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INTERNATIONAL LAW ON PROTECTION OF INTERNATIONAL WATERCOURSES AND PRACTICAL IMPLEMENTATION IN VIETNAM

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INTRODUCTION

1. Reason for choosing the topic

Water is an extremely necessary resource for economic and social development and is an indispensable component of the ecosystem.

Since the beginning of the 20th century, the amount of water consumed globally has increased sevenfold, due to the increase of the global population as well as the need to exploit and use water resources of each country. This process has made the world's water resources increasingly scarce. In the not too distant future, when water resources become depleted, crises will take place on many fronts, health crises, agricultural crises, economic crises, climate crises, and even is a political crisis. Another important factor is that most of the world's freshwater resources are shared by two or more countries. As in Africa, each African country is said to share freshwater with at least one other country, and many countries share water with many countries. Therefore, it is necessary to have appropriate international legal rules to protect this valuable resource.

Vietnam has 3,450 rivers and streams with a length of 10 km and above, including 13 large rivers; 392 inter-provincial rivers and streams and 3,045 intra-provincial rivers and streams. Most of Vietnam's major river systems are foreign-related rivers, distributed across 25 provinces from Quang Ninh to Kien Giang. Transboundary rivers and streams annually transfer into our country about 520 billion m3, accounting for about 63% of the total average water volume of our country's river system, of which the largest is the Mekong River with about 420 billion m3, accounting for about 81% of the total amount of water flowing across the border into our country; the Red River is about 52 billion m3, accounting for 10%; the remaining river systems account for about 9%. Mekong River is the largest international river in Vietnam and also the longest river in Southeast Asia with a length of approximately 4,900 km, originating in China, flowing through Myanmar, Laos, Thailand, Cambodia and Vietnam. The Red River is the second largest international river in our country after the Mekong River with a total basin area of 169 thousand km2, of which 51% is located abroad (mainly in China), the total flow volume is about 135 billion m3. Every year, the cross-border rivers and streams of the Red River system transport about 52 billion m3 into our country, mainly through the Da, Thao and Lo rivers. Vietnam's third largest international river is the Saigon River, which flows in the south and south-southeast direction about 225 km from Phum Daung in the southeast of Cambodia and empties into the Nha Be River, then, into the East Sea. The Saigon River plays a very important role in the economic and social development of the 11 provinces that depend on the river basin. Smaller international rivers include the Vam Co Dong River (Cambodia and Vietnam), Bac Giang (China and Vietnam); Bac Luan (China and Vietnam), Ma River (Laos and Vietnam), Ca River or Koi River (Laos and Vietnam.

In recent years, Vietnam has been facing many challenges regarding water resources. Most of Vietnam's major river systems are transboundary rivers of which Vietnam is a downstream country. While nearly two-thirds of the water flowing into our country is from foreign countries, upstream countries have been promoting the exploitation and use of water in inter-national rivers, especially in the Mekong River basins and the Red River basin. In particular, dam embankment, flow blocking, construction of hydroelectric projects, water transfer to other river basins and operation of hydroelectric power plants in the upstream of the Red River and Mekong River basins have been dangerous. directly reduce the amount of water flowing into Vietnam. In addition, water use activities and socio-economic development of upstream countries also pose a risk of pollution and degradation of our country's water

resources. However, so far, we have not had effective mechanisms, policies and measures to cooperate and share water resources among countries sharing the same water source.

Stemming from the above reasons, a comprehensive research of the provisions of international law on international water protection and assessment of Vietnam's international water resource protection activities is of great importance. The results of these studies will be of great help to legislative bodies and managers in formulating and promulgating policies and laws to effectively protect Vietnam's international water resources. Not only meeting the requirements of international integration and cooperation in all aspects, but also protecting Vietnam's sovereignty. In addition, mastering the provisions of international law is also of practical significance in applying these regulations to become an effective "weapon" for Vietnam in the process of solving problems harmful to natural resources. water as well as increasing awareness for each citizen, thereby, contributing to raising awareness in the protection of international water resources of Vietnam.

2. The object and scope of the study of the dotoral thesis

The first research object of the thesis is international treaties governing international water resource management problem, including global multilateral treaties in the field of international water law and international environmental law related to the protection of international water resources; bilateral or regional treaties and agreements on international water resources. In addition, the thesis also studies the rulings of the jurisdictions in resolving disputes related to the exploitation and use of international water resources by countries, affecting other countries. other. Finally, the thesis studies the system of regulations of Vietnamese law on water resource management, environmental protection for water resources and other international treaties and agreements that Vietnam has signed association in this field.

Based on the research objects from above, the scope of the study of the thesis includes:

Firstly, the basic theoretical issues on the protection of international water sources and international law on the protection of international water sources;

Secondly, the current status of international law on the protection of international water resources;

Thirdly, the legal status and practice of law enforcement on the protection of international water resources of Vietnam.

As mentioned above, Vietnam's international water source system includes Mekong River, Red River, Saigon River and a number of other small international rivers, in which, Mekong River is the largest international river and plays an important role, ensuring national food security and ensuring water sources for two large regions, having strategic significance for the Mekong Delta and Tay Nguyen, contributing nearly 60% of the total water volume of Vietnam annual. As a country located downstream of the basin, Vietnam is one of the countries most heavily affected by the exploitation and use of Mekong water by other countries near the water source. The hydrological monitoring data shows that, from the historic flood in 2000 up to now, the flood season flow from upstream to the Mekong Delta has decreased markedly, the water level in many places has dropped to the lowest level in the history. Historically, saline intrusion into the estuaries has caused water shortages for agricultural production. In a report by the Mekong River Commission, this organization warned, if all three hydropower projects in Laos: Xayaburi, Don Sahong, Pak Beng come into operation, the total flow volume will decrease by 6.2%/month, saline intrusion on Tien and Hau rivers intrudes from 2.8-3.8 km and in the near future, when the whole chain of 11 hydroelectric dams is in operation, the total flow will decrease by more than 27%/month, saltwater intrusion will go deep into Tien and Hau rivers about 10-18 km, nutrient sources (nitrogen and phosphorus) for the Mekong Delta may decrease by 6-10% according to crop yield is

forecasted to decrease from 0.6-1 ton/ha. Stemming from the important significance of the Mekong River for countries in the region, including Vietnam, as well as the alarming situation of the Mekong River's water resources in Vietnam due to the influence of natural factors as well as activities activities of other riparian countries, seriously affecting water security, economic and social stability of Vietnam, so for Vietnam, the research scope of the thesis focuses mainly on analysis of legal regulations and practices for the protection of water resources of the Mekong River.

3. Aims and Mission research of the doctoral thesis

The research aims of the thesis is to systematically clarify the theoretical and legal issues of international water source protection in international law; legal issues and practical management of international water resources, especially Vietnam's Mekong River, from which, some solutions are proposed to improve efficiency in the protection of international water resources of Vietnam.

In line with the above research aims, the research mission of the thesis include:

- Analyze the concept of international water sources and protect international water sources, thereby clarifying the concept of international water source protection.

- Clarifying a number of theoretical issues of international law on the protection of international water sources, specifically: Theories on international water sources; source of governing law; principles of international law on the protection of international water sources; content and role of international law on the protection of international water resources.

- Systematically analyze the content of international law on the protection of international water sources, including: (i) Prevention, reduction, control of degradation, depletion and pollution of international water sources; (ii) International cooperation; (iii) Legal responsibilities and (iv) settlement of international disputes in the protection of international water resources.

- Comprehensive analysis and assessment of the legal provisions on the protection of international water sources of Vietnam according to the following contents: (i) Prevention, reduction, control of degradation, depletion and pollution of international water sources (ii) International cooperation; (iii) Liability and (iv) international dispute settlement; analyze and evaluate Vietnam's international water source protection practices according to the above contents, thereby proposing some solutions to improve efficiency in Vietnam's international water source protection activities.

4. Research Methodology

The thesis is carried out on the basis of the scientific methodology of Marxism - Leninism, thoroughly applying the viewpoints of dialectical materialism and historical materialism. The thesis is also conducted on the basis of deeply grasping the views of our Party and State, especially related to economic development, environmental protection and foreign policy.

For each specific content, the thesis uses many different scientific research methods such as systematic approach, historical method, synthesis method, analytical method, interdisciplinary method, and interdisciplinary method. method of comparing law, combining theoretical research with practice to come up with specific solutions. Whereby:

- Synthetic methods and analytical methods are used to evaluate the overview of research works related to the thesis;

- The historical method is used to analyze the theories of international water resources;

- System approach and analytical method are used throughout the thesis, especially in Chapters 2, 3 and 4. System approach method is used to clarify theoretical issues and legal opinion on international water source protection in international law, Vietnamese law in general. Analytical

methods are used to clarify the content of international law, Vietnamese law on international water resource protection as well as law enforcement practice.

- The method of combining theory and practice is used to compare and evaluate the reality of Vietnam's law enforcement on international water source protection, from which, to recommend specific solutions to improve efficiency results of this activities.

- Interdisciplinary approaches method - legal, political, diplomatic, environmental engineering - are used to propose solutions to improve the efficiency of Vietnam's international water resource protection activities.

- The comparative law method is also used to a certain extent to develop the concept of international water resource protection on the basis of different approaches of the laws of different countries as well as to suggest some experiences for Vietnam in international cooperation to protect international water resources.

5. Scientific significance and novelty of the doctoral thesis

The thesis is a comprehensive study of theoretical and legal issues on international water resource protection in international law as well as legal and practical issues of international water resource protection, specifically is the Mekong River of Vietnam. The thesis has made new scientific contributions as follows:

Firstly, the thesis has developed the concept of protection of international water source, thereby clarifying the characteristics of international water source protection.

Secondly, the thesis has systematically analyzed some basic theoretical issues of international law on international water source protection. In particular, the thesis has clarified the principles of international law on the protection of international water sources on the basis of analyzing the judgments of international jurisdictions and the practice of signing treaties between countries. around the international water source

Thirdly, the thesis has analyzed more deeply and comprehensively evaluated the system of international law provisions on international water resource protection on the basis of analysis of international treaties at both Globally, regionally and bilaterally, the rulings of the relevant international jurisdictions, thereby, point out a number of “gaps” in these regulations.

Fourthly, the thesis has comprehensively analyzed legal issues on international water source protection of Vietnam, specifically the protection of Mekong river water sources, including the provisions of Vietnamese law, the Agreement Decision on cooperation for sustainable development of the Mekong River basin and the Procedures and Technical Guidelines approved by the Secretariat of the Mekong River Commission, thereby giving objective assessments of the limitations of the legal framework. present in international water resource protection.

Fifthly, the thesis has clarified the status of international water resource protection, specifically the Mekong River water source in Vietnam, on the basis of updated data from the Ministry of Natural Resources and Environment, the Secretariat of the Mekong River Commission, thereby, proposing a number of solutions to increase efficiency in the protection of international water resources of Vietnam.

6. The practical significance of the doctoral thesis

The research results of the thesis can be used as references for legislative bodies, managers in the activities of formulating and promulgating policies and laws on water resources in general and protecting international water resources countries in particular. In particular, the thesis's recommendations on the content of international cooperation can be useful suggestions for the

competent authorities of Vietnam in formulating foreign policy and applying the provisions of the international law to protect Vietnam's international water resources.

The thesis also contributes to the legal knowledge system to disseminate, propagate and raise awareness for each citizen about the role of international water sources and the need to protect international water sources in Vietnam. In addition, the analysis, comment and evaluation on the content of provisions in international law on international water source protection will be of reference value for those doing research and teaching of international law, especially international water law, international environmental law as well as those interested in these branches of law.

7. The structure of the doctoral thesis

In addition to the introduction and conclusion, the thesis is structured into 4 chapters:

Chapter 1: Overview of the research situation related to the topic and research questions posed

Chapter 2: Legal reasoning on the protection of international water resources

Chapter 3: The current status of international law on the international water resources protection

Chapter 4: Vietnam's practice of protecting international water sources.

CHAPTER 1
OVERVIEW OF THE RESEARCH SITUATION RELATED TO THE TOPIC AND RESEARCH QUESTIONS POSED

To learn about the research situation related to the thesis topic show that the number of research works on the management and protection of international water resources is quite rich, carried out at many levels: from monographs, conference articles, journal articles, scientific topics, master's theses, doctoral theses... These works have clarified some theoretical issues on international water resource protection, some legal issues in international law on the protection of international water sources as well as initially clarifying challenges for Vietnam's international water sources, especially challenges for water resources Mekong River due to the activities of riparian countries, and at the same time make some proposals in applying the provisions of international law in general and the Mekong Agreement in particular to protect Vietnam's international water sources. However, the research works that have been carried out have not completely solved all the problems related to the protection of international water resources. Most of the works have not solved systematically and comprehensively the contents of international law on the protection of international water sources as recognized in the United Nations Watercourses Convention (UNWC), Convention on the Convention on the Protection and Use of International Lakes and Transnational Watercourses (UNCE), regional and bilateral international treaties on international watercourses as well as rulings relevant jurisdictions, as well as not having a comprehensive and systematic approach to all the contents of Vietnam's international water resource protection. On the basis of comparison with the purpose, research tasks of the thesis and the limitations of the done works, the thesis will clarify the following issues to clarify from theoretical and legal perspectives and practice of international water source protection in international and Vietnamese law, including:

Firstly, in theory, the thesis will clarify the concept of international water source protection, some theoretical issues of international law related to international water source protection.

Secondly, in terms of legality, the thesis will continue to improve the two legal contents mentioned in previous studies, on the basis of a comprehensive review of the provisions recognized in

international treaties globally in the field of international water resource management and protection, including the UNWC Convention, the UNCE Convention; regional international treaties; judgments of jurisdictions related to the protection of international watercourses. In addition, the thesis also uses the comments of the International Law Commission as well as the Guidelines in the implementation of the UNWC Convention and the UNCE Convention to interpret the provisions of relevant international law.

Thirdly, on legal and practical issues of Vietnam, the thesis will analyze the basic contents of Vietnam's law on protection of international water sources in the following aspects: (i) Prevention, reduction minimize, control degradation, depletion and pollution of international water resources; (ii) International cooperation; (iii) Legal liability and international dispute settlement. Based on the assessment of the law and practical implementation, the author will recommend a number of solutions to improve the efficiency of Vietnam's international water resource protection activities.

CHAPTER 2
LEGAL REASONING ON THE PROTECTION OF INTERNATIONAL WATER RESOURCES

2.1. The concept of international water resources and the protection of international water resources

2.1.1. The concept of international water resources

Within the scope of the thesis, in line with the research scope of the topic for Vietnam, it is focused on studying legal and practical issues of protecting water resources of the Mekong River, which flows through the territory of 6 Asia countries is China, Laos, Myanmar, Thailand, Cambodia and Vietnam, the thesis will use the term "international water resources" similar to the approach specified in the UNWC Convention. Accordingly, *an international water source is a system of surface water or groundwater, parts of which are located in different countries.*

This definition has demonstrated the characteristics of international water resources:

Firstly, in essence, an international water source is primarily a surface or groundwater system formed by a unified body of natural relationships.

Secondly, the water system of international water source "often flows into one final common ground". The reason for this requirement is because some members of the ILC believe that, without this requirement, two different drainage basins connected by a canal would be considered a source of water, and this is issue the members is not desirable

Thirdly, parts of the international watercourse are located in different countries. In other words, an international watercourse is a source of water that must flow through States, including its principal and minor parts, its tributaries, its connecting lakes, and its groundwater, even if components of groundwater systems such as rivers, lakes, aquifers, glaciers, reservoirs and canals located entirely within a country.

2.1.2. The concept of the protection of international water resources

In nature, water is both a natural resource and one of the physical elements that make up the environment. Therefore, water needs to be protected both as a natural resource and as a component of the environment. From the perspective of being a component of the environment, water protection involves the establishment of standards/regulations on water quality, measures to prevent and limit water pollution, and preserve the ecosystem of water. From the perspective of a natural resource, water protection involves regulations governing the behavior of entities in the process of exploiting and using

water as well as carrying out activities affecting water such as discharge. into water sources, construct structures near water sources, etc. to ensure that these activities do not harm the quality, quantity and ecology of water.

On the basis of the approach to water protection in UN documents as well as the laws of countries, including Vietnam, it can be seen that the object of water protection in general and protection of international water sources in particular, including quantity, quality and ecology of water sources.

From the definition of protection in general as well as the approach to the protection of water resources, it can be understood that *international water resource protection is an activity of the subjects of international law to ensure the fair, equitable and sustainable international water resources through various measures to maintain the quantity, quality and ecology of international water sources and to prevent, limit and respond to adverse impacts on the quantity and quality of international water resources quality and ecology of international water resources.*

The protection of international water sources includes the following basic characteristics:

Firstly, the protect subject

Subjects protecting international water sources are subjects of international law, in which, mainly countries, and first of all, countries through which international water sources flow (countries adjacent to water sources). Protecting international water resources is both a right and an obligation of nations. *From the perspective of an obligation*, a State is not allowed to conduct any activities that harm the quantity, quality or ecology of international water flowing within its territory as well as international water flowing in its territory, as well as territory of another country. *From the perspective of the right*, stemming from national sovereignty, the water source country has the right to take necessary measures to protect the international water source flowing in its territory. In addition the States, other subjects of international law also play a certain role in the protection of international water resources, especially intergovernmental international organizations through strengthening cooperation activities between countries in the field of water resources the elaboration of international instruments on the protection of international water sources, settlement of disputes, and supervision of the implementation of obligations of international water sources by member states.

Secondly, the object protected

The object of protection of international water sources is first the quantity and quality of international water sources. In fact, the activities of a riparian state can cause damage to the quantity of international water resources such as depletion or depletion of water resources in a riparian country due to the activities of the riparian state other water sources; damage to the quality of international water sources such as increased sedimentation due to deforestation upstream, changes in chemical composition, temperature or some characteristics of river water due to construction of national facilities water source. In addition, the object of protection of international water sources also includes the ecology of international water sources. Accordingly, this obligation requires that ecosystems should be protected as much as possible in their natural state through measures to maintain ecosystem structure, function and composition.

Thirdly, the method of protection

Unlike domestic water sources located entirely within the national territory, due to the characteristics of international water sources that parts of water sources are located in different countries, the method of protection for international water sources also has different characteristics. That is, instead of being implemented entirely by national mechanisms on the basis of national sovereignty, international water resource protection is also implemented by international mechanisms, through a number of main

methods including: legislation through the conclusion of international treaties; diplomatic methods through many different channels and levels to protect the interests of the country with respect to international water resources; technical methods such as establishing monitoring programs, apply waste control, reduction and treatment technologies.

2.2. International legal reasoning on the protection of international water resources

2.2.1. Theories on the protection of international water resources

Modern international water law is the result of a revolutionary process from legal doctrines related to the use of transboundary freshwater resources for agricultural and maritime purposes, including: The theory of absolute sovereignty; absolute territorial integrity theory; limited territorial sovereignty. Among them, the theory of limited territorial sovereignty is widely recognized in the practice of states, decisions of dispute settlement bodies as well as reflected in later provisions of international law related to the principle of fair and fair use. This doctrine is seen as a compromise between absolute sovereignty and absolute territorial integrity because the sovereignty of the state in the upper basin is limited and the integrity of the state in the lower basin is limited. by the recognition of the equal and equal rights of other States. Specifically, international water source is a shared water source in which there are community interests among all countries in the same basin; This public interest requires a balance between the interests of a country "reasonably and fairly" in accordance with the needs and uses of another country.

2.2.2. Sources of international law on the protection of international water resources

Among the sources of international law on the protection of international watercourses, international treaties are the main and most common types of sources that govern this issue, in which the UNWC Convention and the UNCE Convention have an important role. Along with international treaties, international custom also plays a certain role when many provisions recognized in UNWC or UNCE Conventions are formed from the process of codifying international practices, especially is the principle of sensible, fair and non-damaging use. Besides international treaties and international practices, there are a number of other sources that, although not legally binding, are important in the interpretation and formation of international law provisions protection of international watercourses such as declarations and resolutions in this area or rulings of international jurisdictions.

2.2.3. Principles of international law on the protection of international water resources

+) Rational and equitable use of international water resources

The principle of fair and equitable use of international water resources is enshrined in the UNWC Convention and many other international instruments such as the Helsinki Rules on the Use of International Water Resources, the Berlin Rules on Water Resources, the UNCE Convention, The Mekong Agreement… Principles of fair and rational use of international water resources include two main contents: First, a country adjacent to the water source may use and develop international water sources for the purpose of achieving such use optimal and sustainable use and the benefits resulting from such use, taking into account the interests of the watercourse States concerned, consistent with adequate protection of the watercourse; Second, riparian States shall participate in the use, development and protection of international watercourses in a reasonable and equitable manner through the obligation to cooperate among riparian States.

+) The principle of no harm

According to this principle, no State may use the water resources within its territory in a manner that causes substantial damage to another riparian state or its environment, including damage to to human health or safety, to beneficial uses of water or to living organisms of the water system. Most

international treaties do not explicitly prohibit damage that can be caused to international watercourses, but only stipulate the obligation of states not to cause significant damage to other countries. Damage is considered substantial when it is higher than normal or damage but may be less than severe level.

+) Principle of sustainable development

Although not directly recognized, the provisions of the UNWC Convention themselves reflect the contents of the principles of sustainable development aimed at achieving optimal use of international water resources. In particular, the obligations under articles 20 to 23 of the UNWC Convention on the protection and conservation of ecosystems, the prevention, reduction and control of pollution, control of the introduction of alien species, and protection and conservation of the marine environment has supplemented the obligations on environmental protection, contributing to the sustainable use of specific water resources. Some of the factors involved in determining fair and equitable uses specifically enumerated in the UNWC Convention actually ensure the long-term availability, conservation and environmental protection of common water resources for the benefit of the public benefits of future generations such as considering the economics of use, ecology, and potential use of water resources will enhance the goal of sustainable use.

2.2.4. Contents of international law on the protection of international water resources

According to the provisions of treaties on the protection of international water sources, the content of international law on the protection of international water sources includes:

Firstly, to prevent, reduce and control degradation, depletion and pollution of international water sources. In order to protect international watercourses, measures must be taken to prevent, minimize or control the effects that cause damage to international watercourses. These measures include international legal obligations that actors must comply with in order to maintain the quantity, quality, ecosystem and/or not cause harm to the quantity, quality or ecology of resources. international country.

Secondly, international cooperation with content such as announcements; Consultation; exchange of information and respond to emergencies through the activities of conferences of the Contracting States or through institutions established on the basis of the relevant treaties.

Thirdly, legal responsibility in the protection of international water sources, including international legal liability arising against the country causing damage and civil liability of organizations and individuals related to water source protection. international.

Fourthly, settle international disputes arising related to the protection of international water sources.

CHAPTER 3
THE CURRENT STATUS OF INTERNATIONAL LAW ON INTERNATIONAL WATER RESOURCES PROTECTION

3.1. Prevent, reduce, control degradation, depletion and pollution of international water resources

3.1.1. Develop common water quality goals and standards

The development of common water quality goals and standards is recognized in many international treaties such as the UNCE Convention, the UNWC Convention, the Charter of the Lake Chad Basin or the Convention on Cooperation in the Protection and Use of Water. sustainable use of the Danube… The development of water quality objectives can address problems arising from conflicts between different demands for water resources, especially related to the capacity of the community chemical pollution, while creating an overall limit on the level of contaminants in a body of water generated according to water use requirements. Appendix III of the UNCE Convention provides

guidance on a number of issues that countries should consider in developing water quality standards and targets, including: Taking into account the need to maintain and improve quality existing water; The purpose of reducing the average pollution load; Based on the application of ecosystem classification method and chemical indicators in maintaining and improving water quality in the medium and long term.

3.1.2. Develop techniques and practices to address source and non-source pollution

States are obliged to take appropriate measures, such as applying "best available technology" and "best environmental practices" to reduce source and non-source pollution, including: discharge standards and restrictions on the discharge of hazardous substances; License before discharge; Prevent, control and reduce pollutants through the application, among others, of low-no waste technology.

3.1.3. Develop monitoring programs for international water resources

Monitoring is generally understood as a process of repeatedly measuring for different purposes, one or more elements of the environment, according to an ordered schedule in space and time, using different methods. comparative approach to data collection and environmental awareness to make hydrological, morphological, physicochemical, chemical, biological and/or microbiological assessments of reference conditions, impact on human health and/or existing or planned water use. One of the purposes of environmental monitoring is to facilitate the assessment of the current state of water quantity, quality and variability in space and time. In addition, monitoring will support decision-making and operation of water management in critical situations by providing necessary and reliable information and data to countries and organizations authoritative international.

3.1.4. Develop plans, warning systems and response in emergency situations

In order to increase the proactiveness of the parties in responding to environmental incidents, many international treaties such as the Convention on the Transboundary Impacts of Industrial Accidents, the UNCE Convention, The Danube River Protection Convention, the Charter of the Waters of the Lake Chad Basin, the UNWC Convention… have recognized the obligation to develop a warning system or emergency response plan. In particular, in an emergency situation, a series of obligations have been assigned to countries to respond promptly to threats to the safety of international water sources, such as taking necessary measures to control water quality investigate, limit and eliminate harms caused by emergency situations.

3.1.5. Environmental impact assessment

Principle 17 of the Rio Declaration provides that: "Environmental Impact Assessment (EIA), a national instrument, shall be carried out for those intended activities that are likely to have a significant adverse impact on the environment. with the environment and in accordance with the decision of the competent national authority". This content of the Rio Declaration is commonly expressed in treaties on international water resources, from the UNWC Convention, the UNCE Convention, regional treaties and especially the Convention on Environmental Impact Assessment transboundary (Espo Convention).

3.1.6. Controlling the introduction of new or exotic species to water resourses

The UNWC Convention, the Canada-US Agreement on the Water Quality of great lakes, the Charter on the Waters of the Lake Chad Basin as well as a number of other treaties all provide for the obligation of water source countries to comply measures necessary to prevent the introduction of new and exotic species into international water resourses including flora and fauna, such as plants, animals and other living organisms, which may have adverse effects on the ecology of the water source resulting in significant harm to other water source countries. The purpose of this obligation is to limit the adverse ecological effects of international watercourses from new or exotic species by the fact that the

introduction of exotic or new species has can disrupt the ecological balance of water resources and cause serious problems, including flow blockages, nutrient depletion, disruption of food chains, destruction of other valuable species and spread disease.

3.2. International cooperation in the protection of international water resources

3.2.1. Contents of international cooperation in the protection of international water resources

According to the provisions of international treaties, the obligation of international cooperation in the protection of international water sources includes the following basic contents: Notification, such as notification in case of emergency, notice before proceeding with planned measures and activities; Information exchange; Good faith consultation/negotiation.

3.2.2. Methods of international cooperation in the protection of international water resources

International cooperation activities are carried out through two main methods. ***Firstly,*** to develop international treaties, which recognize the contents of cooperation among member states without stipulating the formation of international institutions in water resource management. In this case, cooperation activities between the parties are carried out through meetings with the participation of representatives of all parties to discuss issues on the implementation of the treaty such as the UNCE Convention, on the transboundary impacts of industrial accidents, the Framework Agreement on the Sava River Basin, the Agreement between Moldova and Ukraine on the Common Use and Protection of Transboundary Water Resources, the Agreement between Mongolia and Russia on the Use and protect transboundary water sources. ***Secondly,*** to form international institutions in water resource protection for the purpose of implementing the provisions of the treaty, thereby, supporting and promoting cooperation activities between the countries. Member States in the use and protection of international watercourses. In general, the competence of these institutions includes the development and review of programs and plans for coordination among member states; make decisions with binding value or give advice and recommendations related to the use and protection of international water sources; promote the implementation of the provisions of the treaty; settlement of disputes between member states.

3.3. Legal responsibilities of countries, organizations and individuals in the protection of international water sources and settlement of international disputes in the protection of international water sources

3.3.1. Legal responsibilities of countries and organizations and individuals in the protection of international water sources

In principle, Legal responsibilities for countries to protection of international watercourses arises in the event of the occurrence of damages to the international watercourse resulting from the conduct of this countries. “Damage” is understood not only as an “adverse effect” but as an actual decline in use with an adverse effect of some consequence on the environment or socio-economic development of the affected country such as public health, industry, property, agriculture. According to the provisions of the UNWC Convention, in the event of significant damage to another watercourse state, the country causing the damage shall take all appropriate measures, in consultation with the affected country to eliminate or minimize such damage and, where appropriate, agree on compensation (Article 7); Similar content is also recorded in many other international treaties on the protection of international water resources such as the Agreement on the framework of cooperation in the Nile basin, the Mekong Agreement, and the Charter on the water of the Lake Chad basin. In order for international liability to arise, national practice, the content of international treaties, and the judgments of international jurisdictions often require that the damage be substantial or sufficiently severe. All of these treaties,

however, do not specify thresholds to be considered substantial damages. In other words, these treaties only very briefly record the issue of compensation in the case of significant damage to another watercourse state without specifying the factors to determine the extent to which it should be considered. as "substantial damage".

Legal responsibilities for organizations and individuals will arise when organizations and individuals directly perform acts that cause harmful impacts on the quality and quantity of international water sources such as discharge of toxic substances, pollute international water sources... The issue of liability for organizations and individuals in the protection of international water sources arises from the principle of "polluters must pay". Accordingly, natural and legal persons responsible for pollution must pay the costs of measures necessary to eliminate pollution or reduce pollution. The specific content of responsibility for organizations and individuals when causing harm to international water sources is often recorded in corresponding regulations in relevant fields of national law such as environmental law, Civil law or criminal law… At the international level, to date, the Protocol on Civil Liability and Compensation for Damages caused by the transboundary impacts of industrial accidents on the with transboundary water sources is still the only international treaty that directly stipulates the civil liability of organizations and individuals for international water sources.

3.3.2. Settlement of international disputes in the protection of international water resources

The process of settling international disputes in general and international disputes over international water sources in particular, including disputes arising from the protection of international water sources must comply with basic principles of international law, in which, directly is the principle of peaceful settlement of international disputes. The specific content of the principle is recognized in the 1970 Declaration on the Fundamental Principles of International Law governing friendly relations between States, including: ***Firstly,*** the disputing parties have the obligation to settle the dispute. international disputes by peaceful means in a manner that does not jeopardize international peace, security and justice; ***Secondly,*** in the event that a dispute has not been resolved by the means provided for in Article 33 of the Charter of the United Nations, the disputing parties are obliged to continue to seek a solution to the dispute by means of other peace; ***Thirdly,*** the parties have an obligation to seek a expeditious and fair resolution of their disputes and ***fourthly,*** the disputing parties have an obligation to refrain from actions that may worsen the situation to the detriment of maintaining international peace and security and must act in a manner consistent with the purposes and principles of the United Nations.

In the event that the disputing parties have a separate agreement on the settlement of the dispute, the settlement will be carried out according to the measures recognized by the parties in that agreement. Otherwise, without this separate agreement, the dispute will be resolved according to the measures provided for in the relevant international watercourse treaties themselves. Each treaty will provide for different measures, but in general, common dispute resolution methods include:

The first, settle international disputes through diplomatic measures.

Similar to the general international dispute settlement mechanism, diplomatic measures provided for in treaties on international water resources also include: *Firstly,* direct negotiation; *Secondly* is to resolve disputes through a third party, including brokers, intermediary or conciliation.

The second, settle international disputes through international arbitration.

In the event that a dispute cannot be resolved through diplomatic means, the disputing parties may resolve it through international arbitration, which includes two types:

Firstly, common international jurisdictions in international law such as the United Nations International Court of Justice (ICJ) in the cases of GabCikovo -Nagymaros Project (Hungary v.

Slovakia), Pulp Mills on the River Uruguay (Argentina) v. Uruguay) …; International Arbitration Court in the case of Lake Lanoux (France v. Spain), the case of Gout Dam (England v. Spain) ...; The European Union Court of Justice in the Rhine water pollution case between Germany, France, Switzerland and the Netherlands...

Secondly, international jurisdictions are established under the very provisions of that treaty. A number of international treaties such as the UNWC Convention, the UNCE Convention, the Convention on Cooperation in the Protection and Sustainable Development of the Danube River... have specific provisions on dispute settlement methods through arbitration international. In addition, a number of treaties have provided for the establishment of ad hoc courts to settle disputes between member states.

The third, settle disputes through agencies established under the treaty on international water resources. These bodies are usually of two types, firstly, the Truth-seeking Commission as defined in the UNWC Convention, the Agreement on the Nile Basin Cooperation Framework; Secondly, international water management institutions such as the Mekong River Commission under the Agreement on Mekong River, the International Joint Committee under the Border Water Agreement (USA - Canada)...

CHAPTER 4

VIETNAM'S PRACTICE OF PROTECTING INTERNATIONAL WATER SOURSES

4.1. The current legislation status about protecting international water sources in Vietnam

4.1.1. Overview of Vietnam's international water sources

The Mekong River is the largest international river in Vietnam and also the longest river in Southeast Asia with a length of approximately 4,900 km, originating in China, flowing through Myanmar, Laos, Thailand, Cambodia and Vietnam. The Mekong River Basin in Vietnam is largely located at the downstream, accounting for about 8% of the basin area, with a contribution of about 52 billion m3 of water, to make up 11%. This territory includes the upstream of the Nam Ron River (Dien Bien), the upper reaches of the Sekong and Se Ba Hieng rivers, the Sesan and Srepok river basins and the Mekong Delta region. Every year, the Mekong River transports over 420 billion m3 (including the amount of water of the Mekong tributaries of which our country is upstream) into the Mekong Delta.

The Mekong River plays a particularly important role, ensuring national food security and ensuring water sources for two large regions, having strategic significance for the Mekong Delta and the Central Highlands. contributes nearly 60% of Vietnam's total annual water volume. The Mekong Delta is strongly affected by water resources of the Mekong River, in which flood is the most important factor. Every year, this area has from 1.3 to 1.5 million hectares flooded. Under the impact of flow and flood regime, socio-economic activities are affected, agricultural land is saline and acidic, and agricultural production activities are hindered. Besides that, floods also have many positive aspects for the formation and development of the Mekong Delta. The Mekong River brings to the delta fertile alluvium and rich natural aquatic resources.

4.1.2. Legal basis for the protection of Vietnam's international water resources

The legal basis for activities to protecting international water sources in Vietnam firstly includes a system of national legal documents, in which, the Law on Water Resources directly stipulates the legal issues of water protection, exploitation and use of water resources, the Law on Environmental Protection is the legal basis for recognizing the contents of water resource protection as one of the components of the environment, along with a system of guiding documents such as Decree No. 201/2013/ND-CP detailing the implementation of a number of articles of the Law on Water Resources, Decree

120/2008/ND-CP on river basin management, Circular 64/2017/TT-BTNMT on determining the minimum flow in rivers, streams and downstream of reservoirs, dams...

Along with the system of national legal documents, the international treaties that Vietnam has signed are the international legal basis for Vietnam's international water resource protection activities. In addition to a global multilateral treaty, the New York Convention, the 1995 Agreement on Cooperation for Sustainable Development of the Mekong River Basin (MeKong Agreement) is a regional multilateral treaty that directly governs the issues of the Mekong River Delta legal issues related to the use and protection of water resources of the Mekong River. At the bilateral level, up to now, there have been a number of international treaties signed, including the issue of protection of international water sources. In addition, Vietnam's international water protection activities are also regulated by political documents adopted in a number of cooperation frameworks in the Mekong region.

4.1.3. Basic legal contents on protection of international water sources of Vietnam

4.1.3.1. Prevent, reduce, control degradation, depletion and pollution of international water sources

Regulations on the prevention, reduction and control of degradation, depletion and pollution of international water sources include three main contents:

Firstly, coordinate and monitor water sources

According to the provisions of Vietnamese law, the issue of coordination and monitoring of water use activities is recorded in the Law on Water Resources and Decree No. 201/2013/ND-CP detailing the implementation of a number of articles of the Law on Water Resources. Specifically, a number of activities in the river basin must be coordinated and monitored, such as coordinating measures to protect water resources, responding to and overcoming water pollution incidents, and recovering contaminated water sources, depletion, prevention, combat and overcoming of harmful consequences caused by water on river basins; regulating and distributing water resources, maintaining minimum river flows and underground water exploitation thresholds; regulating and distributing water sources in case of drought and water shortage in river basins.

According to the provisions of the Mekong Agreement and documents approved by the Secretariat, the issue of coordination and monitoring of water use in the Mekong River includes the following issues: Maintaining minimum flow; Management of water transfer between basins; Monitoring water use in Mekong River; Monitoring the water quality of the Mekong River.

Secondly, environmental impact assessment

The Law on Environmental Protection 2014 stipulates cases in which environmental impact assessment and strategic environmental assessment must be carried out, such as projects falling under the investment decision-making authority of the National Assembly, the Government, and the Prime Minister. government; projects that are likely to have adverse impacts on the environment… (Article 18); strategies and master plans for socio-economic development of socio-economic regions, key economic regions, economic corridors and economic belts; master plan on socio-economic development of provinces, centrally run cities and special administrative-economic units… (Article 13).

For the assessment of environmental impacts on the Mekong River water environment, on September 25, 2018, the Mekong River Commission issued the latest draft Guidelines on transboundary environmental impact assessment in the lower Mekong River, lists projects/activities that cause potential transboundary environmental impacts that require an environmental impact assessment and the processes and procedures for conducting an environmental impact assessment.

Thirdly, develop a plan to prevent pollution, control harmful effects and respond in emergency situations with three contents: Develop a plan to prevent water pollution and restore contaminated water on the ground river basin; Control discharge activities into water sources and respond to incidents.

4.1.3.2. International cooperation

Contents of international cooperation for international water sources are first stipulated in Vietnamese law, including: Information exchange; research and make planning on protection, exploitation and use of water sources; prevent, combat and overcome harmful consequences caused by water and facilitate the management and implementation of projects related to water sources; join international organizations on water resources and relevant international river basin organizations and sign and accede to international treaties on international water resources (Article 68 of the Law on Water Resources).

In addition, the contents of cooperation related to the protection of international water sources are also recognized in the documents of cooperation mechanisms in the Mekong region such as the Mekong Committee (MRC), Lancang - Mekong Cooperation (LMC), Lower Mekong Initiative (LMI), Mekong - Japan Cooperation with contents such as cooperation in all fields of sustainable development, use, management and protection of water resources and related resources of the Mekong basin, strengthen policy dialogue on water resources and regularly organize Lancang - Mekong Water Resources Cooperation Forum; promote the construction of the Lancang - Mekong Water Resources Cooperation Center and the Lancang - Mekong Environmental Cooperation Center; promote cooperation and technical exchange on water resource management, conduct joint research and analysis related to Lancang - Mekong water resources...

4.1.3.3. Legal responsibility and dispute resolution

Legal responsibility for the country that violates and causes damage to Vietnam's international water sources will be settled in accordance with the provisions of general international law on international liability. Legal responsibility for organizations and individuals that cause damage to Vietnam's international water sources is governed by the provisions of Vietnamese law. Currently, because Vietnamese law does not have a separate regulation regulating liability for international water sources, the handling of violations will apply regulations on handling of violations in water resource protection activities in general. Accordingly, depending on the severity and seriousness of the behavior, the subject of the violation will be subject to various forms from administrative sanctions to criminal prosecution.

In the field of dispute settlement, the view of the State of Vietnam in settling disputes related to the protection, exploitation and use of inter-country water sources is to be settled on the basis of negotiation, in accordance with the provisions of this Law. international conventions to which Vietnam is a signatory (Article 69 Law on Water Resources). Accordingly, the competent authority for dispute settlement is the Joint Committee consisting of one member from each member state, the level of which is not lower than the head of the Department/Agency, and the Council consisting of one member at the ministerial level of each country. Within the framework of Mekong river cooperation, the Mekong Agreement has provided for a mechanism to settle disputes and differences between member countries during the implementation of the Agreement. If the Joint Committee and the Council cannot resolve the dispute within the specified time limit, the dispute shall be promptly submitted to the Governments of the Parties for settlement by negotiation through diplomatic channels and decisions of the Parties in this case shall be notified back to the Council so that it can take the necessary actions to implement this decision.

4.1.4. Comments the regulations about international water sources protection of Vietnam

Overall, the system of documents on the protection of international water sources has created an important legal basis for Vietnam's international water source protection activities, in which the provisions of Vietnamese law has been compatible with the provisions of the New York Convention to which Vietnam is a party. However, this system of regulations still has the following limitations:

Firstly, the legal system on water source protection in general and international water source protection in particular still has many shortcomings, lacks specificity or unreasonable regulations. Specifically, issues related to: Minimum flow; Contents of the obligation to use fair and reasonable; Contents of obligations to protect the environment and conserve river basin ecosystems; Environmental impact assessment issues; Time limit for dispute settlement of the Joint Committee and the Council; Regulations on dispute settlement measures; Regulations on management of discharge activities into the water environment.

Secondly, the system of institutions responsible for the protection of water resources in general and the protection of international water sources in particular according to the provisions of Vietnamese law is still overlapping and lacking in synchronization.

Thirdly, the Mekong Agreement as well as the documents approved by the MRC do not provide for a legal mechanism to ensure implementation. In particular, for water use procedures, there is no legal mechanism to guarantee the fulfillment of the obligation to modify, reduce or suspend inter-basin water transfers for a specified period during the dry season to meet the requirements of the MRC procedure at the request of the Joint Committee; with respect to notification and consultation procedures, there is no mechanism to guarantee performance if the NMC fails to fulfill its notification obligation as required by the Joint Committee or the country fails to provide an opportunity for the State to Others conduct discussion and assessment before undertaking inter-basin diversions from the mainstream during the wet season and use in the mainstream upstream during the dry season, and diverting the basin of excess water during the wet season and dry season; similarly, for the matter of maintaining minimum flows, there is no mechanism to ensure the fulfillment MRC secretariat of member states to report flow data.

4.2. Practice law enforcement for international water sourse protection in Vietnam

4.2.1. Prevent, reduce, control degradation, depletion and pollution of international water sources

+) Status of water volume of Mekong River in Vietnam

In recent years, the flow of river and stream systems in Vietnam has been deficient compared to the average of many years, in some places by 60-90%; The water level in many places reached the lowest level in history, causing water shortage for agricultural production, saltwater intrusion deep into the estuary.

During the period from November 2020 to early February 2021, the water level of the Mekong River measured at Tan Chau station was lower than the average water level in the period 1961-2019. Specifically, in the last two months of 2020, the lowest level measured was 1.32m (December 7), while the average level at the corresponding time in the period 1961-2019 was 2.01m. Similarly, in the first two months of 2021, the lowest level measured was 0.31 m (4/2), while the average water level at the corresponding time in the period 1961-2019 was 0.98 m. Previously, in 2020, the MRC's hydrological monitoring reports and data also showed that the Mekong River's water level was low in some areas. The dry season water level flowing in the Mekong mainstream during June and July 2020 is described as "exceptionally low". The water level and total flood volume in the Mekong Delta in the second half of September 2020 remained at the lowest level in the past 10 years. In 2019, the MRC's data shows

that the water level in Tan Chau during the last 6 months of 2019 and the first 5 months of 2020 was at a low level, roughly coinciding with the historical period of 2015-2016.

The main causes leading to the above condition of the Mekong River water include:

Firstly, natural causes. Extreme events and unusual natural phenomena as a result of climate change such as seasonal increase in temperature, decrease in average rainfall, change in flow, riverine erosion... are threatening water resources. Vietnam is forecasted to be one of the five countries most affected by climate change, in which water resources will suffer the greatest and earliest impacts due to abnormal changes in rainfall and rasing of sea level, concentrated most strongly in the two main production areas of rice and aquatic products of the country are the Mekong River Delta and the Red River Delta. In addition, our country's water resources are unevenly distributed in space and time, mainly in the 4-5 months of the rainy season (accounting for 75 - 85% of the total annual rainfall), and the rainfall in the dry season only 15-25%. Areas with heavy rainfall are the areas east of Truong Son in the Bac Trung Bo, Trung Trung Bo and Tay Nguyen and the midland and mountainous areas of the North. These are also mountainous areas, sloping land, short rivers, rocky soils with poor water capacity, so these areas often suffer from drought and water shortage in the dry and flood seasons, flash floods, landslides in the rainy season.

Secondly, the human cause. The MRC's report in July 2020, on the basis of monitoring data, combined with other monitoring sources, said that, besides objective reasons such as climate change, the operation of hydroelectric dams large flows in the mainstream and also the Mekong tributaries also contribute to reducing the flow. Currently, on the entire Mekong River mainstream, there are 13 hydropower dams in operation (11 dams upstream, 2 dams downstream) and 19 hydropower projects planned to be built with 1 project in progress. construction process. There are also dozens of hydroelectric dams on the tributaries of Mekong in the territory of Thailand, Laos, Cambodia and Vietnam. The retention time of these dams causes water to flow to the Mekong Delta very late. During the rainy season, dams upstream will reduce flow energy by 70-100%; some dams have the ability to stop the flow for 2-3 weeks in the dry season and 1-2 weeks in the rainy season, some dams can stop the flow for up to 1 month in drought years like the Sanakham dam in Laos.

+) Status of water quality and ecosystem of Mekong River in Vietnam

In the Mekong River Basin (Vietnam), one of the biggest problems is saltwater intrusion and the risk of transboundary pollution.

Firstly, for saline intrusion, in recent years, in many estuaries, deep saline intrusion has appeared. From November 2019, salinity is seriously affecting the Mekong Delta region, increasing sharply in the period between March and April. The salinity level is 4% (4ppt) on the Vam Co Tay River (with a period of time over 125 km), Cua Tieu, Cua Dai and Ham Luong penetrated deeper than in 2016 from 3-7 km, greatly affecting production and daily life of the Mekong Delta provinces. As of April 2020, the dry season in the Mekong Delta has lasted for nearly 6 months, causing about 96,000 households in the region to experience water shortages, and 5 provinces to declare natural disasters. Loss of agricultural production has been minimized due to measures to adapt to seasonal changes, but lack of water for domestic use, lack of water for irrigation of fruit trees and serious shortage of fresh water for daily life has become a concern greatest during the salinity season.

Secondly, for pollution, in the period 2014-2019, the water quality due to pollution has changed significantly in some areas. In Tien and Hau rivers, water quality improved from 2014-2016, however, by 2017-2018, there was a slight decline. The impact of domestic wastewater from urban areas, aquaculture, seafood processing and industrial activities is having significant impacts on the water

quality of the Mekong River. According to a 2017 World Bank report, most rice farmers use more fertilizers and pesticides than is recommended. According to calculations, each year, about 1,790 tons of active snailicides, 210 tons of herbicides, 1,224 tons of active pesticides and 4,245 tons of fungicide active ingredients are used in excess in rice production in Mekong Delta.

4.2.2. International Cooperation

Currently, there are more than ten cooperation mechanisms in the Mekong region, in which, one of the most prominent cooperation mechanisms is the Mekong Commission. The Vietnam Mekong River Commission has carried out cooperative activities with the International Mekong River Commission, with countries in the basin, countries, non-governmental organizations, and international organizations to research and propose solutions to minimize the impact of socio-economic development activities of upstream countries on the territories of Vietnam through which the Mekong River flows. Vietnam also participates in the implementation of the Mekong River Commission's Lower Mekong River Basin Development Strategy for the 2016-2020 period, with the goal of developing its full potential for the sustainable benefit of all riparian countries and preventing wasteful use of Mekong river basin water.

From 2013 to present, the Mekong River Integrated Water Resources Management Project has successfully worked with MRC member countries to establish examples of how to implement integrated water resources management in practice. Local and regional stakeholders have come together to bulid, design, and establish mechanisms and frameworks that are on track to facilitate improved cooperation now and in the future, including Vietnam's projects are the Project for Sustainable Water Resources Development and Management in the Sekong, Sesan and Srepok River Basins. In addition, the Integrated Flood Management Project in the Cambodia-Vietnam border area in the Mekong Delta for water security and sustainable development (Vietnam, Cambodia) to combat flooding, improve agriculture industrial and other functions, and develop an integrated flood management strategy for the Mekong Delta. In addition, Vietnam has signed a number of cooperation agreements with Cambodia and Laos to protect the Mekong River's water resources.

Vietnam also participates in and organizes many other international cooperation events with topics such as protection and sustainable use of water resources in related regional cooperation mechanisms such as the Greater Mekong Subregion (GMS), the creation of Lower Mekong Initiative (LMI) of the US, Mekong-Japan cooperation, Mekong-Korea, Mekong- Lancang cooperation; joint action in water resource management to shape the post-2015 Agenda" within the framework of ASEM.

However, international cooperation activities still have limitations that have not been effectively overcome. One of the problems that have existed for many years now is the low efficiency and sustainability of the projects after their completion. Many projects and programs run out of funding, which means the end of activities to maintain results. Many new programs have just stopped at the experimental level, have not been researched and evaluated for replication due to lack of funding for maintenance. In addition, there are some limitations such as limited funding and human resources for international cooperation activities; lack of initiative in finding international funding sources, relying heavily on partners and priorities of foreign governments or Executive Boards of international organizations; difficulties in reciprocal capital; limited capacity in project management and implementation of the units receiving and implementing the project.

4.2.3. Settlement of international disputes

The exploitation and use of water in the Mekong River by some countries are directly affecting the Mekong River's water resources in many aspects, both in terms of quantity, quality and ecosystem,

most of which are related to the water resources of the Mekong River hydropower activities and water transfer out of the basin. Disputes over water resources of the Mekong River mainly stem from these two activities.

Before the construction of hydroelectric dams of a number of countries, Vietnam has expressed its official position, which affirms the responsibility of countries in the sustainable use of water resources of the Mekong River, ensuring that it does not cause any harm negative impacts on riparian countries, especially downstream countries, at the same time affirming Vietnam's willingness to cooperate in sustainable and effective management and use of Mekong river water resources. This view is consistently expressed in the statements of the spokesperson of the Ministry of Foreign Affairs of Vietnam on the construction of dams on the Mekong River.

Along with hydropower construction activities, plans to take/transfer water from the Mekong River for irrigation and expansion of agricultural areas in the region are putting the Mekong Delta at serious risk in the future. Before the plan to draw water from the Mekong River and build a barrier for agriculture, Vietnam expressed concern and asked Thailand to soon provide specific information on the plan at the 42nd meeting of the Mekong river Commission (March 15-17, 2016).

4.3. Directions and solutions to improve the efficiency of protection activities of Vietnam's international water source

4.3.1. Directions to improve the efficiency of protection activities of Vietnam's international water source

The National Strategy on Water Resources up to 2020 promulgated under the Prime Minister's Decision No. 81/2006/QD-TTg dated June 14, 2006 noted: *"Water resources are a key component of the living environment, is a particularly important factor to ensure the successful implementation of strategies, master plans and plans for economic and social development, and to ensure national defense and security".* In addition, also to assert the overarching goal in international water resource protection is *"Cooperation, benefit sharing, ensuring fairness and rationality in exploitation, use, protection and development of water resources and prevention and control of harmful effects. caused by water in international rivers and river basins on the principle of ensuring sovereignty, territorial integrity and national interests", "improving the efficiency of cooperation, ensuring the harmony of interests among countries with share water sources with Vietnam".*

The importance of water resources has been affirmed previously in the Resolutions approving contents related to the protection of water resources, including international water sources such as Resolution No. 27/NQ-CP dated 12 June 2009 on some urgent solutions in the state management of natural resources and environment, Resolution No. 24-NQ/TW dated June 3, 2013 of the 11th Party Central Committee on the subject Responding to climate change, strengthening natural resource management and environmental protection, Resolution No. 06/NQ-CP on the Government's Action Program on continuing to implement Resolution No. 24-NQ/TW dated June 3, 2013 of the 11th Party Central Committee's Central Committee on proactively responding to climate change, strengthening natural resource management and protecting the environment according to Conclusion No. 56-KL/TW dated August 23 2019 of the Politburo.

From the contents of the above documents, a number of directions can be drawn to improve the effectiveness of international water resource protection activities, including:

Firstly, to build a full and effective legal basis for international water resource protection activities.

Secondly, ensure effectiveness in preventing and promptly responding to harmful impacts on international water resources.

Thirdly, the protection of international water sources must be associated with the requirement of not harming national sovereignty and security, and protecting national interests in international relations.

4.3.2. Some solutions to improve the efficiency of protection activities of Vietnam's international water source

In recent years, Vietnam's water resources have been facing many challenges, causing negative impacts on many aspects both in terms of economy and society. Not only the Mekong River, the monitoring data in the rivers of the Red River system, the second largest international river in Vietnam, also show risks to the quantity and quality of water in the Red River system. Stemming from the fact that most of Vietnam's major river systems originate from abroad, in which Vietnam is a downstream country, as well as certain similarities in the current status of exploitation and use of water resources of these systems large rivers such as Mekong and Red rivers of upstream countries and impacts on water resources in Vietnam, to a certain extent, the following solutions can also be applied to protect international water sources other, especially the Red River.

+) Improving the legal system on the protection of international water sources

The first, improving the national legal system on the protection of international water sources

The provisions of Vietnamese law on water resources in general and the protection of international water sources in particular still have certain limitations. Therefore, continuing to improve national legislation is important in creating an effective legal framework for the protection of international water resources.

Firstly, to review to clearly delineate and overcome the overlap in functions and tasks between ministries, branches and units in performing state management tasks on environmental protection of the river basin in order to improve effectiveness. effectively advise and organize the implementation of state management of environmental protection in the river basin.

Secondly, continue to review and develop additional technical documents for the investigation, statistics and assessment of waste sources, especially waste sources in the river basins, river load capacity and other sources water bodies in the river basin; promulgate environmental protection regulations for each river basin that clearly outline environmental issues and principles of conduct for specific stakeholders, including management agencies, businesses and communities.

Thirdly, continue to review and complete regulations on management of discharges into water sources. First of all, it is advisable to supplement the provisions in the Law on Environmental Protection 2014 on measures to treat wastewater by other methods, such as chemical or biological methods. In addition, it is necessary to stipulate a national centralized discharge licensing system with unified management, based on technology, capacity and strict and scientific inspection mechanism; avoid administrative-style management and formal participation of ministries and branches. In addition, it is necessary to amend and supplement current documents on wastewater treatment at enterprises, production and business establishments, especially in the Law on Environmental Protection 2014 to overcome this problem. inconsistency, not specificity, not clear; create consistency in the legal system as well as contribute to increase the effectiveness and feasibility of the law; keep up with reality and keep up with the country's development and international integration progress and the complexity of wastewater and wastewater treatment issues.

The second, improving the international legal framework for the protection of international water sources

Vietnam needs to strengthen its proactive role in taking initiatives and promoting the remaining members of the Mekong River Commission to supplement legal contents in the Mekong Agreement to create a more complete legal framework for the Mekong River Delta cooperative activities.

Firstly, through the regulation of minimum flows on the main streams, as a basis for determining the "threshold" to carry out intervention actions, thereby, preventing the degradation and depletion of water resources. At the same time, regulations on minimum flow are also the basis for determining whether there is a violation of the obligation to use fair and reasonable water resources of the Mekong River, as a basis for dispute settlement between the parties.

Secondly, unify regulations on transboundary environmental impact assessment in the lower Mekong river. However, in order for these regulations to truly become the legal basis for environmental impact assessment, it is necessary to recognize the binding legal value of these guidelines, instead of being just recommendations currently.

Thirdly, supplement regulations on environmental protection and ecosystem conservation in the Mekong River Basin such as regulations on controlling the introduction of new or exotic species into water sources; obligation to take all necessary measures to prevent situations that damage or affect ecosystems such as erosion, flooding, drought, desertification or deforestation.

Fourthly, supplement regulations on mechanisms to ensure the performance of obligations related to water use procedures; procedures for notification, consultation and flow data reporting obligations. Accordingly, the authority of the Mekong River Commission (MRC) should be recognized to apply coercive measures in the event the country concerned fails to fulfill its obligations under the Agreement.

Fifthly, additional cases that need to be consulted. In the event of objections from another country, the Commission will conduct an investigation into the project and make a final determination as to whether the project violates the principle of not causing substantial damage. This conclusion will be legally binding on members and the country will not be able to proceed with the project if the MRC concludes that the project will have significant adverse effects on other riparian states, violate the principles of rational and fair.

Sixthly, amending regulations on dispute settlement in the direction of supplementing dispute settlement methods through international jurisdictions, including courts and arbitration. In the short term, this content may only include the recognition of dispute settlement measures by international jurisdictions in international law in general. In the future, the parties may agree in detail on the establishment of separate arbitration courts to settle disputes arising in the implementation of the content of the Agreement.

+) Improve the efficiency of practical activities in international water resource protection

Firstly, strengthen the mechanism for coordination and supervision of exploitation, use and protection of water resources, overcome the limitations and inadequacies of the current organizational models in the river basin in order to improve the energy efficiency of the water sources, efficient and effective coordination in solving common, inter-sectoral, inter-regional and inter-local issues in the state management of water resources and protection of the river basin environment.

Secondly, strengthen prevention and effective response to adverse impacts on international water resources. Specifically, strengthen environmental monitoring activities for transboundary water source areas between Vietnam and other countries; proactively control and master pollution prevention and monitoring technology, ensuring that large projects with high potential risks are strictly controlled and operated safely; have plans to respond to environmental incidents; have a plan to respond, step by step solve and overcome saline intrusion in the downstream area of the river basin.

Thirdly, further promote water pollution control activities on the basis of further promoting environmental pollution control activities at all levels; prevent new sources of environmental pollution; carry out environmental inspection and testing on a regular basis; synchronously implement technical infrastructure solutions to collect and treat on-site scattered waste sources from agricultural production, aquaculture, daily-life wastewater, and review facilities and areas economic, high-tech, industrial parks are operating and discharge waste directly into the Mekong and Mekong tributaries.

+) Strengthening international cooperation activities in the protection of international water sources

Firstly, consider the proposal to join the UNCE Convention to have common voices, promote the common management and conservation of ecosystems of transboundary freshwater resources.

Secondly, expand international cooperation on international water resource protection within the region in the form of setting up multilateral and bilateral programs and projects, and at the same time promote cooperation with international organizations, Government and non-governmental organizations to enlist support in all forms in the protection of water environment and river basins.

Thirdly, be more proactive in strengthening cooperation in water resource management with other Mekong riverside countries, especially China and Laos. For China, because it is not a member of the Mekong River Commission, it is necessary to build a bilateral cooperation mechanism, in which, focus on the mechanism of coordination, exchange and information consultation to build building a unified data and information management system, serving to collect, process, analyze and share hydro-meteorological data and other related information, especially information about immediate and long-term effects of upstream hydropower development, thereby, solving transboundary water resource management issues, limiting conflicts of interest between parties in water use. For Laos, the amount of primary renewables (hydroelectricity) and this import rate can be up to 24%, even 44% by 2030, Vietnam can increase the purchase of electricity from Laos, thereby bringing more electricity to Laos. establish the conditions to ensure that hydropower dams with the potential to cause negative impacts on the Mekong Delta will not be built. At the same time, Vietnam should also strengthen cooperation projects on water resource management of the Mekong River with Laos, focusing on hydropower issues to exchange information, consult and unify opinions in selecting select areas to build hydroelectric dams.

Fourthly, considering the signing of bilateral international treaties with countries along the Mekong watercourses in principle, the content of these treaties must be more detailed and specific than the Mekong Agreement and the level of protection for the Mekong River with water sources must be higher than the Mekong Agreement.

Fifthly, proactively apply diplomatic and legal measures in solving problems that harm Vietnam's international water sources. Since only 4 out of 6 countries where the Mekong River flows through are members of the Mekong River Commission, only the dispute settlement mechanism prescribed in the Mekong River Agreement can be applied to settle related disputes. to these countries. Specifically, for Laos, Cambodia or Thailand, according to the provisions of Article 34 of the Mekong River Agreement, Vietnam can bring the case before the Mekong River Commission or the Joint Committee; In the event that these agencies cannot resolve the dispute within a reasonable time, the dispute will be transferred to the Governments of the parties for settlement by negotiation through diplomatic channels. As for China and Myanmar, because this country is not a member of the Mekong River Commission, it will apply the international dispute settlement mechanism in common international law to settle it. In the settlement of disputes in general, Vietnam has always advocated the settlement of conflicts through peaceful negotiations on the basis of respect for independence, sovereignty and territorial integrity, and

in accordance with international law. However, negotiation should not be considered the sole means of resolving disputes. Reality shows that direct negotiation is only really effective in cases where the parties are really goodwill and respect each other as well as respect the common rules of international law. Therefore, along with direct negotiations, Vietnam can use diplomatic channels with different levels in dispute settlement.

CONCLUSION

1. Over the past decade, the world has witnessed the fact that water resources are becoming increasingly scarce. A water crisis will lead to a health crisis, an agricultural crisis, an economic crisis, a climate crisis, and even a political crisis. The development of legal mechanisms at many levels, from bilateral, regional to global to regulate the activities of countries with respect to international water resources, demonstrates the efforts of countries in building general rule for the effective protection of international watercourses from quantitative, qualitative and ecological damages of international watercourses such as reduction in water quantity due to new construction of upstream; riverbank erosion due to construction on the opposite riverbank of the contiguous source country; an increase in sedimentation due to deforestation upstream, interfering with the flow regime; the extinction of a number of species of organisms in the international river basin due to human behavior… Through international legal principles and norms governing the behavior of actors to prevent, limit and In response to adverse impacts on the quantity, quality and ecology of international water sources, international law is a legal tool to ensure that all water riparian countries, especially the all downstream countries have the opportunity to enjoy the benefits from international water sources on an equal basis with other countries, thereby, protecting these countries from acts of "monopoly on water resources" of upstream countries, and at the same time, ensuring that the use of a country's water resources does not prejudice its own interests, the interests of other countries and the needs of domestic use. in the future, thereby, contributing to ensuring the peaceful and friendly relations between countries.

2. Law on modern international water is the result of a revolutionary process from legal doctrines related to the use of transboundary freshwater resources for agricultural and maritime purposes. The development of water theories has led to efforts to develop rules governing issues related to the international allocation and use of water resources at both regional and global scales.

At the global level, the 1997 Convention on Non-Maritime Uses of International Watercourses (UNWC Convention) and the 1992 Convention on the Protection and Use of Transnational Watercourses and International Lakes (UNCE Convention) has a special role. The UNWC Convention is considered “Law on international water sources are the most embrace, comprehensive and important ”, “supporting water treaties by providing a model and filling in gaps, which these treaties do not cover”. At the regional scale, since 1910, a series of bilateral and multilateral treaties on international water resources have been signed in many areas, most of which is Europe with contents referring to the protection of water resources. protect the quantity and quality of international water resources. In fact, these regional and bilateral treaties are often invoked more often by riparian states than by global treaties when dealing with issues related to the use and protection of international watercourses, because of more detail than global treaties and the ability to directly regulate specific issues related to international water resources between the parties.

On the basis of the provisions of the UNWC Convention, the UNCE Convention, regional and bilateral treaties on international water resources, a legal framework for the protection of international water sources has been formed. However, this legal framework is also revealing certain limitations. As

a global multilateral treaty, the UNWC Convention still has the nature of a framework treaty, establishing fundamental issues, the basis for activities to protect international water sources. Although the UNCE Convention is more binding and more specific than the UNWC Convention, and has also provided for membership expansion since 2003, in fact, up to now, there is no country that is not a member of UNECE. Participating in this Convention because one of the main reasons is that the UNCE Convention is a legal document of countries with a high level of development, so other countries, especially developing countries, have different balances. careful consideration when acceding to this Convention. Although there are many bilateral or regional treaties, they have only limited scope or content. Therefore, from the basic provisions of the UNWC Convention, it is necessary to develop more global legal tools to serve as the basis for the establishment of more detailed legal frameworks in the protection of water international sources.

3. Mekong River is the largest international river in Vietnam and also the longest river in Southeast Asia. The Mekong River Basin in Vietnam is largely located at the downstream, accounting for about 8% of the basin area, with a contribution of about 52 billion m3 of water, to make up 11%. Every year, the Mekong River transports over 420 billion m3 (including the amount of water of the Mekong tributaries of which our country is upstream) into the Mekong Delta. Due to the close relationship between the natural and socio-economic conditions of the sub-regions and the Mekong River basin as a whole, upstream developments and changes in flows will lead to many environmental impacts and society downstream is Vietnam. The hydrological monitoring data shows that, from the historic flood in 2000 up to now, the flood season flow from upstream to the Mekong Delta has decreased markedly, the water level in many places has dropped to the lowest level in history, saline intrusion deep into the estuary area has caused water shortage for agricultural production. In addition to natural causes, there are extreme and unusual natural phenomena such as seasonal increase in temperature and decrease in average rainfall, change in flow, riverside erosion, the main cause of the above water degradation is the exploitation and use of water by riparian countries, in which, mainly embankment activities, dams, blocks flows, builds hydroelectric projects and transfers water to other river basins, seriously affecting Vietnam's international water resources. In the near future, when the whole chain of 11 hydroelectric dams is in operation, the total flow will decrease by more than 27%/month, saltwater intrusion will go deep into the Tien and Hau rivers about 10-18 km, the source of nutrients Nutrients (nitrogen and phosphorus) for the Mekong Delta may decrease by 6-10%, leading to a decrease in crop yield by 0.6-1 tons/ha, causing serious impacts on Vietnam in the world both economic and social aspects.

4. To improve the effectiveness of international water source protection activities, first of all, it is necessary to perfect the legal basis for protection of water sources in general and Vietnam's international water sources in particular. Accordingly, at the national level, it is necessary to perfect the Vietnamese legal system on the management apparatus in order to clearly delineate and overcome the overlap in functions and tasks between ministries, branches and units, and at the same time complete regulations on pollution control and environmental protection of water sources; At the international level, Vietnam needs to strengthen its proactive role in taking initiatives and promoting the remaining members of the Mekong River Commission to supplement the legal contents in the Mekong Agreement to create a framework more complete legal framework for cooperation activities such as specific regulations on minimum flows on main streams, on cross-border environmental impact assessment, environmental protection and ecosystem conservation in the Mekong River Basin as well as supplementing regulations on mechanisms to ensure the implementation of the Agreement's contents.

In addition, it is necessary to strengthen international cooperation activities in the protection of international water sources in many aspects, from early joining the Convention on the protection and use of transboundary water sources and international lakes; expanding the current forms of cooperation until considering the signing of bilateral international treaties with countries along the Mekong watercourse, being more proactive in strengthening cooperation in water resource management with other countries. other Mekong riverside, especially China and Laos. In addition, Vietnam can flexibly use political, diplomatic and legal measures with many different channels and levels to resolve disputes related to activities harmful to Vietnam's international water resource to protect its interests, typically for the construction of hydropower dams on the Mekong River.

LIST OF SCIENTIFIC RESEARCH RELATED TO THE DOCTORAL THESIS

1. Ha Thanh Hoa (2019), *Obligation to prevent, reduce and control pollution of international water sources according to the provisions of international law, Jurisprudence Journal*, No.10(233), Page 30-38.
2. Ha Thanh Hoa (2020), *The principle not causing damage in the protection of international water sources according to the provisions of international law and some issues posed to Vietnam*, State and Law Journal, 4/2020, Page 69-77.
3. Ha Thanh Hoa (2020), *Principles of rational and fair use of international water sources and some issues posed to Vietnam*, Legislative Studies Journal, No. 18 (418), 9/2020, Page 15-28.