A Comparative Study of Regional Environmental Legal Systems between China and the United States

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Abstract. With the spread of economic globalization and with the steady projection rate of regional economic development, an increasing amount of environmental problems have arisen as a result of these progressions. The impact of these environmental problems not only damage our society but also harmful to our physical health (Lu et al., 2015). In order to solve the increasingly severe environmental pollutions, it is necessary to study and improve the regional environmental legal systems. Because of these problems are not caused by any individual, therefore a better understanding of regional environmental legal systems established by various levels of government can further eliminate various environmental concerns and can benefit economic globalization (Wang, 2013). This paper analyzes the similarities and differences of regional environmental legal systems of China and the United States, in order to provide novel ideas to improve regional environmental laws. After evaluating the two of the most industrialized countries in the world, it is vital to absorb the merits of other countries’ legal systems and incorporate with our country’s regional environmental legal system to have a sustainable and growing economy.

Keywords: environmental legal systems, similarities and differences, environmental pollutions

1. The importance to study the regional environment and its legal system

As open economy and transparent competitions become more apparent and frequent, regional environmental problems associated with the development of the economy are becoming a major concern. Because of lack of safe drinking water and air pollution in China, reports have shown an increase rate of people with severe physical health problems such as lung cancer and other cardiovascular problems (Zhao et al., 2006). Consequently, to specifically target these issues, the environmental legal system needs more attention. The strategy of industrial transformation for the entire country directly influences various aspects such as the regional economic environmental policy, the overall corresponding region, and the development of our country as a whole. The various aspects of the regional development process have a great impact on entire country’s ecology and environment. Therefore, at the same time, we should focus on the regional environment of the new economy as well as the infinite opportunities brought by the new economic times. The development of the environmental legal system has a direct impact on the regional environment.
In the process of many developments created by humans, the environment that we rely on will inevitably have an effect, which includes environmental pollution and damages. Environmental pollution refers to the act of natural or man-made destruction, adding some kind of substances to the environment and exceeding the self-purification capacity of the environment (Manisalidis et al., 2020). Also because of the human's own factors, the environment is exposed to the damage or pollution of the abnormal nature, so that the normal growth period and even the safety of the living environment are adversely affected. For example, extended exposure to air and water pollutions often lead to cardiovascular problems, and other lung-related problems (Zhao et al., 2006).

The conditions of environmental structure caused by human factors is reduced. Furthermore, the environment self-cleaning capacity and the adjustment capability are reduced, so that the whole environment system is interfered, and the human body itself. The economic behavior and the living environment are endangered. However, it is inevitable that environmental problems become a major problem of modern public hazards. We simply cannot ignore that modern public nuisance is a factor of the physical nature of the human activity, as it is inevitable, but at the same time, we cannot ignore the fact that the modern industrial social system mechanism has become a powerful social factor to promote the spread of public hazards (McMichael, 2000).

Therefore, a strong guarantee of the legal system has become an effective means to solve the inappropriate economic behaviors in the productive activities of human society, and has become a powerful assurance for the implementation of the national government's policy on environmental protection (Zeng et al., 2005). As the basic condition of production activities, the purpose of environmental legislation in China is undoubtedly to protect the overall health and scientific sustainable development of the regional environment. It is particularly important to analyze the advanced environmental protection experience of other countries through comparative methods.

2. A Comparison of the Regional Environmental Law System in China and the United States

2.1. An Analysis of the Environmental Legal System in the United States

With a continuous growth and support of environmental awareness and consciousness, environmental laws in the United States gradually come into play and progressively improving. The rise of this kind of modern environmental protection consciousness is due to the rapid improvement of industrialization and science and technology after World War II. From World War II till the modern society, the US enters a period of mass production and accelerated progression. The rapid economic growth helps eases our spirits by allowing us to enjoy the rich material and alleviate our daily stress. However, our processes of production and consumption pose an immediate to our living environment and reduce our quality of life (Nixon & Gabriel, 2016). At this time, countries, especially developed countries, began to pay attention to the important role of the environment in economic development as various legal systems associated with environmental protection began to emerge (Etsy & Porter, 2002).

Before comparing the environmental laws between China and the United States, we should first have a general understanding of the environmental legal system of the United States. Until 1970, the United States had no physical environmental law (Kraft, 2000). Some environmental problems, such as mining and public hazards, are dealt with under civil law in the form of case laws. In 1970, with the rise of the environmental movement, the United States created the Environmental Protection Agency (EPA) and amended the Clean Air Act (Kraft, 2000). Subsequently, the United States established the water purification law, modern safe drinking water law, pesticide law, toxic substances control law and other laws.

Consider this, when environmental pollution causes harm to the public rights, the environmental law of the United States, mainly federal legislation, presided over by the EPA, will regulate and oversee these issues.

At the state level, the states must follow the federal legislation and establish the corresponding environmental law of the states. In some special cases, the standard of state legislation can be higher than that of federal legislation. For example, because of the serious pollution result from automobile
exhaust in California, the air quality cannot meet the federal standards. California has made separate legislation on the emission standards of automobile exhaust, which is higher than the federal standards in order to reduce steam (Grant, 1995). In the United States, according to the Constitution and the law, the federal government has certain administrative powers, and the EPA mainly exercises its environmental protection functions within the federal scope (Kraft, 2000). But when it comes to environmental protection, local governments can have a high degree of autonomy by enacting independently according to the state assembly and the city council (Roesler, 2015). Civil society organizations and the general public have the power to supervise the environmental work of governments at all levels, and their supervision functions are mainly exercised through audit supervision, voter supervision and hearing system (Kraft, 2000). In order to reduce the abuse of power by the government, measures are taken to increase the weight of the cost of inaction in the bureaucratic utility function, so as to promote it to take the initiative to undertake public service.

At the same time, in the process of solving environmental pollution problems and creating the relevant environmental law, the United States has carried out a great deal of theoretical research and detailed research on environmental-related problems (Eckelman & Sherman, 2016; Soytas, Sari & Ewing, 2007; Puckett, 1995). For example, the motivation behind the development of environmental law is ecological, scientific, natural, or ethical or patriarchal; the problem-solving method should be economic, political, legal or theological. The solution to the environmental problem should be realistic or long-term. The United States is a free capitalist country, and in the light of the environmental problems that are considered, it is natural to first consider the application of economic means to solve it, which in most cases is effective. However, the environmental problem is not an individual's problem, the environmental pollution is the violation of the public's public rights, the public right needs to be solved by the government legislation, so the United States government plays a very important role in the process of environmental legislation and implementation. The system of the United States, through the interpretation of the law, has played a positive role in the implementation of the environmental law (Kraft, 2000).

In the process of continually improving environmental laws, an important question that needs to be resolved is to establish the emission standard of various pollutants. In practice, the environmental law of the United States has defined the following evaluation criteria, mainly with the standard not to harm the health of the human body, and in many cases, it is the standard cost-benefit evaluation standard of the risk evaluation standard.

2.2. A Comparison of the Regional Environmental Law System in China and the US

Generally speaking, the regional environmental legal system of the United States is very different from that of our country, mainly in the following aspects:
Table 1. Comparison of the Characteristics Environmental Legal System between US and China

|                                      | China                                                                 | America                                                                 |
|--------------------------------------|----------------------------------------------------------------------|------------------------------------------------------------------------|
| Integrity of the legal system        | The system is still not perfect, the substantive law is more, the procedural law is less, and there are many loopholes | The environmental legal system is relatively perfect, the central unified provisions, and the independent and targeted strengthening of the states |
| regional cooperation system          | The cooperation between regions is less, the integration exists the management insufficiency. | The inter-regional links are tight and the mutual supervision is strong. |
| Environmental supervision system     | The law enforcement of the relevant departments is not strong, and the supervision is not in place. | The supervision procedure is complete, the regulatory body is clear and the supervision is strong. |
| Environmental evaluation system      | There is a certain system foundation of environmental assessment, the process of evaluation is heavy, it is less practical, it is difficult to take the certificate, and the effect is poor. | The evaluation system is complete, the theory support is more advanced, |
| Public participation                 | The public participation is not high, the environmental information is not transparent, the actual effect is not obvious | Civil society organizations and the general public have the right to supervise them through audit supervision, voter supervision and hearing system, participation in legislation, law enforcement and other processes. |
| Punishment strength                  | The punishment of environmental damage is not strong enough and the fine is less. | The environmental damage is costly and the punishment is strong. |

Source: Zhang Xuechao, Journal of Taiwan Law Studies [J] 2012 (4): 16 / 20

From the above table, we can see that there are still many shortcomings in the environmental legal system in China. In comparison with the United States, we should absorb learn from previous mistakes and take away the merits as a reference, and therefore less detours on the road of socialist construction of the environmental legal system. The prerequisite for the environmental legal system to play a role is to have the support of a more perfect environmental legal system, so our country should learn from foreign countries and gradually establish a regional environmental legal system with specific Chinese characteristics.

3. Conclusions
As China continues its journey to become one of the leading economic and technological advanced countries in the world, pollutions and environmental hazards are inevitable. The impact of these environmental problems is critical to our living standards and overall physical well-being. To maximize the country’s development and minimize some of the negative qualities, we must recognize and focus on all facets of environmental legal systems and economic developments of other countries. Therefore, a cycle of rapid, sustainable economy can effortlessly promote environmental development and vice versa. Take into account and coordinating the country’s own economic structures and interests as the foundation, a well-organized, established environmental legal system can be a strong guarantee for environmental protection and sustainable economic development.

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References

[1] Eckelman, M. J., & Sherman, J. (2016). Environmental impacts of the U.S. health care system and effects on public health. PloS One, 11(6), 1-14.

[2] Etsy, D. C., & Porter, M. E. (2002). Ranking national environmental regulation and performance: A leading indicator of future competitiveness. In The global competitiveness report 2001–2002 (pp.78–100). New York, NY: Oxford University Press.

[3] Grant, W. (1995). Auto, smog and pollution control. Edward Elgar Publishing.

[4] Kraft, M. E. (2000). U.S. environmental policy and politics: From the 1960s to the 1990s. Journal of Policy History, 12 (1), 17-42.

[5] Lu, Y., Song, S., Wang, R., Liu, Z., Meng, J., Sweetman, A. J. … & Wang, T. (2015). Impacts of soil and water pollution on food safety and health risks in China. Environment International, 77, 5-15.

[6] Manisalidis, I., Stavropoulou, E., Stavropoulou, A., & Bezirtzoglou, E. (2020). Environmental and health impacts of air pollution: A review. Front Public Health, 8(14), 1-13.

[7] McMichael, A. J. (2000). The urban environment and health in a world of increasing globalization issues for developing countries. Bulletin of the World Health Organization, 78 (9), 1117-1126.

[8] Nixon, E., & Gabriel, Y. (2016). ‘So much choice and no choice at all’: A socio-psychoanalytic interpretation of consumerism as a source of pollution. Marketing Theory, 16 (1), 39-56.

[9] Puckett, L. J. (1995). Identifying the major sources of nutrient water pollution. Environmental Science & Technology, 29 (9), 408A-414A.

[10] Roesler, S. M. (2015). Federalism and local environmental regulation. UC Davis Law Review, 48 (3), 1111-1172.

[11] Soytas, U., Sari, R., & Ewing, B. T. (2007). Energy consumption, income, and carbon emissions in the United States. Ecological Economics, 62 (3-4), 482-489.

[12] Wang, A. (2013). The search for sustainable legitimacy: Environmental law and bureaucracy in China. Harvard Law Review, 37 (2), 365-440.

[13] Zeng, S., Tam, C., Tam, V., & Deng, Z. (2005). Towards implementation of ISO 14001 environmental management systems in selected industries in China. Journal of Cleaner Production, 13 (7), 645-656.

[14] Zhao, Y., Wang, S., Aunan, K., Seip, H. M., & Hao, J. (2006). Air pollution and lung cancer risks in China: A meta-analysis. Science of the Total Environment, 366 (2-3), 500-513.