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Construction of Monitoring System of Environmental Protection Zone Based on Green Environmental Protection Policy

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Abstract: The problem of environmental protection has attracted more and more attention from all walks of life, and has also attracted the attention of the government and relevant departments to environmental protection. Therefore, in order to better promote China's environmental protection and development is of great significance. Therefore, this paper starts from the construction of the environmental protection monitoring system under the green environmental protection policy, and puts forward the idea of improving, effective, practical and effective monitoring system construction. This paper will put forward corresponding suggestions and solutions to this problem. In order to effectively ensure that the relevant problems are solved, it is urgent to build an environmental protection monitoring system under the green environmental protection policy to solve this problem. To build an efficient environmental monitoring system, it is necessary to be able to monitor various pollutants and equipment operation status in real time and efficiently; Timely and effectively monitor and feed back the results to relevant personnel for follow-up management.

1. Introduction

In recent years, with the gradual improvement of the national environmental protection policy, the continuous improvement of the people's awareness of environmental protection, and the gradual popularity and implementation of the concept of green development, China's environmental protection has made some progress. However, with the rapid development of China's economy and the improvement of people's living standards, the environmental pollution problem caused by China's economic development has become increasingly prominent. At the same time, there are also some problems and deficiencies in the specific implementation process.

The importance and necessity of building an environmental protection monitoring system to

strengthen monitoring. In view of the current environmental situation in China, we can achieve the full and effective operation of various environmental factors by building an environmental protection monitoring system with the main goal of real-time and efficient monitoring of various pollutants, so as to effectively control the emission of various pollutants when the environmental air quality is up to standard. V.A. Miklush gave the graph dependence of signal-to-noise ratio and proved the possibility of using radar of vessel traffic control system to monitor the sea surface environment in port waters [1]. Faridah discussed the performance comparison of point-to-point (PP) and multi-point configuration in school environmental monitoring system. The existing system uses a PP configuration with three monitoring points [2]. Subin Choi proposed a wide dynamic range multi-sensor readout interface for portable environmental monitoring systems, which has a two-step self optimization scheme [3]. Therefore, in the specific implementation process, the environmental protection monitoring system should be able to achieve automation and intelligence; Real time monitoring can be carried out to enable relevant personnel to timely obtain the detection data and make corresponding judgments and decisions.

In the new situation, this paper puts forward more perfect measures and ideas based on green environmental protection policy. Finally, according to the current development status, environmental status and existing problems in China, this paper analyzes the construction methods of the monitoring system of environmental protection zones under the green environmental protection policy and puts forward the construction ideas.

2. Construction of Environmental Protection Zone Monitoring System Based on Green Environmental Protection Policy

2.1. Current Situation of China's Environmental Monitoring System Construction

China's economic development has made environmental problems more serious, especially environmental problems have become one of the major problems that seriously threaten China's ecological security and sustainable economic development [4, 5]. At the national level, the country has also issued a series of standards and policies related to environmental protection to promote environmental protection. However, due to the existence of certain problems and deficiencies, there are many problems in the actual operation. Under China's current environmental protection policy system, China's environmental protection is gradually on the right track. At the same time, China is gradually changing from an economic power to a civilized country. However, China still faces serious ecological problems. How to promote the sustainable development of China's economy through protection has become an urgent problem for the government [6]. Therefore, in order to better promote the implementation of China's comprehensive sustainable development strategy, it is necessary to build an effective and timely monitoring system to solve relevant problems, so as to promote the sustainable development and construction of China's ecological environment.

Although China has improved and strengthened its green environmental protection policies, there are still some deficiencies to be improved. In recent years, China has found many problems in environmental monitoring, and analyzed, discussed and improved them, which are mainly reflected in: the environmental monitoring system has not been really established and improved; Lack of early warning and evaluation measures and functions; To be improved in daily life; The operability is not strong. In addition, there are also a series of problems and deficiencies. Therefore, in order to better promote China's environmental protection cause and development, it is necessary to build a scientific, reasonable, efficient and scientific environmental monitoring system to address the problems and shortcomings [7, 8].

2.2. Main problems and Deficiencies in Current Environmental Monitoring in China

This paper is mainly based on the construction of the environmental monitoring system. Through the analysis of the current situation and needs, it puts forward corresponding suggestions, and on this basis, it puts forward corresponding improvement measures, ideas and optimization suggestions for China's current environmental protection work.

The significance of building an environmental protection monitoring system There are two main types of green environmental protection policies formulated by China at present, one is the various environmental protection laws, regulations, systems or standards and methods at the national level; Second, each local government or enterprise issues and issues corresponding environmental protection policies according to local specific environmental conditions. For the existing environmental protection, it is mainly through strict laws and regulations to protect that various pollutants in the ecological environment construction area can play a corresponding purification role in the environment, so as to reduce pollutant emissions and improve environmental quality [9, 10]. However, there are still many problems and deficiencies in the actual operation process. At present, the operation of the environmental protection monitoring system is not perfect and the staff do not have a deep understanding of these basic environmental protection knowledge; Moreover, environmental protection personnel have strong professional knowledge and quality, so they can not deeply analyze and master the problems and shortcomings of the construction of relevant environmental monitoring system; Therefore, it is necessary to further improve environmental protection supervision and strengthen the publicity of various environmental protection measures to better carry out and implement economic development and environmental protection work [11].

2.3. Relevant Suggestions

It mainly includes: it can ensure that the monitoring data can comprehensively, accurately and timely display the status of various environmental impacts, which can play a better role in guiding the assessment of relevant departments and personnel. The realization of environmental monitoring data is not unlimited, but has strict requirements and standard constraints; This also requires that monitoring in the field of ecological protection must establish a comprehensive, accurate and quantifiable monitoring system to measure various indicators, evaluate their implementation effects and costs, and effectively manage and control them. In addition, there must be strict approval procedures and a regulatory system to ensure that the entire system can achieve online monitoring functions and effectively monitor data. Only when these requirements are met can their real significance be brought into play [12, 13]. The environmental protection monitoring system under the green environmental protection policy can monitor various pollutants and equipment operation status in real time and efficiently, and feed back the results to relevant personnel for management and decision-making; So as to effectively ensure that relevant work can be promoted in a timely manner; It can also effectively avoid the occurrence of a series of phenomena, such as problems that lead to the ecological environment and other related problems can not be further solved, reduce costs, and improve work efficiency. To achieve the purpose of environmental protection [14].

3. Construction and Design Experiment of Environmental Protection Zone Monitoring System Based On Green Environmental Protection Policy

Domestic wastewater and toilet wastewater in the construction site shall not be discharged into the rainwater pipe, but must be discharged into the urban sewer where the construction site is located; Do not wash the car in the office to prevent sewage from entering through the rain pipe [15, 16]. Since the domestic sewage discharge status of the construction site cannot be determined

quantitatively, the total domestic sewage discharge amount of the construction site has been evaluated only in combination with the above contents (Table 1).

Table 1. Grading standards for assessment indicators of up to standard discharge rate of domestic sewage

Evaluation grade	Emission rate (%)
1	Above 90
2	80-90
3	70-80
4	60-70
5	0-60

Water for concrete curing test during construction, and construction waste water containing waste oil, waste oil residue and toxic chemical composition produced by special process shall be specially treated. The standard index of PH value is shown in Table 2:

Table 2. Grading standards for evaluation indicators of PH standard index of construction wastewater

Evaluation grade	PH value
1	0-0.2
2	0.21-0.6
3	0.61-1
4	1.01-1.5
5	1.51-2

In this paper, the evaluation grade is divided into five evaluation grades: good, good, general, qualified and unqualified, which correspond to five different grey classes respectively. The threshold values of each index are determined, and the whitening weight function is constructed [17, 18]. The whitening weight function is shown in Figure 1.

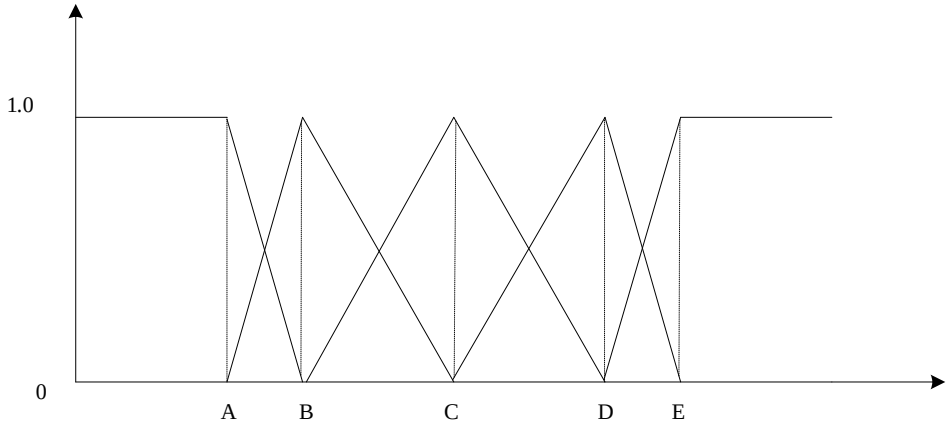

Figure 1. The bigger the value, the better the index type whitening weight function image

It can be seen from the figure that the larger the index is, the better the index is. When the gray class level is 1, select the whitening weight function of the upper level measurement; When the gray level is E, the weight value of the minimum value is selected; When the grey level is B, C, D, the weight function of medium measure is selected. When the index is low and the grey level is A, the weight function of the lowest value is selected; When the gray level is E, the largest measurement index is selected. The pollution assessment indicators and limit values are shown in Table 3.

Table 3. Pollution assessment indicators and limits

Evaluation grade	Very good	Preferably	Commonly	Qualified	Unqualified
Standard discharge rate of domestic sewage(A)	Above 90	80-90	70-80	60-70	0-60
PH standard index of construction wastewater(B)	0-0.2	0.2-0.6	0.6-1	1-1.5	1.5-2
Noise construction value(C)	0-55	55-60	60-65	65-70	Above 70
Domestic waste treatment effect(D)	8-10	6-8	4-6	2-4	0-2
Recycling rate of construction waste(E)	Above 50	40-50	30-40	20-30	0-20

Combined with the combination weight, the grey clustering coefficient of the research object for the whole grey class is calculated, and the grey class represented by the maximum value is the grey class of the research object. The calculation formula is as follows:

$$\varphi_j^r = \sum_{j=1}^{n} g_i^r(A_{ji}) \cdot S_i \tag{1}$$

$$\max_{1 \le r \le w} \{\varphi_j^r\} = \varphi_j^w \tag{2}$$

Through the above calculation, we can get the environmental protection evaluation grade of green construction. According to the evaluation results, we can have a certain understanding of the environmental problems during the construction period and play a certain role in guiding the improvement of environmental problems.

4. Example Analysis of the Construction of Environmental Protection Zone Monitoring System Based On Green Environmental Protection Policies

BLTJ-8 is the longest subgrade project among the 12 bid sections, and its environmental protection assessment mainly focuses on water pollution control, solid waste pollution control and ecological environment. BLTJ-6 is the longest section of bridge construction in China. Its environmental protection assessment focuses on noise pollution, water pollution control and air pollution control. BLTJ-2 is the longest section of tunnel construction in China. Its environmental protection assessment focuses on noise pollution control, and has assessed the ecological environment and workers' health. Among the 12 bid sections, BLTJ-3 and BLTJ-9 are relatively large projects, and their environmental protection work involves all aspects. On this basis, the environmental protection indicators of the five bid sections are counted. Due to the complex construction process and variable construction conditions, it is difficult to collect data. Some of the data are measured on site and others are scored by experts.

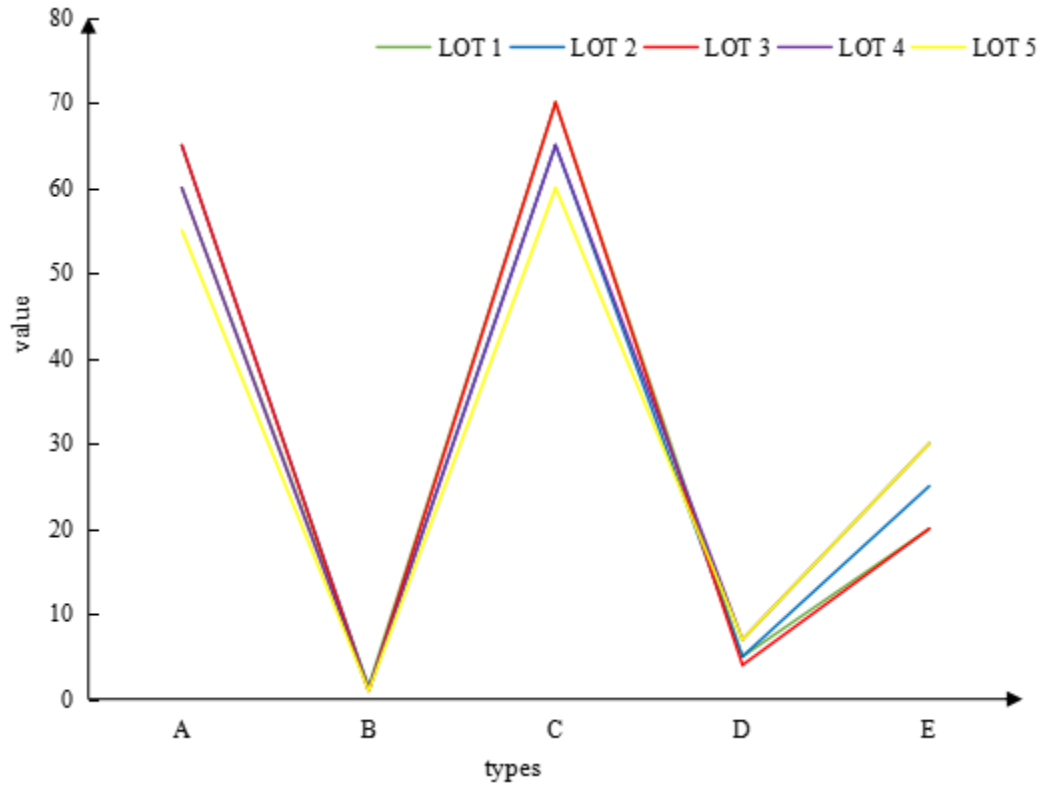

Figure 2. Statistics of green construction data

It can be concluded that the green construction environmental protection evaluation grade of bid sections 1 (BLTJ-2), 2 (BLTJ-3), and 3 (BLTJ-6) is "qualified", and the evaluation grade of bid sections 4 (BLTJ-8) and 5 (BLTJ-9) is "medium".

In the new era, green environmental protection policies have also been incorporated into relevant work. Therefore, in order to better implement the green environmental protection policy, the government needs to strengthen the formulation of relevant policies and measures, and implement the policy in China by formulating relevant policies. From the introduction and implementation of green environmental protection policies, it can be seen that the state attaches great importance to environmental protection, has invested and attached great importance to it, so as to achieve continuous improvement of environmental protection. At the same time, China has also taken corresponding measures to address environmental issues and achieved some results. This has also strengthened China's environmental protection level to a certain extent. First of all, we should strengthen the publicity of environmental protection policies and constantly improve people's ideological awareness; Secondly, in the specific implementation process, we need to follow the green environmental protection work ideas; finally, various ways are adopted to actively advocate and implement various national measures. And strengthen the publicity and popularization of environmental protection policies, so that people can better understand their advantages and disadvantages and make correct decisions on policies. At the same time, environmental protection facilities also need to be reasonably designed, constructed and maintained to avoid waste. Therefore, in order to give more reasonable play to the effectiveness of environmental protection, it is necessary to put forward corresponding adjustment requirements for policies and formulate corresponding new measures to promote the implementation of this strategy in China. At the same time, it is also necessary to strengthen the establishment of an effective cooperation mechanism and a long-term management mechanism between the government and relevant departments; So as to

ensure the smooth progress of environmental protection work is of positive significance and can truly contribute to China's green development. Therefore, effective measures should be taken to promote the implementation of this policy. It is also necessary to further optimize the green environmental protection management and control system architecture, formulate corresponding management systems, improve the monitoring system construction scheme and implementation methods. In this way, we can better implement the protection measures into action, so as to make them more perfect, more scientific and reasonable, and can achieve results in the implementation process. Therefore, the necessity of building this policy system in China needs to be further solved. Therefore, in the specific implementation process, it is necessary to clarify the concept and significance of "green environmental protection", and improve relevant measures as soon as possible after the implementation of the policy. Provide a strong guarantee for its practical implementation.

5. Conclusion

Through this study, it can be found that a series of environmental protection policies adopted by the state in environmental protection have played a positive role in the whole concept of green development in China. However, there are still some deficiencies in the specific practice, and the requirements for green environmental protection have been reduced. This requires the government to increase its investment in environmental protection, and at the same time, it needs to further improve the technology. Therefore, under the influence of green environmental protection policies, it will help further promote China's sustainable development to make more obvious progress.

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Data Availability

Data sharing is not applicable to this article as no new data were created or analysed in this study.

Conflict of Interest

The author states that this article has no conflict of interest.

References

[1] Miklush V A, Sikarev I A, Tatiana M T. Organization of Environmental Monitoring of the Port Water Area by Processing Anti-Interference Signal from a Vessel Traffic Control System.Autom.Control.Comput.Sci. (2020) 55 (8):999-1004. https://doi.org/10.3103/S0146411621080204

[2]Faridah, Sunarno, Sentagi S U, Emilya N, Muhammad I H, Memory M Waruwu, Rony W. Optimisation of the Data Point Configurations in a Building Environmental Monitoring System.Int.J.Commun.Networks Distributed Syst. (2020) 27(3):259-281.

[3]Subin C, Chan S P, Hee Y C, Byungjoo O, Lee J M, Yeong M K, Jeong M B, Heungjoo S, Jae J K. A Wide Dynamic Range Multi-Sensor ROIC for Portable Environmental Monitoring Systems with two Step Self-Optimization Schemes. ieee Trans. Circuits Syst.I Regul.Pap. (2020) 68 (6):2432-2443.

[4] Yan C Q, Karsten R, Lars B, Gang Z, Yue T X, Olaf K. A three Dimensional Software Framework for Environmental System Monitoring and Decision Support in Poyang Lake Basin. Earth Sci. Informatics (2020) 13(3):901-913. https://doi.org/10.1007/s12145-020-00480-7

[5] Liu Q X. Intelligent Environmental Monitoring System Based on Multi-Sensor Data Technology.Int.J.Ambient Comput. Intell. (2020) 11(4):57-71. https://doi.org/10.4018/IJACI.2020100104

[6] Juan S B V, Luis C L, David M V, Mateo R G. Data Reduction in a Low-Cost Environmental Monitoring System Based on LoRa for WSN. ieee Internet Thing. (2019) 6(2):3024-3030. https://doi.org/10.1109/JIOT.2018.2878528

[7] Haneul K, Sangheon P, Victor C. M. L. Spatiotemporal Correlation-Based Environmental Monitoring System in Energy Harvesting Internet of Things (IoT).IEEE Trans. Ind. Informatics (2019) 15(5):2958-2968. https://doi.org/10.1109/TII.2018.2889778

[8] Timothy M, Priti M, Rakesh K. Environmental Monitoring System for Smart City Based on Secure Internet of Things (IoT) architecture. Wirel. Pers.Commun. (2019) 107(4):2143-2172. https://doi.org/10.1007/s11277-019-06376-0

[9] Tobias E, Martin P, Doreen T. Automation of Maritime Shipping for More Safety and Environmental Protection. Autom. (2020) 70(5):406-410.

[10] Jun H, Ping Y, Yun X D. Stability and Bifurcation Analysis of an Environmental Protection Model with Two Delays. Int. Bifurc. Chaos (2020) 32(7):2250125:1-2250125:14

[11] Yuan D L. Influence of Corporate Environmental Responsibility on R&D Investment: Dual Moderating Effects of Public Attention and Intellectual Property Protection.J.Inf.Knowl.Manag. (2020)21(3):2250058:1-2250058:17

[12] Yi S, Yu L S, Xue T L. Constructing A Green Financial Innovation System with the PPP Environmental Protection Industry Fund.Int.J.Technol.Manag.85(2/3/4):319-332(2020).

[13] Xu R H, Fan L, Chen X F, Li M z, Zapan B. Formation Mechanism of Environmental Protection Behaviours of Community R. A System Dynamics Perspective.Kybernetes (2020) 50(2):386-412. https://doi.org/10.1108/K-12-2018-0653

[14] Cui W, Wan A W, Feng J C, Zhu Z Y. Analysis of Local Government Behaviors and Technology Decomposition of Carbon Emission Reduction under Hard Environmental Protection Constraints .Int.J .Perform. Eng. (2020) 16(2):195-202. https://doi.org/10.23940/ijpe.20.02.p4.195202

[15] Yong T, Lili W, Ye B J. Multi Objective Optimization of High Altitude Sector Operation Based on Environmental Protection. Clust.Comput. (2019) 22(6):15429-15437. https://doi.org/10.1007/s10586-018-2615-z

[16] Marina M. Environmental Ethics in the Military: Between Warfare and Ecosystem Protection.Int.J.Technoethics (2018) 9(2):51-61. https://doi.org/10.4018/IJT.2018070105

[17] Michiel R. Rear View Mirror,Crystal Ball:Predictions for the Future of Data Protection Law Based on the History of Environmental Protection Law.Comput.Law Secur.Rev. (2017) 33(5):603-617. https://doi.org/10.1016/j.clsr.2017.05.010

[18] Zhao S H, Qiao W, Ying L, Liu S H, Wang Z T, Li Z, Wang Z F. An Overview of Satellite Remote Sensing Technology Used in China's Environmental Protection. Earth Sci. Informatics (2017) 10(2):137-148. https://doi.org/10.1007/s12145-017-0286-6