

# Organization and Establishment of Scientific Research Management in Environmental Monitoring Departments

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## Abstract:

*Taking the scientific research management of the environmental monitoring centers as example, this paper analyzes the scientific research nature and main models, existing disadvantages, and future development of environmental monitoring departments under existing conditions. It also focuses on the research direction and management mode by interpreting the implementation plan of environmental monitoring network construction and regional planning. It puts forward the possible scientific management plans and specific steps based closely on the characteristics of scientific research management for the environmental monitoring system.*

## Keywords:

*Environmental Monitoring; Scientific Research; Organization; Establishment*

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## 1. Introduction of Environmental Monitoring Departments

The Environmental Monitoring Departments, with independent legal personality and technical supervision and management functions, are non-profit organizations engaged in environmental monitoring and scientific research. They are part of the government departments and serve for the environmental management and socio-economic development. And they follow the financial management system for the environmental monitoring department.

## 2. Nature of Scientific Research of Environmental Monitoring Departments

According to Article 2 of Regulations on the Administration of National Environmental Monitoring, carrying out research on environmental testing technology and promoting the development of environmental monitoring technology is one of the main task of environmental monitoring. Environmental monitoring stations at all levels have to fulfill different requirements for scientific research.

## 3. Current Situation of Human Resource Management in Environmental Monitoring Departments

### 3.1 Outdated Concepts Hinder the Innovation of the Human Resource Management

Environmental monitoring departments in various regions of China have been focusing on personal relations for a long time, which lead to the neglect of people's creativity and initiative. Therefore, it is hard to scientifically organize the development of people within the environmental monitoring departments in a long term. Therefore, a passive and post event management model for the entire management is formed, which hinders the work and social service level of the environmental monitoring departments.

### 3.2 Lack of Scientific and Effective Operational Guarantee System

The healthy operation of any organization requires a matching operational guarantee system to standardize the content of each link, and at the same time, strengthen the coordination and connection between the work of each link within the organization. However, the human resource management of China's environmental monitoring departments lacks scientific and reasonable operating mechanisms, such as guidance, constraints, incentives, and supervision. So human resource management can not be effectively guaranteed. Higher energy consumption only leads to extremely low efficiency. In addition, employees are unable to effectively play an innovative and initiative role in their work. As a result, they cannot effectively handle the interrelationships between people, things, and organizations.

### 3.3 Human Resource Management Extremely Depends on Experience

Environmental monitoring departments in various regions of China have been influenced by the traditional planned economy for a long time. Therefore, their management extremely depends on experience. The employee recruitment, employment, and retirement have deviated from the development direction of the environmental monitoring departments under the current market economy system, which not only affects their effective implementation of human resource management, but also poses certain obstacles to their sustainable development.

### 4. Research Direction of Environmental Monitoring

Environmental monitoring centers are responsible for the development planning of environmental monitoring technology and the organization of research projects. As an organizational manager, they should grasp the direction of industry technology development, improve their basic research strength and discover the forefront and hot topics of academic research within the industry. According to the development requirements and environmental characteristics of different regions, the environmental monitoring research must be reasonably planned and scientific arranged and the research resources should be put on key areas the the breakthrough in crucial capabilities and technologies.

(1) Big data analysis and online sharing should be carried out to achieve effective linkage between ecological environment monitoring and regulation. All the above mentioned have pointed out the direction for the development of environmental monitoring research, which is to enhance the initiative, foresight, and scientificity of environmental management through scientific research and practice in various technical fields. They also provide services for environmental supervision decision-making and environmental quality improvement decision-making. The implementation plan has put forward new requirements for various aspects of environmental monitoring and also pointed out the future direction of environmental monitoring research.

(2) Pollution characteristics and causes are analyzed of acid rain, ozone, and new pollutants. And the accuracy, timeliness, and automatic monitoring data graphical display of environmental quality prediction and warning are further studied. Research on biological monitoring and early warning, automatic monitoring of noise sources are carried out. And the emergency monitoring capabilities are enhanced for heavy metal as well as toxic and harmful pollution indicators. The application of new technologies such as aerial remote sensing in emergency monitoring are explored.

(3) Studies on the status, changing trends, influencing factors, and potential ecological risks of regional ecological environment are conducted. And big data correlation analysis on environmental quality is carried out. Research on the construction and application of ecological protection red line supervision platforms are performed. Research on the urbanization mechanism of environmental monitoring and the regulatory system of social institutions should be further carried out. And formulation and revision of various environmental monitoring standards must be accelerated to meet the constantly evolving management needs.

## 5. Strategies for Establishment of Scientific Research Management of Environmental Monitoring Department

### 5.1 Change Concept of Human Resource Management and Adhere to People-oriented Approach

With the rapid development of economy and society, environmental monitoring departments must fully understand the role of human resource to achieve the goal of optimizing resource allocation. It is important for them to change traditional and outdated human resource management concepts and adhere to the people-oriented approach. They must effectively apply humanistic ideas to human resource management to stimulate employees' enthusiasm, initiative, and innovation. The improvement of their human resource management can also inject their vitality and social service levels. Employees are the basic components of the environmental monitoring department. People-oriented human resource management is that all practices are determined and operated by people and people are always the core or leading factor of the entire management process. The people-oriented human resource management is the guiding ideology of current environmental monitoring departments. It can not only break through the long-term constraints of traditional concept in environmental monitoring departments, but also enable people to fully understand human nature and better highlight the core position of human beings.

## 5.2 Strengthen Construction of Working Mechanism of Environmental Monitoring Departments and Stimulate Employees' Innovation and Enthusiasm

It is the basis for a standardized and efficient operation of environmental monitoring departments to have a scientific and comprehensive management mechanism. And it is also one of the effective methods to achieve optimal allocation of human resources. The establishment of the working mechanism of the current environmental monitoring department should start from the following aspects respectively: first, policy guarantee mechanism. A perfect policy system ensures a reasonable and effective guidance for the environmental monitoring departments. To make good use of policies can push the environmental monitoring departments to enter new fields rapidly and accurately. Second, employee motivation mechanism. The motivation mechanism is an incentive mechanism for employees. In the daily work of the environmental monitoring departments, all employees enjoy the rights to be autonomous and fairly treated. Motivation mechanism can improve employees' enthusiasm by fulfilling their actual needs. Therefore, employees' initiative and enthusiasm should be stimulated by creating a specific work environment for them. Third, supervision mechanism. For environmental monitoring departments, the supervision mechanism promote the standardized implementation of their human resource management. Strengthened supervision favors the implementation and development of scientific and effective human resource management. It also meets the needs of market-oriented development of human resource management in environmental monitoring departments.

## 5.3 Learn from Human Resource Management Methods

The basis for the effective human resource management in China is to reasonably plan it, including job analysis, labor quota, system development, cost control, etc. Environmental monitoring departments should learn and analyze the above mentioned factors and adjust them to make a new mode that is suitable for their own situations. At the same time, it is important to diversify the recruitment methods with the principles of fairness and openness. And the loss of outstanding talents, caused by single recruitment and assessment methods as well as improper job allocation, should be prevented. Professional training and regular assessment should be enhanced to ensure the comprehensive quality of employees and accumulate experience for future human resource management. In addition, human resource management departments should also pay attention to and gradually perfect the effective management of employee labor relations, including employment contracts, adjustment of labor relations, and internal labor rules to ensure the collective and individual interests of the environmental monitoring departments as well as their overall and comprehensive development.

## Conclusion

Environmental monitoring management should not only understand the scientific and technological needs, grasp scientific research directions and achieve information management, but also focus on the core of scientific and technological policies to fully understand and make good use of the national encouragement policies for scientific research units and personnel. It is also important to actively explore the scientific performance management system of environmental monitoring departments to improve scientific research efficiency and enhance the sharing and utilization rate of scientific research equipment and achievements. By increasing the enthusiasm of scientific research personnel, it is sure to make it better to serve the ecological environment protection.

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