

# Discussion on Countermeasures to Strengthen Ecological Environmental Protection and Management

Yali Liao, Leyi Wang, Jinyong Huang, Juan Yu

(Zhuhai School, Beijing Institute of Technology, Zhuhai, Guangdong 519088, China)

**Abstract:** By analyzing the common ecological environmental problems, we can find more suitable ecological environmental protection management countermeasures in our country, such as top-level design, cleaner production in chemical industry enterprises, rational utilization of science and technology, improving the supervision mechanism, carrying out restoration and protection project, and improving ecological environment assessment system, in order to give inexhaustible motivation for sustainable development in our country.

**Key words:** Ecological environment; Environmental protection; Management countermeasures; Chemical pollution; Cleaner production

Under the current social development situation, if China wants to enhance its comprehensive strength and achieve sustainable development, it should develop natural resources rationally and take effective measures to maintain ecological balance. Especially after the 19th National Congress, the state has gradually taken ecological protection and management as the focus of work. However, in fact, there are still some problems in the aspects of ecological environmental protection and resource development that need to be solved urgently. If we fail to properly deal with these problems, it will be unfavorable to China's long-term development. Therefore, the relevant departments need to improve the attention to ecological protection, and take effective measures to strengthen the ecological environmental protection management, guide all members of the society to take the initiative to protect the ecological environment, enterprises reasonable development and use of natural resources and do clean production, and then lay a solid foundation for the sustainable development of our country.

## 1. The common types of ecological environmental problems at this stage

### 1. Air pollution

At present, air pollution is a major factor affecting the quality of life of the public, and it is also one of the common ecological and environmental problems, especially in northern China. In spring and winter, Beijing, Shijiazhuang and other northern areas, due to the impact of the terrain, the air circulation condition is not very ideal, prone to haze, sandstorms and other conditions, which will lead to the air in the respirable particulate matter (Pm2.5) exceeded, which will affect the public's throat health. Especially in the haze weather, the potential amount of bacteria in the air will continue to increase, and the morbidity of the public will not only increase, but also bring a lot of inconvenience to daily life and work.

### 2. Vegetation destruction

The ecological problem of vegetation destruction generally occurs in the north, mainly due to overgrazing and land reclamation, resulting in a significant decline in the coverage rate of grassland and forest, and the vegetation coverage rate in China is declining year by year. Once the vegetation is destroyed, not only the soil and water conservation ability will decline, but also the soil quality will become "loose". In this way, it is particularly prone to desertification, soil erosion and other problems, resulting in a decrease in agricultural production, and then lead to the development of China's agricultural economy is restricted.

### 3. Water resource pollution

At present, the waste of water resources is relatively serious, resulting in different degrees of water problems in some rural and urban areas. In addition, water resources pollution leads to the decline of drinking water quality, which will not only endanger the life and health of the public, but also lead to the decline in the quality of agricultural production.

### 4. Pollution from chemical industry

Pollution from the chemical industry is a major problem that needs to be solved at present. With the advancement of the industrialization process, a large number of industrial waste gas is discharged into the air, and even individual bad enterprises will directly emit toxic gases, resulting in a decline in air quality and serious harm to the health of surrounding residents, which gradually needs to focus on the ecological environment of our country. In addition, some factories will directly discharge untreated industrial wastewater in the river, which will not only affect people's water safety, but also destroy the living environment of water organisms, thus leading to the imbalance of the ecological environment.

## 2. Effective countermeasures to strengthen ecological and environmental protection management at this stage

### 1. Do a good job in top-level design to ensure that the work is implemented

At present, in order to ensure the implementation of various management measures, we need to exert the strength of the management. To this end, relevant departments should do a good job of top-level design, carefully organize and design various ecological protection work, and escort the final work effect. The details are as follows: First, strengthen organization and leadership. A good ecological and

environmental protection and management work is a test of the leadership's ability in all aspects of work. In this regard, leaders at all levels should not only establish a high sense of scientific development, but also in-depth interpretation of various policies and guidelines for ecological and environmental protection, more scientific deployment of various protection and management work, and earnestly achieve the unification of theory and behavior, so as to further improve the quality of management. Second, establish and improve the environmental protection target responsibility mechanism, adhere to the basic principles of the Party and government, personally responsible, in charge of specific leadership, and other leaders actively cooperate with each other, so as to ensure that the protection and management work is effectively implemented; Third, to create a strong working force. There is a close link between ecological and environmental protection and social and economic development, and some work needs to be done across departments and administrative regions. Therefore, relevant departments need to establish a sense of the overall situation and rationally coordinate the management forces of all parties, so as to generate a strong working force and build a new situation in which the whole society and all employees participate in ecological and environmental protection.

## 2. Enhance the protection awareness of the whole people and promote the clean production of chemical enterprises

First of all, enhance the national awareness of protection, mainly because China is a populous country, which will undoubtedly increase the difficulty of ecological and environmental protection work. To this end, relevant departments should reasonably divide regions and counties, and regularly carry out publicity and science popularization of ecological protection. With the help of publicity and science popularization, it can not only raise the protection awareness of the public, but also encourage them to take the initiative to carry out ecological and environmental protection related work. For example, in the area of animal husbandry, the relevant departments can popularize the importance of vegetation to the public, and can use the way of "grassland rotation" to carry out animal husbandry activities, so as to improve their own economic income, but also to avoid desertification, soil erosion and other problems to the greatest extent. Secondly, guiding the clean production of chemical enterprises can not only achieve the goal of "energy saving and emission reduction", but also promote the coordinated development of ecological environment and social economy. Among them, the clean production of chemical enterprises, the details are as follows: First, the clean production process, mainly in the enterprise internal installation of effective monitoring instruments, and in the internal storage of raw materials and finished products, in the production to achieve clean production, civilized production and safe production, strict control of pollution emissions, to achieve clean production. Second, clean products, the products produced by the main chemical enterprises do not contain substances harmful to human health and the ecological environment, and they are easy to recycle, easy to degrade and can be reused; Third, clean energy, mainly refers to the chemical enterprises can produce waste, after proper treatment as raw materials again used in chemical production. Such as recycling waste water, which can not only reduce the waste of resources and materials, but also save energy and resources.

## 3. Rational use of science and technology to improve the level of ecological protection science and technology

Science and technology are the primary productive forces. With the help of science and technology, not only can natural resources be saved, but also the ecological environment can be significantly improved. To this end, the relevant departments should reform their own management concepts, realize the importance of science and technology, and take the initiative to use it to carry out ecological protection and management. For example, by innovating ecological science and technology and applying it to the agricultural field, China can not only upgrade and transform the traditional agricultural industry, but also effectively improve the agricultural ecological environment and effectively increase the economic benefits of agricultural production. In this regard, the state should increase the intensity of scientific and technological innovation in ecological environmental protection, take the initiative to carry out environmental scientific research projects, and introduce some major environmental scientific research projects in the development process of the national science and technology plan, at the same time, the investment in capital should also continue to increase, to ensure that researchers have sufficient funds to research and develop energy-saving technology, recycling technology and other advanced science and technology. In addition, the relevant departments should improve the comprehensive literacy of management workers, and regularly carry out training activities on the theme of "science and technology", so as to ensure that the scientific and technological level of staff is further improved, and thus promote the quality of ecological environmental protection work has been significantly improved.

## 4. Improve the supervision mechanism and improve the quality of ecological protection and management

First, pay attention to the role of public opinion in supervision and strengthen supervision by the media. Relevant departments should bring into full play the supervisory role of platforms such as television, wechat public accounts, Tiktok and Weibo to expose the behaviors of individuals and enterprises that damage the ecological environment. Second, a comprehensive and whole-process supervision mechanism should be established. In addition to enabling the public to participate in ecological environmental protection at the decision-making stage, it can also organically integrate pre-event, in-process and post-event supervision, thus significantly improving the effectiveness of supervision and management. Third, the public should be given the full right of participation and the right to know, so that the public's supervision of ecological environmental protection can be more effective, so as to lay a solid foundation for improving ecological environmental protection work. Moreover, through the implementation of the open and transparent system, the relevant departments can make decisions in the light of the sun, which can make the environmental protection work more and more transparent. Fourth, a sound accountability mechanism should be established. Through the establishment of a sound investigation mechanism, those enterprises, units and individuals who ignore laws and regulations and willfully damage the ecological environment should be held accountable in accordance with the law if the case constitutes a crime.

#### 5. Carry out restoration and protection projects to improve ecological and environmental quality

In today's rapid social and economic development, some construction land will occupy the vegetation land, which will not only make the vegetation area less and less, the current ecological environment will be seriously damaged, for example, there will be desertification, soil erosion, animal and plant extinction and other problems, which is not conducive to the sustainable development of society. The ecological environment restoration and protection project is one of the effective measures to avoid the further deterioration of the ecological environment and effectively improve the quality of the ecological environment. Therefore, the society should increase the investment of construction funds and human resources, actively carry out restoration and protection projects, and promote the restoration and improvement of the ecological environment. For example, it is necessary to build diversified ecosystem corridors, draw red lines, delimit urban development boundaries, and set up permanent basic farmland to ensure that ecosystem protection can be strictly carried out. In addition, due to China's vast territory and abundant resources, there are obvious differences in the ecosystem environment in different regions. Field investigations are needed to reasonably and scientifically demarcate red lines, urban development boundaries and establish permanent basic farmland according to the real ecological situation of the local area, so as to ensure the effectiveness of ecological restoration and protection projects. Taking the northern region as an example, compared with the southern region, the northern region needs heating in winter, and the air quality is relatively poor. Therefore, in the restoration and protection projects, energy conservation and emission reduction work must be added to reduce pollutant emissions. In this way, through targeted restoration of ecological protection projects, can effectively improve the quality of ecological environment management and protection, and then inject inexhaustible power for the sustainable development of society.

#### 6. Improve the ecological and environmental evaluation system to accurately assess work quality

At present, in order to properly handle the relationship between economic development and ecological environmental protection, consciously promote green development, circular development and low-carbon development, society and relevant departments need to establish the concept of ecological priority and take the initiative to improve the ecological environment evaluation system. For example, green GDP is one of the important indicators reflecting sustainable development, so we can integrate green GDP indicators into the evaluation system, so as to improve the perfection of the ecological environment evaluation system and accurately assess the quality of work. Therefore, when evaluating the economic development and ecological protection of each region, the green GDP growth should be taken as the measurement standard instead of the general GDP growth, and the economic growth after deducting the loss of resources and environment should be taken as the measurement index. Moreover, the scientific performance evaluation system should be used as a propeller to comprehensively promote ecological construction and the implementation of ecological responsibilities, social and ecological indicators should be incorporated into the performance evaluation index system, and the weight of ecological benefit indicators should be gradually increased. In this way, through the construction of a perfect ecological environment evaluation system, the comprehensive management ability of relevant departments can be fully brought into play, prompting staff to effectively perform their own management functions, comprehensively promote ecological construction, and then effectively improve the quality of ecological environmental protection management.

### In summary:

All in all, ecological environmental protection and management work is a long-term project, which plays a more important role in stabilizing social development. To this end, relevant departments should attach importance to the effective implementation of all aspects of environmental protection work, and take the initiative to explore effective measures for ecological and environmental protection, such as doing a good job in top-level design to ensure that the work is implemented; Enhance the protection awareness of the whole people, and promote the clean production of chemical enterprises; Rational use of science and technology, improve the level of ecological protection science and technology; Improve the supervision mechanism and improve the quality of ecological protection management; Carry out restoration and protection projects to improve the quality of the ecological environment; Improve the ecological environment evaluation system, accurately assess the quality of work, and effectively enhance the effectiveness of ecological environmental protection and management.

### References:

- [1] Wu Sha. Problems and countermeasures of ecological environment protection [J]. Shanxi Chemical Industry, 2020, 40(04): 220-221+226. (in Chinese)
- [2] Wang Jing. Problems and countermeasures of ecological environment protection in urbanization construction [J]. Industrial Innovation Research, 2020(14): 95-96. (in Chinese)
- [3] Wang Jinnan, Qin Changbo, Tian Chao, Cheng Cuiyun, Su Jieqiong, Jiang Hongqiang. [J]. China Environmental Management, 2018, 7(05): 9-14.
- [4] Li Jing, Min Qingwen, Wu Huawu. [J]. China Population, Resources and Environment, 2018, 24(2): 151-154.

\*Foundation project: Quality Engineering Project of Beijing Institute of Technology, Zhuhai, Research on the Case Teaching Model of Chemical Safety and Environmental Protection (2023032ZLGC)