



Problems and Countermeasures in Rural Environment Under the Perspective of Ecological Civilization Thought of Xi Jin-Ping

A-min Shao[✉]

Mianyang Teachers' College, Mianyang, SiChuan, China
494747824@qq.com

Abstract. At present, China's rural environmental pollution situation is severe. Agricultural production and household waste pollution, rural industrial pollution and urban garbage transfer pollution lead to the deterioration of rural water quality, air quality, soil fertility, the quality of agricultural products and other consequences. Governing the rural environment and building a beautiful countryside are an important part of the construction of a beautiful China. In order to control rural environmental pollution, we should strengthen the thinking guidance and make the innovation of agricultural development mode; we should develop ecological circular agriculture and improve the level of agricultural standardization, and implement standardized and large-scale breeding and improve the level of agricultural standardization.

Keywords: Ecological civilization thought · Rural environment · Problems and Countermeasures

1 Introduction

Since the reform and opening up, due to the negligence of environmental protection in the process of development, the agricultural ecological environment has deteriorated. In this case, the rural environment has become an important factor restricting the sustainable and stable development of the rural economy. The rural environmental governance has been imminent. The General Secretary Xi attaches great importance to the rural environmental protection work. The General Secretary Xi points out that “We will build ecological and livable beautiful villages, so that farmers can have a greater sense of gain and happiness in rural revitalization” [1]. “With the improvement of the quality of life, farmers' pursuit of happiness is no longer limited to adequate food and clothing, and the way to enhance farmers' happiness has been changed” [2]. In this regard, promoting the rural ecological environment governance, building a new countryside with a beautiful ecological environment, and improving the quality of life of farmers have become the most concerned livelihood issues for governments at all levels.

2 Current Situation and Harm of Rural Environmental Pollution in China

2.1 Agricultural Pollution Situation is Serious

2.1.1 Rural Environmental Pollution Caused by Excessive Application of Agricultural Chemical Fertilizers and Pesticides

In the agricultural production process, in order to increase the yield of agricultural products, some farmers usually use chemical fertilizers. Due to the poor control of the dosage, it directly leads to the soil acidification, which greatly reduces the content of organic matter in the soil, and leads to a decrease in the yield. Fertilizer contains a lot of nitrogen. If this nitrogen gets into the atmosphere, it not only pollutes the soil, but also has a greenhouse effect. In the process of modern agricultural production, many farmers ignore the control of pesticide dosage. A large number of pesticide residues have caused serious pollution to the rural environment [3].

2.1.2 A Large Number of Agricultural Film Using Leads to Rural White Pollution

The total amount of agricultural film used in rural China is up to more than 2 million tons every year, and there is a trend of gradual increase. Due to the large use of ultra-thin film and the lack of recycling technology and mechanism of residual agricultural film, the recycling rate of agricultural film is less than 2/3. Because agricultural film material is difficult to decompose under natural conditions, its residual time can reach more than 200 years. Farmers' arbitrary treatment of agricultural film leads to white pollution becoming an important ecological environment problem in rural areas.

2.1.3 Livestock and Poultry Manure Pollution Caused by the Development of Breeding Industry is Increasingly Serious

Livestock manure contains a lot of pollutants. If these pollutants are not dealt with in time and scientific manner, they will bring serious environmental hazards. According to incomplete statistics, China produces 3.8 billion tons of livestock and poultry manure every year, but the effective disposal rate of large-scale enterprises in livestock and poultry breeding is less than 50%. Scattered farming in rural areas is done almost without any treatment, and large amounts of manure are piled randomly. Some dispersed farmers set up their farms directly along rivers and water sources. These practices have resulted in serious pollution of rural water resources and air.

2.1.4 Discarding and Burning Crop Straw at Will has Caused Serious Environmental Pollution

The utilization rate of straws is less than 70%. A large number of straws are burned and discarded at will, which not only wastes the straw resources, but also pollutes the air and water. In addition, with the development of agricultural industrialization in recent years, vegetable planting has become an important way to increase farmers' income, which has brought about increasingly serious pollution of vegetable garbage. A large

number of discarded vegetable leaves are discarded in ditches, fields and rivers, which cause serious pollution.

2.1.5 Improper Treatment of Rural Domestic Sewage and Domestic Garbage Lead to Deterioration of Rural Ecological Environment

When dealing with rural environmental pollution, we should strengthen the pollution management of emerging industries, which is very important for rural environmental governance. The rural environmental pollution control mechanism is not perfect, and the comprehensive quality of relevant personnel is not high. In order to promote economic development, some people will increase various construction projects when building rural residential buildings, which pollutes the rural environment, and relevant personnel should pay more attention to it.

3 Analysis of the Causes of Rural Environmental Pollution

3.1 Weakness of Rural Environmental Protection Policies

3.1.1 National Agricultural Support Policies Focus on Output

After the reform and opening up, in order to solve the problem of food and clothing, the main purpose of China's agricultural support policy is to increase the output of agricultural products. On the one hand, these measures have improved the enthusiasm of farmers to use agrochemical products, on the other hand, they have enhanced the willingness of manufacturers to supply. Farmers used to mainly use farmyard manure, but now they mainly use chemical fertilizers; In the past, farmers used to kill pests by hand, but now they use a lot of pesticides to kill pests; Farmers used to use artificial weeds to loosen soil, but now they use herbicides in large quantities.

3.1.2 Defects in End Treatment of Rural Environmental Pollution

Farmers, the main body of rural environmental pollution, are both polluters and victims of pollution. The current rural environmental protection policies and laws are not suitable for rural environmental prevention, which leads to lower illegal costs for polluters. On the other hand, many farmers believe that pollution should be treated first, which greatly increases the cost of treatment and seriously affects the sustainable development of rural environment. This method of treating headache, foot pain and symptoms rather than root causes cannot fundamentally solve rural environmental problems.

3.2 Market Subjects Have Insufficient Awareness and Attention to Rural Environmental Pollution Hazards

3.2.1 The Government Does not Pay Enough Attention to Rural Environmental Pollution

What the government does not pay attention to is mainly manifested as local protection, unrestricted investment attraction, and lack of necessary screening, which lead

to the spread of a large number of polluting enterprises; Some departments are afraid that environmental governance will affect local economic interests, affect local political achievements, and lack motivation for pollution control; Due to the difficulty of rural pollution monitoring, the information is incomplete. Even the base of information distortion is unclear, and at the same time, the base of information distortion is unclear, and the prevention and control of pollution lacks the necessary information basis.

3.2.2 Farmers' Insufficient Awareness of the Hazards of Rural Environmental Pollution

Farmers pay more attention to short-term interests and neglect long-term interests. Some farmers are more accustomed to using traditional fertilizers and pesticides in large quantities, but still have a certain rejection of advanced biological agents. These practices undoubtedly aggravate the pollution of the rural environment. Therefore, "we must constantly strengthen the education of farmers' environmental awareness and thinking, and use professional knowledge to further promote environmental knowledge, so as to fundamentally enhance the level of environmental thinking" [4].

3.2.3 Rural Enterprises Lack Enthusiasm for Governance Environment

Some rural enterprises lack financial support to control rural pollution; Because of the high risk and low efficiency of rural environmental governance, agricultural capital is unwilling to invest in rural pollution project governance; Farmers also lack enthusiasm for rural environmental pollution control.

3.3 Difficulties in Preventing and Controlling Rural Environmental Pollution

3.3.1 Difficulties in Monitoring Rural Environmental Pollution

It is very difficult to monitor the discharge of rural environmental pollution because of the dispersed nature of rural environmental pollution sources. In China, the rural area dispersed, the geographical scope is wide, and the cost of supervising the rural industry is high; The prevalence of local protectionism or the neglect of local governments make it difficult to form joint efforts to control rural environmental pollution, and the pollution rebound phenomenon is quite serious [5]. The pollution source may come from the excessive use of chemical fertilizers and pesticides in a certain region or a certain area. Rural solid waste, urban waste transfer and domestic sewage discharge are also arbitrary, Rural solid waste, urban waste transfer and domestic sewage discharge are also arbitrary. These forms of pollution are also difficult to monitor.

3.3.2 Difficulties in Accountability for Rural Environmental Pollution

Farmers are rational in their agricultural production behaviours. Farmers always exchange the minimum input for the maximum output, but rural environmental pollution, as the external cost of agricultural production, is not included in the production cost by farmers due to the lack of payment mechanism. and farmers lack enthusiasm for environmental protection. The government's has been absent for a long time and has not

given full play to the role of the market in the allocation of rural environmental resources [6]. Due to the dispersion of pollutant discharge subjects, although we can detect water pollution, it is difficult to track and fix the pollution sources, so it is difficult to distinguish the responsible subjects.

4 Countermeasures for Rural Environmental Pollution Control

4.1 Thinking Guidance

4.1.1 Firstly, Focus on Strategic Thinking

Rural environmental pollution hinders the further development of rural economy. From the perspective of sustainable development and ecological civilization construction in China, it is urgent to strengthen the prevention and control of rural environmental pollution [7]. To solve this problem, we must firstly have a strategic vision. We should establish a sense of the overall situation, accurately grasp the rural development trend in the new era, focus on improving the quality of rural products, and integrate quality elements into the rural environmental governance theory.

4.1.2 Secondly, Pay More Attention to the Guidance of Innovative Thinking

The rural environmental pollution control must innovate the rural production mode. We realize scientific, modern and green agricultural development through scientific and technological innovation; We must innovate the rural lifestyle and reflect the beauty of life. We need to change the problems of low quality of life, backward living facilities, and inadequate construction of public infrastructure; We must innovate the way of rural ecological protection and show the ecological beauty. We need to change the wrong ecological thinking, put the innovation idea into the ecological construction and protection, and enrich the pastoral beauty.

4.1.3 Thirdly, Focus on Dialectical Thinking Guidance

In order to promote rural environmental governance in China in the new era, we should adhere to dialectical thinking. We should try our best to turn the short board of resources into the potential board; We should grasp the main contradiction of rural construction and develop the rural real economy; We should give consideration to secondary contradictions and strengthen the construction of rural spiritual civilization; We should strengthen the positive guidance of public opinion, publicize the good policies of green governance in rural areas, and guide the optimization and upgrading of rural industrial structure and the green development of rural enterprises.

4.2 Develop Ecological Circular Agriculture and Improve Agricultural Standardization

4.2.1 Recycling of Agricultural Film

On the one hand, we should further promote the agricultural cleaner production demonstration project, continue to expand the new waste plastic film recycling storage sites,

facilitate plastic film recycling, and increase financial subsidies. On the other hand, we need to actively promote standard mulching film and strictly limit ultra-thin mulching film. We need to sign a recycling agreement with farmers and give them preferential prices when purchasing films.

4.2.2 Straw Returning

We should smash the straw according to the actual situation in various places, and use the straw as fertilizer in combination with the implementation of the land fallow system. We can also directly mix straw and soil to make green manure, which can be used for soil fertilizer in the next year after fermentation. We will vigorously promote technologies such as straw reactor, straw edible fungus, straw biogas, and straw returning to the field to establish an ecological circular agriculture model. We should use animal excrement and household garbage to produce biogas, so as to achieve the purpose of recycling waste resources.

4.3 Implement Standardized Breeding to Avoid Breeding Chaos

4.3.1 Standardized Aquaculture

We should scientifically delimit prohibited and restricted breeding areas, and develop large-scale and intensive breeding. We should pay attention to the planning and design of remote rural breeding industry, especially the management of rural breeding areas related to urban environment. We should do a good job in the planning and construction of livestock and poultry breeding parks in accordance with the requirements of unified planning, unified standards, unified management and unified pollution control, and gradually eliminate the method of free-range breeding.

4.3.2 Solve the Problem of Decentralized Aquaculture

Rural aquaculture has been lacking of corresponding pollution treatment mechanism. The government should give farmers some necessary compensation for pollution treatment costs through finance. We should not forcibly dismantle the relevant illegal breeding sites. We should encourage farmers to join professional cooperatives and use the collective power to develop pollutant disposal and resource utilization channels, so as to solve the contradiction between decentralized breeding of small farmers in rural areas and large markets.

4.3.3 Promote Scientific and Technological Innovation

We should study and promote the practical technology of animal manure sewage treatment and the comprehensive utilization technology of animal manure, so as to realize the harmless treatment and reuse of aquaculture pollutants. “In terms of livestock and poultry breeding, we will subsidize farmers who meet the standards. We should promote the construction of harmless treatment facilities for livestock and poultry breeding manure and urine. We should improve the comprehensive utilization of breeding waste, and thus improve the rural ecological environment” [8].

5 Conclusion

Building a moderately prosperous society in an all-round way requires the realization of a high-quality ecological environment, because “the environment is the people’s livelihood” and “a good ecological environment is the most equitable livelihood” [9]. “A good ecological environment is the greatest advantage and the most valuable resource in rural areas. The sustainable development of rural areas and the happy life of farmers should be based on a good rural ecological environment” [10]. Rural environmental governance is an important part of environmental protection. This paper listed the rural environmental problems and analysed the causes of these problems. In terms of the countermeasures to control the rural environmental pollution, this paper expounded the countermeasures to solve the rural environmental governance from the aspects of leading the strategic thinking, developing ecological agriculture and standardizing agricultural breeding. The academic viewpoints proposed in this paper have certain reference value to rural environmental governance.

References

1. Xi Jin-ping, Build a Beautiful Ecological and Livable Countryside, and Let Farmers have more Sense of Happiness [EB/OL]. 2018-04-23]. http://www.Xinhuanet.com/politics/leaders/2018-04/23/c_1122725971.htm.
2. Chen Jinfang. Analysis of Rural Ecological Environment Governance in the New Development Stage [J]. *Journal of Hunan University of Administration*, 2021 (5): 40–48.
3. Sun Bailiang. Research on the Problems and Countermeasures of Rural Ecological Environment Governance in China [J]. *Journal of Shaanxi Institute of Administration*, 2021, 35 (01): 46–51.
4. Liu Lijun. Study on Rural Environmental Protection Problems and Development Countermeasures [J]. *Environmental Science and Management*, 2022(5):64–67.
5. Zhou Qing Xiang. Current Situation, Causes and Countermeasures of Environmental Pollution in Rural China [J]. *Theoretical Research*, 2018(2):71–76.
6. Zhang Hongxia. Rural Environmental Governance Predicament and Countermeasure Analysis [J]. *Economic Research Guide*, 2014(19):33–34.
7. Wei Yihui. The causes of Rural Environmental Pollution and Countermeasures [J]. *Resources and Environment* 2022, 6:130–132
8. Xu Weipu, Chen Tongbin, Liu Junliang Environmental pollution caused by large-scale livestock and poultry breeding and its prevention and control strategies [J]. *Environmental Science*, 2004, 25 (S1): 105–108.
9. Xi Jin-ping. On Adhering to the Harmonious Coexistence of Man and Nature [M]. *Beijing: Central Literature Press*, 2022:26
10. Lin Chenya. Problems and Countermeasures of Rural Ecological Environment Governance in China [J]. *Rural Science and Technology*, 2022, 4:135–138.

Open Access This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

