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Legal Construction of Ecological Environment Safety in China

From the Perspective of the Landslide Disaster in Diexi

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***Abstract*—Ecological environment safety is an important part of the "Overall National Security Outlook" in the report of the 19th National Congress. It is an important cornerstone for building beautiful China, creating a good production and living environment for the people, and making a contribution to global ecological security. In the context of the rule of law, China's environmental and ecological security is naturally inseparable from the help of it. Environmental ecological security consists of two parts in a broad sense. The first essential is the natural environment and ecological security (the first type of environmental problem), then comes to the adjustment of the relationship between the human and the natural environment (the second type of environmental problem). From the perspective of China's environmental and ecological security rule of law construction in recent years, it is mainly focused on solving the second type of environmental problems. The discussion on the rule of law construction for the first type problem has not received the attention it deserves. Based on the clarification of the relationship between the first type of environmental problems and the second type of environmental problem, this paper takes the landslide disaster in Diexi on June 24, 2017, as the entry point, and deeply analyzes the disaster-causing factors. Further, this paper summarizes the superposition effect of natural, technical and artificial factors. At the same time, through the textual analysis of relevant laws, regulations and policy documents issued by governments at various levels on geological disasters at that time, the common problems faced by China's environmental ecological rule of law construction were extracted, including the lack of legal system construction, imperfect administrative management system structure, and high-tech Insufficient popularity of technology applications and public awareness. In response to the above problems, the author puts forward corresponding countermeasures based on the actual situation in China.**

Keywords—environmental ecological security; the rule of law; Diexi landslide disaster; hazard factor

I. INTRODUCTION

Diexi Town is located in the western part of Sichuan Province. The main environmental and ecological problems are geological disasters due to its fault zone location, and the horizontal and vertical mountains and rivers. In order to prevent and respond to sudden disasters and protect people's life and property, the state and various levels of government have successively issued corresponding regulations and policies. In particular, various relevant departments organized a number of investigations on geological disasters in the Diexi area after the 2008 earthquake, but the perfect bills and systems failed to provide early warning the extraordinary landslides on June 24, 2017 in Xinmo Village, Diexi Town, Mao County. It is undeniable that human beings are small in front of nature, and the perfect system does not have 100% security. However, perfect systems and effective implementation can greatly reduce the occurrence or loss of disasters. It is reasonable to say that the disaster should be foreseen and should be guarded against and actually not. This paper aims to summarize some problems existing in the rule of law in environmental ecological security through the analysis of relevant legal texts and the local geological disaster prevention work, and provide some suggestions for the construction of environmental ecological security rule of law in China.

II. THE CONCEPT OF ENVIRONMENTAL ECOLOGICAL SECURITY RULE OF LAW AND ITS NECESSITY

"Environmental ecology" refers to the forces of nature (including the second nature formed by human intervention) or their summation (materials and energies) that are closely related to human beings and affect human life and production activities. "Environmental ecological security" is a state in which the above-mentioned environmental systems are relatively stable and are not or little suffers the damage or threat. [1]

Some scholars believe that the environmental problems in the initial environmental law mainly refer to the second type of environmental problems, and then gradually expand to the first type of environmental problems, and the laws against natural disasters should fall under the category of environmental law. [2] Some scholars believe that the first type of environmental problems cannot be changed by human will. The environmental problems that are controlled by environmental legislation mainly refer to the second type of environmental problems. [3]

The author believes that casting aside the unitary and binary demarcation of natural disasters and current environmental law adjustment objects, they are more similar to the two quadrants of mutual intersection in a dialectical

and unified framework. This framework is the environmental safety ecological rule of law. The framework includes both the first type of environmental problem and the second type of environmental problem. In many cases, these two types of problems are accompanied by each other. It includes various legislations in the environmental law, as well as numerous prevention and control regulations and emergency plans in disasters.

There will be a question of the necessity of legalization of environmental ecological security. Some people will question that whether it is necessary to integrate these accumulations into the legal framework system with enrich disaster prevention and reduction experience, science and technology means continue today. Will the hysteresis quality of law constrain the flexibility successfully deal with environmental ecological security? There seems to be a natural tension between them.

And the answer is necessary. Incorporating people's rules of thumb and technical means into the rule of law construction, on the one hand, it can give people a normative guidance role in emergencies. They can clearly know what to do and what should not be done according to legal requirements when faced with environmental and ecological security issues. The law is mandatory under the necessary conditions. This can avoid being overwhelmed by sudden disasters when people are inexperienced. The so-called "respond to the law" is to use these condensed and most important experiences and achievements in the law to guide our disaster response. [4]

As the opposite of environmental and ecological security, natural disasters must be treated with rigorous treatment of various resources and measures on the road to beautiful China. As the basic means of state governance, the rule of law should run through the prevention and reduction of natural disasters, realize the institutional guarantee of environmental ecological security, and improve the construction of ecological civilization system.

III. Environmental and Ecological Security Problems in the Diexi Area and Its Rule of Law

The author reviewed the relevant legal texts issued by the government before the disaster. Including "The People's Republic of China Emergency Response Law", "Geological Disaster Prevention and Control Regulations", "National Sudden Geological Disaster Emergency Plan", "Sichuan Province Geological Hazard Prevention and Control Program", "Sichuan Provincial People's Government Implementation Opinions on Strengthening Geological Disaster Prevention and Control Work", "Aba Prefecture 2016 Geological Disaster Prevention Plan", "Aba County Strengthening Geological Disaster Prevention and Control Work in the Flood Season" "Aba Prefecture Emergency Geological Disaster Emergency Plan" ,"Mao County Sudden Geological Disaster Emergency Plan" ,"Mao County 2015 Geological Disaster Prevention Plan".

Through the text analysis of the above documents, from the vertical point of view, each document is formulated under the framework of the "Emergency Response Law "and the "Regulations on Prevention and Control of Geological Hazards". The prevention and early warning of geological disasters mainly emphasizes inspection and investigation, test group prevention, comprehensive management, and plan development. Summarize the prevention and early warning measures for geological disasters at all levels of government in China, it mainly under the leadership of the party, based on the mass-based group test and prevention system, relying on the strength of the masses and professional institutions to form an effective geological disaster response network, and discover hidden dangers, monitor hidden dangers, forecast hidden dangers, and deal with hidden dangers in time. However, from the text point of view, the relevant plans from the provincial level to the county level are not highly detailed in the specific means of implementation, and most of them are repeated emphasis on the content of the superior documents. For example, the "emergency response plan for sudden geological disasters" at various levels is the disaster prediction and warning part is basically the same. In addition, for the monitoring of hidden danger points, the "dynamic monitoring" system clearly defined in the "Regulations on Prevention and Control of Geological Disasters" has not been monitored in specific local plans, and the means and implementation rules are unified standards. In addition, from the "Regulations on Prevention and Control of Geological Disasters" to relevant government documents at all levels, it is clearly stipulated that the competent departments at all levels of government should formulate an annual geological disaster prevention and control plan that is adapted to the local actual situation, but is released from relevant prevention and control programs in Aba Prefecture and Maoxian County. Look, timeliness has not kept up. From the horizontal point of view, we can know that the main leading role in the prevention and control of geological disasters in the administrative areas of Aba and Maoxian is "Mao County 2015 Geological Disaster Prevention Plan" and "Aba Prefecture Sudden Geological Disaster Emergency Plan". Both of them have relevant requirements for disaster prevention and early warning. The former pays more attention to the annual normalization prevention and management of disasters. The latter mainly focuses on sudden disasters and dangerous situations. When the disaster or danger occurs, it mainly depends on the latter to initiate the corresponding emergency plan, but the disaster prevention work was mainly stipulated by the "Mao County 2015 Geological Disaster Prevention Plan", and the relationship between the two was complementary to the normality and urgency.

IV. Analysis of the Hazard Factors of the Diexi Landslide Disaster

At 6 o'clock on June 24, 2017, a high mountain collapse occurred in Xinmo Village, Diexi Town, Mao County, Aba Prefecture, Sichuan Province, which caused more than 40 farm houses and more than 100 people to be buried. The Songpinggou River channel of the Minjiang River tributary was blocked for 2 kilometers. After the disaster subsides, according to the actual situation of the locality, analyze the various factors that are generated in the environment of the

disaster, mainly in three aspects: natural factors, technical factors, and human factors.

A. Natural Factors

The relevant geological research report shows that the superposition of natural factors in three aspects triggered the disaster. [5] First is the geological structural factors, the landslide site Xinmo Village is located in the deep-cut alpine gorge area of the Longmenshan seismic belt and the Songpan earthquake zone. The disaster body is located on the left bank slope of the Songpinggou tributary of the Diexi River with a large slope fall and a high slope gradient, partially close to erect, belonging to high-prone areas of geological disasters, exposed base rocks are mainly loose unstable rock mass; Second is historical factors, affected by the 1933 Diexi earthquake and the 2008 Wenchuan earthquake, this mountain structure has been damaged for many times; The third is the meteorological factor, the continuous rainfall occurred in the area one week before the disaster. On the one hand, the rain increases the sliding force of the mountain; on the other hand, the mountain softens and reduces its anti-sliding force. In summary, the complex and fragile geological conditions of the landslide area, combined with repeated earthquakes, make the stability of the rock mass worse. As a large amount of rainwater seeps into the rock and soil, the fracture water pressure is generated and the rock mass is softened, and eventually led to the occurrence of landslides.

B. Technical Factors

On June 25, 2017, Xu Qiang, an expert on geological disasters of the Ministry of Land and Resources, released an objective reason for not detecting the hidden dangers of the earthquake in Xinmo Village at the press conference. It is concluded that the geological conditions are too complex to analyze for the existing manpower and technology. After the Wenchuan earthquake in 2008, Sichuan Province investigated the hidden dangers of geological disasters in the disaster area, and found that there is a hidden danger point behind the Xincun Village in Xinmo Village. The name of the hidden danger is the unstable slope of the fire ground in Xinmo Village, Diexi Town, the point number is 513223000034, but what actually happens is the high landslide above it. There is no direct scientific basis for the correlation between them. But what is certain is that the hidden point is also a part of the landslide. There is another possibility that the hidden point is the entire chain reaction of the disaster or a part of the external, but for technical reasons, it has not revealed its essence, so it is impossible to take the necessary measures in advance.

C. Human Factors

Human factors cause human disaster. [6] On April 21, 2017, the Ministry of Land and Resources of Sichuan Province issued the "Table of Implementation of Disaster Prevention Measures for Geological Hazards in Sichuan Province in 2017", [7] and detailed statistics on prevention of geological disasters in the grassroots areas of Diexi Town. As for early warning work, the information shows that as of April 2017, there are two disaster sites in Xinmo Village, one of them is located in the Xincun Group, which is the unstable slope of the fire ground in Xinmo Village, Diexi Town that mentioned above. The data shows that the hidden danger scale is 80.6 cubic meters, the rating is small, the threatened property number is 0, the threats number is 0, the discovery time is August 2008, and the first reporting time is June 2015, which is induced by earthquake and rainfall. The monitoring method is patrol, and the early warning means include shouting, broadcasting, and hand-cranking alarms. The disaster prevention measures include group monitoring and group prevention. There are three problems in the above information: First, the accuracy of the information related to the hidden danger points. The hidden dangers of the statistics are all discovered after the 2008 earthquake, but the time for reporting to the provincial office for the first time is 2015, with an interval of up to 7 years. For a long time, the implementation table was released in April, 2017, and it was separated by two years in the middle. Therefore, it was discovered from the hidden danger point that the table was released, and there was a time interval of nearly 10 years in the middle. Did all the relevant departments carry out the "dynamic investigation, dynamic verification, dynamic monitoring, dynamic management" required by the Sichuan Provincial Geological Hazard Prevention and Control Program? Has the above data been regularly updated in real time? Judging from the above contradictory points, the timeliness and accuracy of some information reported by the grassroots are yet to be verified, and the dynamic management is suspected of being statically reported. The second is the scientific problem of the evaluation of the size and danger level of hidden danger points. According to the "Geological Hazard Grading Standard" issued by the Ministry of Land and Resources, the classification of geological disasters includes scale classification, disaster classification and risk classification. The scale of disaster scale is divided according to the quantity, and the risk classification is divided according to the threat number and threat property of the hidden danger point. The above hidden points belong to the "small" level. The level of disasters in this geological disaster is "extra-large", which not only makes people question, but ask for the reason why is there a "big" disaster under the "small" danger? Is the hidden danger point discovered to be small-scale, or can it be roughly estimated due to technical or other reasons, and ignore the huge hidden danger hidden in the ground? Third, the prevention and early warning measures are backward, and the monitoring methods for geological disasters in the grassroots areas of Diexi Town are generally backward. It mainly relies on manual and simple monitoring. The monitoring tools are mainly tape measure, lining rope, wooden stakes, etc. The early warning method mainly relies on squatting and whistling.

In summary, the reasons for the Diexi landslide occurred suddenly without any preventive warning are discussed as following points. From the external factors, timely and accurate prevention and early warning could not be achieved due to natural and technical reasons. From the perspective of internal factors, the lack of risk awareness of the local

grassroots people and the failure of the artificial group detection and prevention system are also an important factor.

V. Defects and Countermeasures of the Rule of Law Construction of Environmental Ecological Security in China

A. Problems and Countermeasures in the Construction of Environmental Ecological Security Legal System

It can be seen from the relevant texts of the rule of law on environmental and ecological security in the Diexi area that the main problems of the rule of law in environmental and ecological security in China are: lacking of a comprehensive basic law; lacking of important single-line methods such as disaster relief law, post-disaster reconstruction law, and disaster insurance law; There are many departmental regulations or policy documents, and local regulations and regulations do not match well and incomplete.

A sound legal system should be instructive, relevant, and efficient. Structurally, it should include the basic Law, the single-line approach to each major aspect, and the regulations for specific issues. In this way, a network system that complements and coordinates each other can be formed.

Judging from the current environmental and ecological security legal system, there is a top-down legal framework, but there are still many gaps or misplacements that need to be adjusted. The environmental ecological security legislation covers a wide range of topics, including the first type of environmental problems and the second type of environmental problems involved in engineering prevention and control measures, as well as non-engineering prevention measures, reflecting the coordination of various relations among environmental, ecological security and social livelihood, politics, economy, culture and education. It also requires the use of sound legal means to unify the rights and obligations of the participating subjects and objects.

In view of the above problems, we can start from the following aspects: increasing the "basic legislation for natural disasters" under the system of environmental security rule of law. The law has two roles, one is to complement the environmental law to adjust natural and man-made disasters, the other is to govern the existing disaster-related regulations and regulations, which is similar to Japan's "Basic Law for Disaster Response"; With reference to developed countries such as Europe, the United States, Japan, etc., actively promote the supporting construction of various single-line laws, improve the system of assistance, insurance, reconstruction, etc. Learning from the experience "there must be legal revisions after the disaster" in Japan, continue to summarize, improve, and timely revision of relevant laws and regulations and plans. In addition, while ensuring the consistency of the upper and lower regulations, the auxiliary functions of the local government's "Regulations" and "Precautions" are clarified, and the refinement of the system is actively explored to prevent and control the phenomenon of ignorance.

B. Problems and Countermeasures of Administrative Management System Against the Background of Environmental and Ecological Security Rule of Law

The vitality of the law lies in its implementation. A perfect the rule of law requires people to implement their role in order to play their role. From the perspective of this tidal landslide, the issue of environmental and ecological security is caused by the uncertainty of nature itself, and on the other hand, it can be said that it was caused for the unfulfilled implementation human the rule of law.

Disasters are relatively short-lived for our thoughts. Disasters are limited to playing a relatively small institutional change, but a frightened and frustrated society is not where real major changes can take root, unless the rescue period and wise administration are well prepared. [8] As the main duty bearer of environmental ecological security, the administrative subject has its legal basis, which can be drawn from the counter-argument relationship between the administrative subject obligation and the beneficiary's rights.

The problem of information accuracy and timeliness is mentioned in the artificial disaster factors of the Diexi landslide disaster. The big factor that causes this problem stems from the current administrative system in China. Since the departments involved in disaster management have more than 20 functional departments such as civil affairs, national land, public security, environmental protection, water conservancy, earthquake, meteorology, and transportation, and manage their own disaster affairs according to their duties, there must be overlapping functions, multiple management, and law enforcement. The unified phenomenon has greatly affected the comprehensive decision-making and implementation efficiency of disaster prevention and control.

Under the system of the Emergency Management Department, relevant administrative agencies or entrusted institutions should actively explore the establishment of a scientific assessment of disaster risk mechanisms and strengthen the investigation and management of hidden dangers. Establish and improve preventive and early warning measures and information release systems that are compatible with disaster characteristics, and clarify processes and responsibilities. Enrich and smooth information channels to improve the accuracy and timeliness of disaster prevention and early warning information. All regions and departments should strengthen cooperation, coordination, and information transfer, make overall plans, track and analyze the progress of each link, and supervise and inspect the problems encountered in the implementation process, promptly feedback, scientifically respond, and properly resolve. The accuracy of information can be guaranteed by establishing horizontal and vertical information verification systems and introducing third-party supervision.

C. Problems and Countermeasures of Science and Technology and Public Consciousness Against the Background of Environmental, Ecological and Security Rule of Law

The environmental ecological security rule of law requires both advanced scientific and technological support, as well as the public awareness of the public.

About the science and technology, the government should encourage scientific research, personnel training, and technology research and development in environmental and ecological security. Research institutions such as universities should strengthen basic theoretical research and key technology research and development, and focus on revealing environmental ecological security issues and the gestation, occurrence, development and evolution of disaster chains, analyzing the causes of disasters, and improving risk investigation and assessment mechanisms. In the process of actual disaster prevention and relief, it's necessary to promote the use of new technologies and methods such as big data, cloud computing, unmanned technology and geographic information to improve disaster information acquisition, simulation, forecasting, risk assessment, emergency communication and support capabilities.

The government should increase funding for popularization, education and training to improve public awareness. Finance at all levels should increase support for disaster prevention and mitigation related work such as grassroots disaster reduction capacity building, popular science education, etc., publicize various public safety days and carry out related activities, such as "5.12 Disaster Prevention and Mitigation Day", "6.5 Environment Day", "International Civil Defense Day", "October 13 World Disaster Reduction Day", "119 Fire Day" and so on. At the same time, encourage social forces and households and individuals to invest in disaster prevention, mitigation and relief work, such as encouraging the media to publish information, knowledge, and programs related to environmental ecological security, and encourage enterprises and communities to carry out various forms of "safety week", "safety month" and other theme activities.

VI. CONCLUSION

China's environmental ecological security rule of law has made great achievements, accumulated valuable experience in dealing with serious natural disasters, and the country's comprehensive disaster reduction capability has a significant improvement. However, through the analysis of the geological disaster prevention legal system and the landslide disaster in the Diexi area, besides the three aspects of nature, technology and man-made, it also exposes the inadequacies of China's environmental ecological security rule of law construction. Whether about the legal system or administrative management, it still needs to be improved. Especially in the grassroots areas, the rule of law practice is the most important.

In consideration of the fact that China's environmental ecological security rule of law still needs to be further improved and implemented, it is recommended to accelerate the promotion of environmental ecological security rule of law and realize the beautiful as soon as possible from the above-mentioned improvements in regulations, organization, science and technology, information channels, group monitoring and prevention to build the beautiful China.

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