

# Study on the Countermeasures of Rural Waters Environmental Governance

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**Abstract:** With the rapid development of social economy, the living standard of residents is improving day by day. At the same time, the environmental pollution problem has become increasingly serious in recent years, especially in rural waters. Affected by agricultural production and other factors, a large number of chemical fertilizers and pesticides are used and domestic garbage is discarded at will. It makes the rural water environment face a severe situation, which greatly destroys the rural ecological environment and brings certain threats to people's life safety. In the long run, it is not conducive to the sustainable development of agriculture and will also affect the establishment of a harmonious society. Based on this, this article briefly discusses the thinking and suggestions on the countermeasures of rural water environment governance, hoping to offer reference for researches in related fields.

**Keywords:** Rural Areas; Water Environment; Governance Countermeasures

With the rapid development of rural economy, the development of various regions and the living standards of residents have been greatly improved, which promotes the development of rural economy. However, the serious problem of water pollution restricts the ecological development of rural environment. At present, the problem of environmental pollution in rural waters is reflected in the residents' lack of awareness of water environmental protection and inadequate centralized treatment of water pollution, etc. If such problems cannot be solved in time, the effectiveness of water environmental treatment will be affected. Therefore, in rural water environment management, the pollution prevention system should be constructed according to the actual situation of water environment management. Besides, the governance standards should be defined, and the water environment management scheme should be improved to provide guarantee for the establishment of rural ecological environment.

## 1. Necessities of environmental governance in rural waters

### 1.1 To provide impetus for the construction of ecological civilization

The rapid development of economy causes environmental problems at the same time. In the process of comprehensive development of heavy industry, problems such as resource depletion, environmental pollution and imbalance of ecosystem appear, which bring serious consequences. Therefore, it is necessary to establish ecological civilization and develop economy based on the concept of ecological civilization development. We will improve the rural water environment, strengthen the construction of ecological environment, ensure that the rural areas provide green and safe vegetables, food and livestock products, and ensure people's food safety.

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doi: 10.18686/pes.v2i3.1352

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## **1.2 To achieve the goal of rural revitalization**

At present, China actively promotes the rural revitalization and development strategy, which requires the establishment of an ecological and livable environment in rural areas. Therefore, the governance of rural water environment is conducive to creating a suitable living environment for people and ensuring the safety and health of residents. It's also necessary to govern the rural environment, build a resource-saving and environment-friendly new countryside, and provide impetus for the sustainable development of agriculture.

## **1.3 Fully realize the goal of building a well-off society**

At present, the countryside is the key in the construction of a well-off society, and the rural environmental problem is even more difficult. If this problem cannot be effectively solved, it will bury hidden dangers for urban construction, widen the gap between urban and rural areas and aggravate contradictions. Therefore, in the construction of a well-off society, it is important to strengthen rural environmental protection, fully embody the interests of the broad masses of the people, put the basic requirements of the scientific development concept into place, and embody the people-oriented concept. In addition, it is also very important to establish a good concept of ecological civilization in rural environmental governance. Based on rural environmental protection, it can promote the sustainable development of rural environment.

## **2. Rural water environment status**

### **2.1 Excessive use of pesticides and fertilizers**

At present, there is a strong dependence on pesticides and fertilizers in China's agricultural production. Farmers use pesticides and fertilizers in large quantities to increase crop yield. Chemical fertilizer, for example, accounts for a quarter of the crop yield in China due to the use of chemical fertilizers and pesticides. At the same time, due to incomplete soil absorption, some chemical residues of pesticides and fertilizers mixed with rainwater flowed into rivers and lakes, causing serious pollution to resources and destroying water quality. Rural residents grow on a small scale, and farmers allocate pesticides and fertilizers according to the traditional proportion,

which is unscientific. Relevant survey data show that in the production and planting of crops, the utilization efficiency of chemical fertilizers is only 30%-40%, while the utilization rate of pesticides is only 10%-20%. Other residues will enter the surface water or soil, causing serious loss of chemical substances in the water, resulting in water eutrophication. The breeding of algae in the water will easily affect the water quality and destroy the ecological water environment.

### **2.2 Lack of effectiveness of livestock manure management**

Affected by the limitations of rural production scale, the trend of individual small-scale farmers in agricultural production scale is becoming increasingly obvious. Every family has free-range poultry. Farmers have not established an effective treatment system for poultry manure pollutants, which are usually allowed to run off on the surface. With the evaporation of rainfall or rainwater, the pollutants in manure enter the water body with rainwater and eventually pollute the water quality, which poses a threat to the quality of rural drinking water resources. Many farmers use the traditional decomposition method to simply pile up poultry manure without any treatment. Many substances in poultry manure will pollute the environment. The solid pollutants and fly ash in livestock breeding have high ammonia nitrogen content, which weakens the dissolved oxygen content in water body, makes the water body black and smelly, and even causes a large number of aquatic organisms to die which directly threatens the rural water environment and destroys the ecological environment system.

### **2.3 Discharge domestic sewage at will**

With the acceleration of economic development, residents' living standards are constantly improving, and the discharge of pollutants from rural domestic sewage is increasing day by day. In daily life, this domestic sewage mainly comes from washing machines, kitchen waste and other wastewater. Because the sewage treatment system in rural areas is imperfect, and even no sewer drainage facilities have been established, some of the sewage produced in residents' lives directly falls on the surface of the earth, causing soil hardening; along the country ditch, they flocked to rivers and lakes, and the water quality was polluted. The other part of domestic

sewage is directly poured into the water body, and the ecological water environment is destroyed along with the inflow of waste water and solid waste into the water body. With the deepening of urbanization, the discharge of rural life pollution is aggravated, and the pursuit of quality of life without paying attention to the development of living environment is an important factor for the inadequate protection of rural ecological water environment.

## **2.4 Unreasonable inflow of industrial wastewater**

At present, the state attaches great importance to environmental protection, and the standards of urban environmental treatment have been significantly improved, which makes many industrial enterprises flock to the countryside. At the same time, although the rapid development of township industrial enterprises can improve the employment situation in rural areas and promote the development of rural economy, the continuous accumulation of industrial waste makes industrial waste water pollute the rural ecological environment twice, especially the industrial waste water contains a large number of chemicals that are discharged into rural waters along with the waste water, which seriously threatens the safety of farmers' drinking water and makes the rural development situation worrying. Rural industrial enterprises set up factories, the scale of enterprises is small, the management mode is random, and the standard of industrial wastewater treatment is imperfect, which makes the wastewater discharged by many industrial enterprises flow into rural water without treatment, especially the development of highly polluting enterprises, which makes the rural water resources seriously polluted.

## **3. Suggestions on strengthening the governance of rural water environment**

### **3.1 Establish and improve the legal system and management system**

In human development, laws and regulations are important norms. Establishing and perfecting the legal system and management system of rural water environment is conducive to effectively restraining violations in various industries, and strengthening the restriction from

the system has obvious effects. At present, affected by some factors, relevant law enforcement personnel, farmers and factory leaders do not pay attention to the water environment protection system. Therefore, it is an important measure to comprehensively consider all factors, strengthen law enforcement and improve various legal mechanisms to provide reliable legal basis for publicity activities.

### **3.2 Correct farmers' ideology**

In the treatment of rural water environment, the improvement of farmers' awareness is the primary task, so as to guide farmers to correctly understand the problem of rural water pollution, so as to comprehensively cooperate with relevant departments to promote rural water environment protection. In daily work, we can start from the following aspects. (1) Organize special meetings on water environment in villages, strengthen the publicity of the importance of water resources protection by radio, television or self-media, and enhance farmers' awareness of water environmental protection. (2) All regions should formulate behavior norms reasonably according to the actual situation, so as to restrain farmers' thoughts and correct farmers' water environment protection behavior. (3) From the aspect of construction intensity, relevant departments and institutions should strengthen the construction of rural water environment, make overall plans, put all policies, plans, funds and construction in place, so that farmers can fully understand the protection of rural water environment by the state, and change their traditional ideology.

### **3.3 Control pollution from the source and comprehensively improve the efficiency of water pollution control**

Looking at the characteristics of rural water pollution at present, its characteristics are extensive, random, concealed and dispersed. Therefore, it is an effective measure to control pollution from the source, which includes the following details. (1) Pesticides and fertilizers. Relevant departments and institutions should strengthen the promotion of green machines and tools on the existing basis, and apply scientific methods to guide farmers to use chemical fertilizers. When using pesticides, relevant departments and institutions should not only guide farmers to use pesticides correctly, but also promote the use of pesticides with low residue, low toxicity and high

efficiency economically. (2) The emissions from township enterprises are illegal. The government should set up industrial parks for township enterprises, and concentrate on the construction of township enterprises so as to concentrate pollution sources and better manage and control them. In addition, township enterprises should be guided to actively carry out cleaner production, and enterprises with poor governance or serious pollution should be simply shut down. (3) Domestic sewage and garbage disposal. County-level governments should plan cities, towns and villages in a unified way, and rationally plan domestic sewage or garbage treatment facilities in accordance with the relevant principles of population concentration, economy and suitability. For example, integrate villages that are suitable for receiving pipes into urban sewage treatment and implement centralized treatment, so as to give full play to their economies of scale. The construction cost of pipe network facilities in remote areas is high, which can be decentralized according to the actual situation. (4) Pollution of aquaculture. The government should rationally arrange the breeding sites to ensure that they are far away from farmers' residence and water sources. Outside the forest, for farms, it is strictly required to build supporting facilities such as storage, treatment and use of fecal sewage, which can only be discharged to the outside after the treatment reaches the standard.

### **3.4 Strengthen the management of rural rivers**

In the process of rural water pollution and treatment, river regulation is very important. The state should increase manpower and material resources to help the rural status recover and improve the water environment ecosystem. First of all, it is strictly forbidden to fill rivers and lakes, and it is necessary to strengthen the construction of constructed wetlands, create a beautiful rural environment for farmers, ensure that biodiversity in rural areas is well protected, and lay a foundation for the realization of sustainable development goals in rural areas. Secondly, the water conservancy department should cooperate with the ecological environment department, dredge the silted river channel in time, repair the damaged channel, avoid the application of single methods such as cutting, bending and straightening as much as possible, and take dredging as the main way.

### **3.5 Dynamic detection of rural water environment**

Rural water environmental pollution and treatment work is very important, so it is necessary to establish a long-term management mechanism. Dynamic detection of rural water environment, application of advanced information technology to real-time detection of industrial areas, rivers, lakes and reservoirs around rural areas, integration and analysis of relevant data, timely detection of water pollution problems, strengthening remediation efforts from the source, strengthening water environment protection, and fundamentally improving the efficiency of water pollution control.

### **3.6 Treatment of water environment and restoration of local organisms**

Application of ecological engineering or balance, material circulation principle, technical methods and means ensure that the river water environment will not continue to deteriorate and restore the damaged ecosystem. It mainly includes:

(1) Engineering measures, such as ecological rivers, embankments and constructed wetlands, etc.

(2) Biological measures, such as the combination of animal, plant and biology, and the integration of water and soil conservation, ecology and river ecology.

Water bioremediation technology is to restore the original appearance of nature according to the laws of nature, improve the purification ability of natural environment, effectively control polluted waters, continuously improve water quality, and combine landscape improvement measures to create a beautiful living environment for human beings.

## **4. Conclusion**

To sum up, the water pollution problem is particularly prominent in the current rural socio-economic development, which has a certain impact on farmers' water security, and at the same time restricts the development of rural ecological environment, and the actual development needs cannot be met. Therefore, in the current sewage treatment in rural waters, it is necessary to effectively control water pollution according to water environment treatment measures, sewage discharge control and industrial structure adjustment, so as to provide an important guarantee for rural ecological construction.

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