural film, the quantity has also increased significantly in recent years. In 2016, it reached 2.6 million t. Due to the lack of standardization of the use of agricultural films in China, the residual rate of agricultural film use is as high as 22%, and the residual agricultural film is difficult to degrade, which will change the soil structure. Furthermore, a large number of agricultural films will cause white pollution, affecting the beauty of the rural environment and affecting people's normal life.

3.3 Rural industrial pollution In recent years, with the strengthening of urban pollution control, many polluting factories and enterprises have moved from urban areas to rural areas, and China's rural industrial enterprises have shown a sharp increase trend. On the one hand, township and village enterprises have solved the employment problem of most of the rural population in China. By 2017, China's township and village enterprises have absorbed 80% of the employed population. However, it has also brought about a series of environmental problems. At present, many township and village enterprises are relatively small in scale and do not have their own waste gas and wastewater treatment fa-

cilities to discharge and finally they directly discharge waste. At the same time, many township and village enterprises lack entrepreneurial spirit and social responsibility. Most of them pay attention only to the current economic gains and losses, and do not consider long-term problems.

4 Causes of environmental pollution in rural areas

4.1 Absence of specific laws to govern the pollution of rural environment China cares about the environmental pollution relatively late, and the relevant laws are relatively few at present. These laws, such as the environmental protection law and the water pollution prevention and control law, are concentrated on the treatment of urban industrial pollution, lack of treatment for agricultural and rural pollution, and the law on rural environmental protection needs to be further improved. Moreover, at present, China's laws and regulations focus on the treatment of pollution terminals, but lack governance for pollution sources. As a result, China, environmental protection in rural areas has adopted public opinion, but it has not raised the rural environmental protection to the legal level.

4.2 Lack of funds to govern rural pollution At present, China always invests a lot of manpower, material resources and capital in urban pollution control, but often neglects the rural environment. While improving the urban ecological environment, it is often at the expense of the rural ecological environment, but the rural area has not obtained any compensation. For their achievements, the rural local governments make investment in the environment at the cost of destroying the environment, giving the investors a good treatment and neglecting the importance of environmental protection. In addition, it is difficult to see the obvious investment in the rural environmental governance in a short time, and the local governments will reduce the investment in the rural pollution control for their own interests. In China, the proportion of the investment in environmental governance in the last five years is up to 1.5%, and in some years it is lower than 1.5%. Therefore, it is necessary to increase the investment in environmental governance to get a significant effect^[2].

4.3 Weak awareness of villagers for environmental protection The governance of rural living environment still depends on the farmers themselves. However, due to the constraints of age structure, cultural level and technical conditions, some farmers have relatively weak environmental awareness. Most farmers believe that environmental protection is what the government should do and they have nothing to do. Although some farmers are aware of the importance of environmental protection, they do not know how to participate in environmental governance because of the lack of publicity. In addition, due to the continuous transformation of agricultural planting structure and production methods, more and more economic crops have been put into planting. Many farmers have blindly increased the use of pesticides and fertilizers and agricultural film in order to increase the output of crops, and have not realized the importance of "green planting", which aggravates

the environmental pollution.

5 Rural environmental pollution control recommendations under the guidance of rural revitalization strategy

5.1 Improving the rural environmental governance system

The rural revitalization strategy puts forward that "governance is effective", which includes the need to improve the rural environmental governance system. The government as a manager is not only the setter, implementer and supervisor of rural environmental planning, but also the decisive force of rural environmental governance. Therefore, a sound rural environmental governance system should connect the effectiveness of rural environmental governance with the performance of local governments^[3]. To improve the rural environmental governance system, it is required to pay more attention to the sound law of rural environmental governance. On the basis of the present situation, the regulations on rural environmental governance should be strengthened. In addition, it is recommended to pay attention to refining the provisions of these laws and regulations, so as to avoid some local governments and polluting enterprises from seeking loopholes in the law.

5.2 Increasing the investment in rural environmental protection funds

According to experience, in order to manage the environment well, it is necessary to invest about 2.5% of China's GDP. In 2017, the total amount of GDP in China is 82.7 trillion yuan. If the investment is 2.5%, it is 2 trillion yuan, but the cost of environmental pollution control in China in 2017 is less than 1 trillion yuan, which is far from the ideal investment to achieve the effective environmental governance. As a kind of public goods, rural environmental governance should be funded by the government, but China has a vast area, the rural population is large, China's financial resources are limited, and it is impossible to rely on the investment of the government. Therefore, the investment of

enterprises and social organizations should be introduced. The government should increase investment, give certain subsidies to some enterprises that take the lead in establishing pollution treatment, and follow the principle of "those who pollutes should be responsible for pollution control" to constrain enterprises. For some rural areas with better economic conditions, due to the urgent need for improvement of living conditions, government organizations, local fund-raising can be used to carry out environmental pollution control, and the role of villagers in environmental pollution can be fully brought into play.

5.3 Encouraging farmers to "green plant" and cultivating "green farmers"

The government should encourage farmers to "green plant" and propagate the advantages of "green planting", and provide certain rewards to farmers who implement "green planting". "Green planting" can not only improve the ecological environment of rural areas in China, but also ensure the food safety of residents. In addition, it is recommended to cultivate "green farmers" under the cultivation of new agricultural management entities. "Green farmers" are farmers who use organic manure to produce agricultural products, and do not use pesticides and fertilizers. For agricultural products produced in such manner, the government should promote them. These "green farmers" can get more benefits and drive other farmers to join "green planting".

References

- [1] LUO BL. Clarify development ideas and implement rural revitalization strategy[J]. South China Journal of Economics, 2017, 35(10): 8-11.
- [2] LU B. Research on rural ecological civilization construction in the process of new urbanization[D]. Shenyang:Shenyang Normal University, 2016.
- [3] XIAO P. On the governance and legislative improvement of rural environmental pollution in China[J]. Jiangxi Social Sciences, 2011, 31(6): 214-219.

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