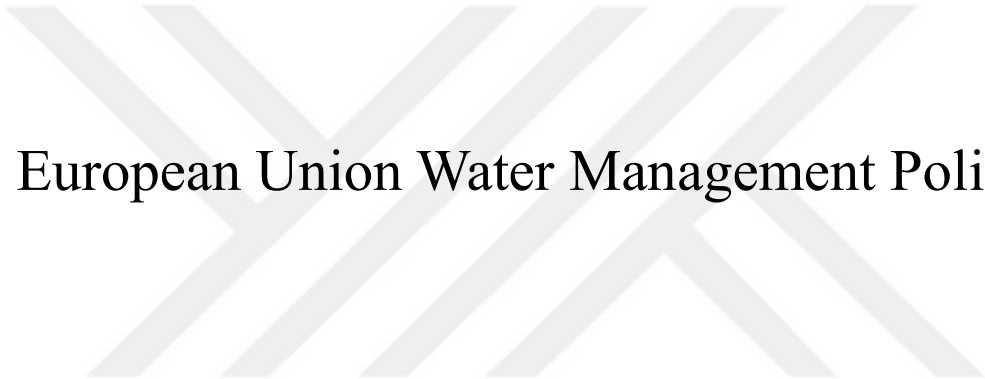


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European Union Water Management Policy

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ABSTRACT

This thesis analyzes the prominence of European Union (EU) water management policy among other types of legislation in regard to water management. By this aim, initially it clarifies the general tenets of international law concerning legislation of water policy. Then, an overview of EU water management policy is presented. As one of the most prominent means of EU water management policy, Water Framework Directive (WFD) and the contributions it has provided are analyzed comprehensively. Furthermore, customary international law and treaty law are compared with respect to their respective standing on water management policy, in order to attract the attention to the requirement of well-organized system in the domain of water. This study intends to examine the role of EU in shaping the international legal system concerning water management policy.

Keywords: EU Water Management Policy, Water Framework Directive, River Basin Management, Human Right to Water

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LIST OF ABBREVIATIONS

CESCR	Committee on Economic, Social and Cultural Rights
CESCR	Committee on Economic, Social and Cultural Rights
CIS	Common Implementation Strategy
DG	Directorate-General
EC	European Communities
ECHR	European Court of Human Rights
EConvHR	European Convention on Human Rights
EEA	European Environment Agency
EEZ	Exclusive Economic Zone
ELD	Environmental Liability Directive
EU	European Union
GCC	Global Climate Change
HRC	Human Rights Committee
ICCPR	International Covenant on Civil and Political Rights
ICESCR	International Covenant on Economic, Social and Cultural Rights
ICJ	International Court of Justice
IIPC	Integrated Pollution Prevention and Control
ILA	International Law Association
ILC	International Law Commission
ILO	International Labour Organization
IMO	International Maritime Organization
ITLOS	International Tribunal for the Law of the Sea
IWRM	Integrated Water Resource Management
LBMP	Land-Based Marine Pollution
MARPOL/73/78	1973 International Convention for the Prevention of Pollution from Ships
MDG	Millennium Development Goal
MEP	Member of the European Parliament
NGO	Non-Governmental Organization
PoMs	Programme of Measures
R&D	Research and Development
RBD	River Basin District

RBMP	River Basin Management Plan
UDHR	Universal Declaration of Human Rights
UN	United Nations
UNCLOS	Convention on the Law of the Sea
US	United States
WFD	Water Framework Directive



INTRODUCTION

Water law problems emerge because of intricate relationship of legal, social, economic and environmental constituents such as: exponential growth in human requirements, decline in obtainable water, water contamination and more. It can further be highlighted the reality that water has peculiar characteristics, which make it problematic to regulate utilizing laws developed mostly for earth. The issue of the water has a crucial essence in the global extent and brings out various and significant, environmental, financial, social and territorial interests. The dangers regarding the rarefaction and the pollution of the water bodies acquires a certain dimension with moral interests, social equality and fight against water-related penury. In the decades ahead, water administrators will have to encounter a powerful growth in requirements for water. Climate change will bring about a growth in a requirement for water from irrigated harvests and also human needs.

For the last two centuries, and even before, the water field has been the subject of a huge number of legislation and regulations. Step by step, a structure of consecutive layer has been constructed to address the requirements of different periods. The rationale of Roman Law was concentrated on the utilization of the resource. This produces a specifically “segmented and redundant” law. Throughout the history, one point should be definitely highlighted: There is a fundamental conflict between two attitudes: one that regards water as a resource that streams along the earth and is a world heritage, and one that anticipates some “ownership” of water in concert with land ownership.

Concerning the significant problems that freshwater constitutes in a global scale, it appears compulsory that water law be efficient, explicit, consistent and available. Simplifying the law signifies diminishing the intricacy of the water

law as far as possible and revoking outdated texts. It appears also compulsory to consider the anticipations concerning safety and the requirement for legal certainty and constancy about the most prominent of humankind's resources.¹

That water is an essential condition for life on earth is an indisputable fact. According to the central constituent of European Union (EU) water law water is not 'a commercial product like any other but, rather, a heritage which must be protected, defended and treated as such'.² Nevertheless, water bodies are subject to significant stresses. The most general stresses on fresh water are diffuse pollution, physical alterations of water ecosystems, and, especially in Southern Europe, overexploitation of water.

The aquatic environment is subject to quite comprehensive EU regulation and has been so for some time. However, it was initially in 2000, by the adoption of a framework directive on water, that the EU took an extensive and cohesive attitude involving qualitative and also quantitative dimensions of management and safeguarding of interior and coastal waters. As contaminating materials of different types have a likelihood to ultimately arrive at and impact on water resources, a wide range of other EU legal acts are also pertinent to the safeguarding of water. This is valid, *inter alia*, for waste and chemicals legislation, and also for norms impacting air emissions.³

Given the challenges in water domain laying ahead lawmakers, EU has a crucial role in shaping the perspective of water law through its exclusive means and mechanisms. Within this framework, it would be convenient to ask the following

¹ Claire Joachim and Laurène Mazeau 'CHAPITRE 4. BETWEEN RISK AND COMPLEXITY: EUROPEAN WATER PROTECTION LAW ISSUES' (2017) 28 *Journal international de bioéthique et d'éthique des sciences* 71-72.

² Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy [2000] OJ L327/1 (European Water Framework Directive).

³ David Langlet and Said Mahmoudi, *EU Environmental Law and Policy* (OUP Oxford 2016) 223-224.

question: what is the significance of EU water management policy among other types of legislation in regard to water management? In order to provide an explanation to this matter, this study is organized in the following: The first chapter covers the water management policy from the perspective of international law. The second chapter addresses water management policy from the perspective of European Union law. Subsequently, the third and last chapter involves a comparison of customary international law and treaty law in regard to water management policy. Document analysis is the method which is benefited from in this thesis.



CHAPTER 1

1. WATER MANAGEMENT POLICY FROM THE PERSPECTIVE OF INTERNATIONAL LAW

1.1. The 1982 United Nations Convention on the Law of the Sea

The law of the sea is a body of public international law managing the geographic jurisdictions of coastal States and the rights and obligations between States which are retaining and exercising control over the ocean environment and its natural resources. The law of the sea mostly refers to an international treaty, the Convention on the Law of the Sea (UNCLOS), which was negotiated through the support of the United Nations and signed in 1982 by 117 States and came into force in 1994. At the moment, 133 States are the signatories and have approved UNCLOS; Canada, Israel, Turkey, United States and Venezuela are the most significant among those which have not approved. This treaty both provided a legal framework for customary international law and constituted new law and institutions for the ocean. UNCLOS is best described as a fundamental structure constituting a ground for the international law of the oceans, with the objective to be enlarged and elaborated upon through more specific international agreements and changing customs of States. These enlargements have already started to come out, rendering the law of the sea broader, more complicated and more detailed than UNCLOS per se.

The law of the sea can be separated from two closely related bodies of law: maritime and admiralty. Maritime law is the private law concerning ships and the commercial business of shipping. Admiralty law, generally used synonymously with maritime law, contains private law of navigation and shipping, within inland waters and also on the ocean. The latter might also indicate parochially to the legal jurisdiction of specialized Admiralty courts.

There might be significant overlaps between the public international law of the sea and private maritime law, as might take place during the application of rules for vessel passage through a jurisdiction or the enforcement of domestic law in the ocean.

The historical advancement of the law of the sea is sometimes traced back to a Papal Bull of 1493, that separated the world's oceans among Portugal and Spain, thereby paving the way for Spain's claim to Columbus' discovery of the New World within the legal framework. In the early seventeenth century, a prominent 'debate' occurred between the Dutch jurist Hugo Grotius, who, in 1608, argued on the basis of natural law, for freedom of the seas, and the English academic, John Selden, who stood for in 1635 for the foundation of sovereign rights over areas of the ocean. Both regimes continue in contemporary world, even though scientific and technological developments led to the diminishment that part of the seas which is not subject to the authority of coastal States, and international rules have been improved to codify many kinds of activities which take place beyond the range of national jurisdictions.

The progress of the law of the sea can be associated with a tree, assuming UNCLOS as its trunk. Its roots are historical customs and treaties which occurred mostly after World War II. Its branches are customs, treaties, and soft law which has recently started to be shaped.⁴

⁴ P. Hoagland, J. Jacoby and M.E. Schumacher, 'Law Of The Sea' in John H. Steele, S.A. Thorpe and Karl K. Turekian (eds), *Encyclopedia of Ocean Sciences* (2nd edn, Academic Press 2001).

1.1.1. *Underlying Principles*

1.1.1.1. *Sovereignty over Resources*

As it may be considered one of the basic norms of customary international law and international environmental law, sovereignty over resources is established in Principle 21 of the Stockholm Declaration of 1972. Its aim is to provide a balance between a State's sovereignty and its duty to assure that its actions and the actions of its citizens do not lead to environmental damage for other States or for areas beyond national jurisdiction. The UNCLOS interpretation of Principle 21 reads:

“States have the sovereign right to exploit their natural resources pursuant to their environmental policies and in accordance with their duty to protect and preserve the marine environment.”⁵

Moreover,

“States shall take all measures necessary to ensure that activities under their jurisdiction or control are so conducted as not to cause damage by pollution to other States and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights...”⁶

This principle involves the activities of the citizens of a State within its territorial sea, exclusive economic zone and also on ships carrying its flag, wherever they could steam.

⁵ United Nations Convention on the Law of the Sea (adopted 10 December 1982, entered into force 16 November 1994) 1833 UNTS 3 (UNCLOS) art 193.

⁶ *ibid* art 194.

1.1.1.2. *Precautionary Action*

The principle of precautionary action, which was first practiced in the marine environment in 1987 following the development of UNCLOS, simplifies and empowers Principle 21. It was embodied increasingly in international agreements and soft law, such as the 1992 Rio Declaration and its accompanying Report on the United Nations Conference on Environment and Development (commonly known as Agenda 21), throughout the last decade. The articulation of the principle has been inconsistent, causing differing interpretations in various contexts. Within the framework of marine pollution, a fair, yet general, elaboration of the principle is that the release of substances assumed to be potentially hazardous must be adjusted (or forbidden) before the foundation, by means of scientific methods, of a causal connection between the release and environmental harm. The principle means a transformation in the burden of proof from the pollutee or regulator, who previously had to demonstrate that the release of a substance was hazardous, to the polluter, who now has to demonstrate that it is not. The principle has a close interpretation in the fisheries framework.⁷

1.1.1.3. *Common Heritage*

Five principal elements identify the common heritage of mankind: (1) common space areas belong to no one, however are governed by everyone; (2) global popular interests prevail over national interests; (3) the economic profits of natural resources exploited from the commons have to be shared among all States; (4) the utilization of the commons have to be restricted to peaceful aims; and (5) scientific research is allowable in case there is no threat to the environment. The principle is expressed in relation with the Area, which, together with its resources is described specifically in UNCLOS as the common heritage of mankind. Some critics have discussed, however, that the exploitation

⁷ Hoagland, Jacoby and Schumacher (n 4).

of the resources of the Area is still a high seas freedom, not a concern of common heritage principle. This latter view might be especially relevant for States which have not approved UNCLOS.

1.1.1.4. *Environmental Conservation*

UNCLOS indicates that:

“All States have the duty to take, or to cooperate with other States in taking, such measures for their respective nationals as may be necessary for the conservation of the living resources of the high seas.”⁸

Therefore, a State whose nationals fish on the high seas is responsible to adopt conservation laws for its own citizens. The principle of obligatory environmental conservation within UNCLOS has formed basis for the following environmental agreements, such as 1985 ASEAN agreement through which its signatories compromised to take precautions to protect ecological processes and soft law, containing Chapter 17 (regarding the Oceans) of Agenda 21.

1.1.1.5. *Sustainable Development*

Sustainable development is another principle which occurred following the development of UNCLOS. It was expressed most explicitly in the Rio Declaration, and it comes out (referred to as sustainable use) in the 1992 Convention on Biological Diversity. As a directive principle, it means economic or resource development in the manner and to the extent that the needs of both present and future generations can be satisfied. Initial foundations of this principle came out in UNCLOS, especially in regard to the sustainable yield in fisheries, and it can be considered as closely associated with the principles of environmental conservation and precautionary action.

⁸ UNCLOS (n 5) art 117.

1.1.1.6. *International Cooperation*

In addition to the general duty of members of United Nations to cooperate in good faith with the organization and between themselves, UNCLOS indicates a specific need to cooperate to protect the seas. The convention requires international cooperation in the protection and management of living and nonliving resources, the use of scientific study for the utility of humanity, the peaceful settlement of all maritime disputes, adjustment for pollution, technology transfer to developing countries and implementation of all the conditions of the Convention.⁹

International organizations have paved the way for international cooperation, therefore the Convention supplies means to encourage dialogue among member States. Some of the examples are the International Sea Bed Authority, the International Tribunal on the Law of the Sea, and the Commission on the Limits of the Continental Shelf.

1.1.2. *Jurisdictions*

The oceans of the world are separated into six main zones where the types and extent of State jurisdiction differ. These zones are: the territorial sea, the contiguous zone, the exclusive economic zone (EEZ), the continental shelf, the high seas, and the Area. The seaward boundaries of the territorial sea, contiguous zone, and EEZ are determined in regard to distance from a baseline, which is basically the waterline at low tide. Drawing the baselines might benefit from any of various methods, the baseline may move caused by changes in coastal geomorphology. The construction of straight baselines is allowed along deeply indented coastlines or to link islands through the coast of a State. (Islands, differentiated from sole rocks, have to be adequate to maintain human habitation

⁹ *ibid.*

or an economic life by their own.) Baselines cannot extend more than 24 nautical miles across the mouth of a bay.

1.1.2.1. *Territorial Sea*

The territorial sea extends to a limit of 12 nautical miles from the baseline of a coastal State. Within this zone, the coastal State exercises full sovereignty over the air space above the sea and over the seabed and subsoil. A coastal State can legislate on issues regarding the security of navigation, the protection of the environment, and avoiding, diminishing and controlling pollution with no responsibility to comply with international standards while regulating these rules.

All States have the right of innocent passage along the territorial sea of another State, even if innocent air space passage is not permissible. Innocent passage is taken into account passing along the territorial sea in such a way which is not detrimental to the safety of the coastal State, involving any stopping and anchoring essential for ordinary navigation. Innocent passage points out two significant restrictions to the power of coastal State jurisdiction in the territorial sea: (1) the responsibility not to hamper, deny, or impair the right of innocent passage; and (2) the recognition of innocent passage even if there is vessel-source pollution as long as the pollution is not intentional and critical. Innocent passage might be suspended in certain parts of the territorial sea for security causes, by notice.

Even warships should comply with innocent passage (submarines have to navigate on the surface); yet many States necessitate prior permission for warships entering their territorial sea, in practice, and the law is not established properly at this point. After the decision taken by the International Court of Justice in a notorious case in which Albania failed to inform Great Britain of the existence of underwater mines in the Corfu Channel, the coastal State has to inform other States of the potential dangers regarding navigation. Regimes are

present as well for transit passage along international straits and archipelagic sea lanes passage in specified sea lanes along archipelagos such as the Philippines.¹⁰

1.1.2.2. *Contiguous Zone*

The contiguous zone is an area adjoint to the territorial sea in which the coastal State can perform control to avoid and punish breach of its customs, fiscal, immigration, or sanitary laws. It cannot exceed a distance of 24 nautical miles from the baseline. The coastal State can exercise power merely in regard to crimes committed inside its territory or territorial sea – not to those taking place inside the contiguous zone or beyond. Even if not defined by UNCLOS, States such as India, Pakistan, and Yemen have claimed right of security jurisdiction in their contiguous zones. These exercises are becoming more largely accepted as customary international law.

1.1.2.3. *Exclusive Economic Zone (EEZ)*

The EEZ is a region beyond and adjoint to a coastal State's territorial sea to a limit of 200 nautical miles from the baseline. Inside this area, the coastal State can enforce sovereign rights over exploration, utilization, protection and management of natural resources and other economic activities, such as generating wind or tidal energy. All States, either coastal or land-locked, enjoy the right of navigation and overflight and laying of submarine cables and pipelines inside any EEZ. Yet, the coastal State, by its own, possesses the right to build and manage artificial islands and other structures with accompanying 500 meter security areas. Inside the EEZ, the coastal State is primarily obliged for the protection of living resources. The coastal State has the right to make necessary arrangements related to both marine scientific research and pollution within the EEZ. Further, the jurisdiction belongs to the coastal state in regards to legislation and enforcement inside its EEZ to cope with the dumping of waste

¹⁰ *ibid.*

from vessels and pollution from seabed activities. The exercise of asserting an EEZ is one instance of how UNCLOS has paved the way for customary international law. The United States, for instance, is not a party to UNCLOS, yet asserts an EEZ which extends up to 200 nautical miles from its baseline. Canada has even adopted UNCLOS provisions to satisfy its needs for an exclusive fishing zone.

1.1.2.4. *Continental Shelf*

The continental shelf is geologically described as the submerged prolongation of the land mass of the coastal State, consisting of the seabed and subsoil of the shelf, slope, and rise. It does not include the deep ocean floor. The prominence of the continental shelf is that it may embody precious minerals and shellfish. UNCLOS refers to the matter of jurisdiction over these resources by assigning sovereign rights to the coastal State for exploration and exploitation.

The shelf has been described as extending either to the edge of the continental margin or to 200 nautical miles from the baseline, whichever is further. Differently from the case of an EEZ, coastal States do not have to assert a continental shelf, rather they should specify its limits. In case the physical limits of the continental shelf exceed 200 nautical miles, the coastal State have to delineate it, by means of one of several formulas, using straight lines which do not extend beyond 60 nautical miles in length. A Commission on the Limits of the Continental Shelf makes suggestions to coastal States on subjects regarding the determination of outer limits of the continental shelf where they exceed 200 nautical miles.¹¹

¹¹ *ibid.*

1.1.2.5. *High Seas*

UNCLOS describes the high seas to be:

“All parts of the sea that are not included in the exclusive economic zone, in the territorial sea or in the internal waters of a State, or in the archipelagic waters of an archipelagic State.”¹²

Within the high seas, all States have freedoms of navigation, overflight, fishing, scientific research, the laying of submarine cables and pipelines, and the building of artificial islands and establishments. As the high seas are accessible to all States, no State can take steps to exercise sovereignty over any part of them.

Jurisdiction over ships on the high seas belongs to the flag State. There has to be a rightful relationship between the State and the ship carrying its flag, and States have to set their own requirements for granting nationality to ships and for registration. Warships and government vessels are granted full immunity from the jurisdiction of any State, except their flag State. High seas fishing States are responsible to take precautions for the protection of their own nationals either alone or in cooperation with other nations. In case of incidents such as piracy, unauthorized broadcasting, slave trading, illegal drug trafficking, or statelessness, nonflag States can apply enforcement jurisdiction.

¹² UNCLOS (n 5) art 86.

1.1.2.6. *The Area*

The area is described as ‘the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction’.¹³ The Area has prominence due to the existence of mineral resources, such as poly-metallic nodules. Just as the rest of the high seas, the Area and its resources are taken into account as the common heritage of mankind. Each State has to provide that the activities of its own nationals are monitored, through the insight that any harm to the Area might result in State responsibility.

An International Seabed Authority, based in Jamaica, organizes all activities in the Area, including marine scientific research and resource exploration and development. Further, the Authority is privileged to carry out scientific research and to get involved in research contracts. Lastly, it has the right to establish rules and regulations avoiding pollution to the marine environment and conserving natural resources. All establishments are subject to these rules and regulations.

1.1.2.7. *Boundary Determinations*

Various territorial and continental shelf boundaries have already been determined before the signing of UNCLOS, yet there are still many international boundaries to be described. In 1984, the International Court of Justice resolved on the first combined EEZ and continental shelf boundary, between the United States and Canada, in the Gulf of Maine Case. There seems to be no strict rules for boundary specifications. Motives for assertions have ranged from historic uses to economic prominence, resulting in the Court to resolve most cases based on equitable principles and relevant conditions.¹⁴

¹³ *ibid* art 1.

¹⁴ *ibid*.

1.1.3. *Fishery Resources*

There has been a dramatic increase in worldwide yields of marine fish stocks, beginning from nearly 20 million metric tons in 1950 and reaching the top at 93 million metric tons in 1997. Even if each fishery has its own exclusive features, at the moment scientists think that, aggregate yields have come close to the natural limit at the global level. There are commonly known instances of fisheries which have been exploited at unprofitably high rates, resulting in significant stock exhaustion in some cases (e.g., north-west Atlantic cod). Proof continues to mount of a change from the exploitation of species at high trophic levels to those at lower levels, exposing a natural limitation to additional enlargement of wild harvests. Any raise in the production of seafood from the ocean and its worth tends to necessitate both the application of more effective management means which aim to increase economic productivity and the continuing improvement of husbandry (aquaculture).

Considering the production trends and limitations in wild harvest fisheries, there is a crucial necessity for the application of management means which bring about sustainable yields. Despite the fact that this necessity has been known for decades, it has rarely been acquired due to the challenges of distributing shares of harvests among different groups, taking into account the constraints to understanding the dynamics of intertwined ecological and environmental systems. In practical terms, the international law of the sea regarding fisheries conservation supplies only a raw framework to be improved. Domestic and regional institutions apply certain management means within the larger context of this framework.

1.1.3.1. *Regional Fishery Management*

Regional institutions were founded as early as a century ago mainly with the aim of carrying out scientific research on fisheries and ecosystems which would, as anticipated, pave the way for recommendations for management (namely, the International Council for Exploration of the Seas in 1902). Throughout the period after the end of World War II, the number of these regional institutions increased. Currently, more than 30 regional fishery bodies are present across the world and most of them now try to match fisheries science with the active management of stocks which straddle the fisheries jurisdictions of several States or stocks which are placed in area beyond any national jurisdiction (the so-called high-seas and highly migratory stocks). Where stocks are actively managed, national quotas are likely to be the instrument of choice, even though enforcement issues are rife. In spite of this institutional existence, at any time, huge number of fisheries disputes are taking place among the nationals of different States. In the extreme, fishery disputes have been known to raise to the level of military intervention.

The motivation for extending national territories which brought about the essential jurisdictional zones regulated in UNCLOS was triggered by perceived value of marine resources adjoint to coastal States. For fishery resources in the developed world, this value rose as demand grew and technological developments decreased costs. An international Convention on Fishing and Conservation of the Living Resources of the High Seas was signed in 1958, presenting the essential framework which is preserved little changed until now: regional management matched with the encouragement to cooperate internationally in case nationals from different States prosecute the same fishery.¹⁵ Within the scope of 1958 Convention, States were allowed to apply conservation and management measures for their own nationals fishing ‘high

¹⁵ *ibid.*

seas' stocks adjoint to their coasts and were encouraged to cooperate with other States fishing there.

1.1.3.2. *Fishery Conservation Zones*

One deficiency of the 1958 Convention was that the geographic boundary describing the high seas was left undescribed. This issue was solved by UNCLOS, that allowed States to assert an EEZ within which they could exercise 'sovereign rights' over the exploitation of their natural resources, including fisheries. Various requirements were imposed on this exercise of sovereign rights, however, in practice, these requirements are not considered as restrictive. For instance, States might specify the total permissible catch and are to manage EEZ fisheries in such a way that the highest sustainable yield would be obtained. However, management for the highest sustainable yield might be characterized with the State's discretion by economic, environmental, ecological, or distributional motivations. These characterizations may be utilized as arguments for establishing permissible catch, and accordingly fishing effort, at levels either above or below those which may maximize sustainable yield. In case a coastal State does not have the capability, as evaluated by itself, to harvest its permissible catch, at that time, through agreement, it shall provide other States, as well as landlocked and geographically disadvantaged States, access to any surplus. (This provision does not encompass sedentary shellfish stocks located in any part of continental shelf.) In practice, the discretion recognized a State in specifying fishing capacity and permissible catch means that any surplus could easily be identified. However, several States, especially Pacific Island States, have leased out their EEZ fisheries to the fleets of main distant water fishing nations, such as Japan, depending on these provisions.

Coastal States within whose internal waters and EEZs anadromous fish (e.g., salmon) originate or catadromous fish (e.g., eels) spend the major part of their life cycle are liable for management of these species. As long as otherwise is not compromised to on a regional or an international context, those species are to be

fished within the EEZ. Highly migratory species, such as tunas, billfishes, sharks and cetaceans are to be managed by regional or international organizations to maintain protection and to encourage the use in the most proper manner. Significantly, marine mammal protection might be adjusted more strictly inside a coastal State's EEZ than put forward by international rules.

1.1.3.3. *Straddling and High Seas Stocks*

UNCLOS also introduces a framework for straddling and high seas stocks. This framework has been detailed in a broader context, in 1995 international Agreement on Straddling Fish Stocks and Highly Migratory Fish Stocks. Yet, issues continue, including the clarification of several and potentially mutually exclusive management goals (e.g., maximize yield and minimize by-catch). Once more, it is requested from regional institutions to handle the difficult mission of operational management. States are urged to enter into present or to found new regional management bodies. Nevertheless, where such institutions are already present, the ground for involving new entrants into decision making and for assigning to them a restricted quota remain uncertain.¹⁶

1.1.4. *Mineral Resources*

Ocean mineral resources, especially offshore oil and natural gas, make a prominent contribution to global supply. Today, nearly 10% of oil and 20% of natural gas production are supplied by offshore deposits at global scale. Hard mineral deposits are much less significant, even if their production is an asset for local economies in some regions. Tin has been produced for decades through dredging high-grade deposits settled in the nearshore waters of Thailand and Indonesia. Diamonds are lucratively recovered off the coast of Namibia at present. Sulfur and salt are mined together with offshore oil production. Sand and gravel and calcium carbonate for utilization as a construction aggregate and

¹⁶ *ibid.*

to prevent beach erosion are dredged in many regions across the globe. Phosphorite deposits and heavy mineral sands constitute other minerals on the continental shelves. Tendency in the exploration of those other minerals remains, however those resources cannot yet be categorized as economic reserves.

Particular sorts of deep ocean mineral deposits are abundant, such as polymetallic nodules, ferro-manganese crusts, and polymetallic sulfides. Much political attempt was enlarged to form in UNCLOS an international legal regime managing the exploitation of these types of minerals. Even if deep ocean resources are assumed to be enormous, the cost of recovery and processing, as well as the potential challenges of operating on the high seas, cannot today or in the near future legitimize their commercial exploitation.

1.1.4.1. *Continental Shelf Minerals*

As the costs of operating in the offshore environment, a significant part of the production of ocean minerals is carried out in shallow, near-shore waters. Deep-water installations, which currently are functional solely for oil and natural gas, such as those in the North Sea, needs very large or high-grade deposits to create adequate scale economies. Where production is carried out inside the territorial sea, the legal regime is well developed, changing a bit from domestic rules onshore. In conclusion, the most prominent legal provisions in the international law of the sea regarding the mineral resources relate to the formation of a regime for the continental shelf.

The production of oil and natural gas from seabed pools started at the beginning of 20th century off the coast of California and in the Gulf of Mexico. However, an international legal regime regulating the utilization of the resources of the continental shelf started to be formed as late as after the end of World War II. In 1945, US President Harry Truman declared a Proclamation that asserts US jurisdiction and sovereignty over the Continental Shelf seabed and the natural

resources of the subsoil. No maritime boundary was defined clearly, even if it was put forward that the shelf could be regarded to extend to a depth of 100 fathoms (183meters). The Truman Proclamation (and its accompanying proclamation related to fishery resources) stimulated several jurisdictional assertions of different geographic and legal contexts in Latin America, the Middle East, and some other parts across the world to come out. In 1958, a Convention on the Continental Shelf came into force, specifying the continental shelf as a zone adjoint to a State's coast, yet exceeding its territorial sea, to a depth of 200 meters. The contiguous coastal State could exercise sovereign rights over the exploration and exploitation of the natural resources of its continental shelf. Significantly, this jurisdiction could be extended 'to where the depth of the superjacent waters admits of the exploitation' of the natural resources.¹⁷ Within this context, jurisdiction could be anticipated to 'creep' with technological progress and in market conditions.

In regard to ocean mineral development, the activity surrounding the legal regime for the deep seabed possibly has attracted attention away from a more prominent component of UNCLOS: the royalty provisions related to the development of the continental shelf. UNCLOS indicates that nonliving resource production taking place on that part of the continental shelf extending beyond 200 nautical miles is subject to financial payments or contributions in kind to the International Seabed Authority, that is to distribute them equitably in between the parties to UNCLOS. Payments start at 1% of the value or size of production in the sixth year of production. The payment rises at 1% per year until it becomes 7% in the 12th year, where it gets stabilized.

¹⁷ *ibid.*

1.1.4.2. *Deep Seabed Minerals*

Economic geologists and mining engineers started to analyze the potential for exploiting the large deposits of polymetallic nodules, appearing on the deep seabed, while the Continental Shelf Convention was being concluded. Polymetallic nodules are consisted of various types of metals, such as iron, manganese, nickel, copper, cobalt. Late economic studies concentrate on nodules primarily as a nickel ore, with cobalt, copper, and, in some cases, manganese to be produced as secondary products. Previous studies, carried out in the late 1950s and early 1960s, claimed that the nodule resource was commercially exploitable, whereas stating that there was no legal structure for granting rights to regions considered to be so distant offshore as to be exceeding national jurisdiction.

In 1967, the Maltese Ambassador to the United Nations, Arvid Pardo, requested for an international agreement to avoid the national ownage of the deep seabed, to maintain the seabed and its resources as a common heritage of humanity, and to allocate any resource rents for the development of poor nations. Even if these essential principles were finally included in UNCLOS, their approval by the international community, in particular by the developed West and the Soviet bloc, was not quick. Yet, by 1970, the administration of US President Richard Nixon suggested a common heritage mining regime for an International Seabed Area, existing beyond the 200m isobath, which formed the ground for the UNCLOS negotiations.

As UNCLOS was handed for signature in 1982, the deep seabed regime had been rendered unusually complicated and limiting to the extent that it has been unbearable to a number of western market-oriented States. The common heritage principle was to be the centerpiece of the postcolonial new international economic system, by which the development of the world's poorer States would be accelerated by the compulsory technology transfer and the commitment of financial payments coming from mineral royalties. This perspective seemed to

be realistic considering the assumptions of global resource limits, for instance those made by groups such as the Club of Rome, short-term upside trends in metal commodity prices. Those States worried about the impacts on their own mineral industries from seabed mine production were satisfied partially by the commitment of production restrictions. The ultimate agreement established a parallel regime of mining. Each pioneer investor (either a State or industrial consortium sponsored by a State) would stake a mining claim and propose an additional claim of equivalent expected value to the International Seabed Authority's Enterprise.¹⁸ The Enterprise would mine the parallel claims utilizing technology transferred to it by the industry.

Despite the fact that the parallel regime was a US suggestion, in 1982 the incoming administration of US President Ronald Reagan would have no concern with the deep seabed mining provisions. The United States, Germany, and Great Britain, all with industrial interests in deep seabed mining, rejected to sign the Convention, suggesting that the nonseabed provisions reflected customary international law. Other developed States with seabed mining interests, such as Japan, France, Canada, The Netherlands, Australia, and the Soviet Union, signed the Convention, however postponed the approval. In accordance with the UNCLOS regime, the alternative regime was established by the West, allowing claims to the deep seabed to be staked and accepted in between the parties to that treaty. The combination of the reciprocating States regime, a sharp decrease in commodity prices in the 1980s, and postponed approvals ended in a treaty in 1994 to revise the deep seabed mining regime. Along with other provisions, the modified UNCLOS deep seabed mining regime abolished production controls and compulsory technology transfers, decreased license fees, and got the claims of miners enlisted within the alternative regime on an equal footing with pioneer investors enlisted within the Convention.

¹⁸ *ibid.*

1.1.5. *Marine Science and Technology*

UNCLOS was the initial treaty to constitute a regime for the operation of marine scientific research in the ocean. The regime authorizes a coastal State to govern the access to maritime zones within its sovereignty for the research of physical features of the ocean and its natural resources. Even if the regime has labelled by a number of people in the scientific community as pointlessly onerous and too arbitrary, and despite frequent issues in getting consent for scientific research, the regime has demonstrated to be feasible. Requesting consent to carry out marine scientific research in the EEZ or on the continental shelf of another coastal State necessitates cautious prior preparation and, often, close collaboration with the scientific community in the coastal State.

The Convention ensures that any State or competent international organization are granted legal right to carry out marine scientific research. This right is conditioned solely on the rights and obligations of other States. Marine scientific research has to be carried out for peaceful objectives, utilizing proper scientific methods, and in such a way so as not to intervene indefensibly with other legal uses of the ocean.

1.1.5.1. *Consent Regime*

Inside its territorial sea, each coastal State has the right to regulate, authorize, or conduct marine scientific research, as a precise exercise of its sovereignty there. Carrying out marine scientific research in the territorial sea of a coastal State necessitates its explicit consent. Inside its EEZ and on its continental shelf, each coastal State has the right to regulate, authorize, or conduct marine scientific research, as a precise exercise of its jurisdiction there. Carrying out marine scientific research in the EEZ or on the continental shelf of a coastal State necessitates its consent. A coastal State might not exercise its judgement to deny consent for research on the continental shelf exceeding 200 nautical miles as long as such research is not intended to conduct in parts which have been

particularly assigned by the coastal State for exploration or exploitation. All States have the right to carry out marine scientific research in the water column beyond a coastal State's EEZ and in the Area.

States requesting consent to carry out marine scientific research have to present comprehensive information related to the offered research project at least six months beforehand. Even if it is free to do so, a coastal State is not bounded by any requirement to give its consent for scientific research in its territorial sea. Reversely, within normal conditions, a coastal State is to give consent for EEZ or continental shelf research, and it has to set up rules so that demands are not postponed or rejected unreasonably. Nevertheless, coastal States are granted significant discretion to deny their consent for EEZ and Continental Shelf research. Specifically, consent can be withheld if a scientific research project is of significance for resource exploration or exploitation, includes drilling or the utilization of explosives or detrimental materials, includes building, managing or utilizing artificial islands; if the demand for consent contains incorrect information related to the essence and goals of the project, or if the demanding State has incomplete duties from a previous research project. In case consent is given, the coastal State has the right to take part or to be represented in the research project and has to be granted access to all data and samples, evaluations of data, initial and final project outcomes. As long as the coastal State does not approach to deny consent within four months of the demand or does not entail supplementary information, or as long as incomplete duties on the side of the demanding State are not present, the consent of the coastal State is considered to have been implied, and the research project can continue without a confirmative grant of consent.

1.1.5.2. *Technology Transfer*

As a component of the new international economic system, language promoting marine technology transfer was included in UNCLOS to speed up the social and economic development of the developing States. Nevertheless, the technology

transfer provisions are mostly hortatory, encouraging international cooperation and proposing options for program development. Significantly, there is no necessity to transfer technology except for on equitable and plausible terms and conditions, respecting the rights and liabilities of holders, suppliers, and beneficiaries of marine technologies.

1.1.6. *Environmental Protection*

UNCLOS was projected, to a certain extent, to function as the uniting framework for international law on marine environmental protection, which it does mainly by specifying the rights and responsibilities of States on this subject. It introduces general objectives and several suggestions for coping with all forms of marine pollution and disruption of environment but no particular pollution-control standards, or necessary actions. To the degree that particular standards and conditions are present, they are indicated in other multilateral treaties which refer to either a specific form or source of pollution or a specific region of ocean space.¹⁹

Along constituting new legal mechanisms providing rules in compliance with the main objectives of UNCLOS, are called upon to collaborate in informing other countries about impending threats of pollution, diminishing the impacts of such pollution and minimizing the harm, developing contingency response projects, initiating research programs, transferring data among each other, setting up proper scientific criteria for pollution-control rules and standards, and applying and besides developing international law concerning responsibility and liability for damage assessment and recompense.

Even if UNCLOS necessitates States take precautions against pollution from any source, it puts specific emphasis on particular types of pollutant substances and sources. States have to take precautions planned to minimize completely as

¹⁹ *ibid.*

possible: (1) the release of toxic, harmful, or noxious substances, especially those which are persistent, from land-based sources, from or through the atmosphere, or by dumping; (2) pollution from vessels; (3) pollution from installations and devices used in exploration or exploitation of the natural resources of the seabed and subsoil; and (4) pollution from other installations and devices operating in the marine environment.²⁰ In between the pollutant sources listed in UNCLOS, only vessel discharges and dumping by ships and aircraft are now subject to comprehensive standards and regulations at the global level.

1.1.6.1. *Vessel Discharges*

The primary document referring to operational discharges by vessels is the 1973 International Convention for the Prevention of Pollution from Ships, as revised further by the 1978 Protocol. Known as MARPOL 73/78, this treaty mechanism contains five annexes including regulations for the prevention of pollution by oil, by noxious liquid substances in bulk, by harmful substances carried at sea in packaged forms or in freight containers, portable tanks, or road and rail wagons, by sewage from ships, and by garbage from ships. The annexes including oil and noxious liquid substances in bulk are obligatory for all of the signatories to the contract, yet the others are optional.

1.1.6.2. *Ocean Dumping*

Pollution by dumping involves the intentional disposal at sea of wastes or other matter from vessels, aircraft, platforms or other man-made structures, besides the intentional disposal of the vessels, aircraft, or structures themselves. Dumping is arranged at the global level within the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, also referred to as the London Convention. The Convention forbids the dumping of

²⁰ UNCLOS (n 5) art 194.

particular dangerous substances and restricts the dumping of other wastes or matter by entailing prior permissions, containing exclusive permissions for some substances in compliance with criteria concerning the essence of the substance, the properties of the dumping area, and the way of disposal. A prominent category of wastes not included in the London Convention are those acquired from the exploration and exploitation of seabed mineral resources.

Within UNCLOS, such wastes remain subject to arrangement by individual States for activities operated in zones within their jurisdiction, whereas wastes deriving from activities in the Area beyond national jurisdiction are subject to arrangement by the International Seabed Authority. UNCLOS also tempers a more fundamental deficiency of the London Convention, the fact that it has merely 78 Contracting Parties corresponding to only 68% of world merchant vessels tonnage. The primary advantages that UNCLOS has provided in this respect are that it clears up the rights of coastal States to forbid dumping in waters within their jurisdiction and entails all of its Contracting Parties to legislate domestic measures which are at least as strict as the provisions of London Convention.²¹

1.1.6.3. *Movement of Hazardous Wastes*

Another global treaty, concerning both vessel-source pollution and dumping, is the 1989 Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (Basel Convention). Within the Basel Convention, transboundary movements of hazardous or other wastes can occur solely upon prior written notice by the exporting State to the States of import and transit, and a detailed movement document has to be carried along each shipment of waste.

²¹ *ibid.*

1.1.6.4. *Land-Based Marine Pollution*

Land-based marine pollution (LBMP), despite the fact that it accounts for presumably 80% of all pollutants entering the sea, is adjusted merely at the national level across most of the world, apart from the six regional seas where multilateral treaties are in effect. Adopting a global agreement on LBMP was the goal of intensive diplomatic attempts from the mid-1980s until 1995, when 109 States adopted rather the nonobligatory Global Programme of Action for the Protection of the Marine Environment Against Land-Based Activities. In between the primary factors deterring adoption of an obligatory global agreement have been the mostly discouraging consequences of the regional treaties and the fact that the causes and effects of LBMP influence mainly regional or minor geographic scopes. The prominent perspectives supporting a global treaty have focused on the pervasiveness and significance of the issue in almost all parts of the world and the inadequacy of developing countries and regions to deal with it effectively when there is no legal instrument that supplies the transfer of related technologies and other types of assistance from the developed world.

1.1.6.5. *Airborne Marine Pollutants*

No multilateral treaties are in effect whose main goal is the adjustment of airborne marine pollutants, however such pollutants are involved under the general extent of some of the regional treaties which refer to a large scale of marine pollution sources. Among these, only the treaties incorporating the Baltic, North-East Atlantic, and Mediterranean contain any particular adjustmental measures. Furthermore, the 1979 Geneva Convention on Long Range Transboundary Air Pollution lays out comprehensive adjustment of emissions of numerous airborne pollutants by participating Northern Hemisphere countries. Even if it does not target marine pollution directly, the Geneva Convention assumably contributes indirect benefits to the marine environment.

1.1.6.6. *Habitat and Ecosystem Protection*

UNCLOS calls for States' pollution-control precautions to contain precautions to protect habitats and ecosystems, yet it does not make a precise call for collaboration in this respect or for ecosystem-based management of marine resources. Therefore, UNCLOS leaves vast marine ecosystems, that generally straddle two or more jurisdictional zones, subject to potentially conflicting management methods and enforcement standards.²² Protection of marine habitats is ensured within two main international agreements – the 1975 Convention on Wetlands of International Importance Especially as Waterfowl Habitat (Ramsar Convention) and the 1992 Convention on Biological Diversity – and within various Regional Seas protocols and other regional treaties. Protection of marine ecosystems is not anywhere near well developed in international law, indisputably mostly because ecosystem science and management are themselves relatively new and undeveloped areas. This situation might also account for what some legal scholars take into account as an incoherent method to ecosystem protection in UNCLOS.

The absence of lucidity as to the venue of authority to enforce ecosystem protections is uncharacteristic of UNCLOS, that otherwise manifests a prominent concern with jurisdictional lucidity in the balance it strikes among the competing interests of international navigation and the environmental protection concerns of coastal States. In general, UNCLOS restricts the authority of States to impose national and international environmental measures where such authority collides with other principles constituted within diverse legal regimes relating to different categories of ocean space. For instance, coastal State authority to enforce national laws is subordinated to the right of innocent passage in the territorial sea; and on the high seas, merely the flag State of an offending vessel has authority to impose international environmental measures, taking into account the principle of freedom of navigation. Due to such provisions, from the

²² *ibid.*

perspective of some environmentalists, UNCLOS does not provide the ground for complete and effective protection of the marine environment, even if its whole agenda of elaborating treaties is eventually completed.

1.1.7. *Dispute Settlement*

Subsequent to the UN Charter, which entails that all States resolve their international discords by peaceful means and without imperiling international security, UNCLOS constitutes an obligatory framework for the peaceful settlement of sea-related discords. The Convention mandates that if States cannot settle their disputes peacefully by themselves, they are to submit them to one of the following international bodies of their preference: (1) the International Tribunal of the Law of the Sea; (2) an arbitral tribunal established in compliance with Annex VII of the Convention; (3) a tribunal constituted in compliance with Annex VIII; or (4) the International Court of Justice.

1.1.7.1. *International Tribunal of the Law of the Sea*

The Tribunal implements the provisions of UNCLOS and other rules of international law in adjudicating discords. Its verdicts are ultimate and have to be conformed to by parties to the discord. The verdicts have obligatory power solely in between the parties and in regard to their specific discord.

The jurisdiction of the Tribunal involves all discords among parties to the Convention and the treaty relating to the application of the deep seabed mining provisions. The Tribunal is called upon to resolve three sorts of assertions: (1) claims that implementation of the International Seabed Authority's rules and procedures are in clash with duties of the parties; (2) claims regarding excess jurisdiction or misuse of power; and (3) claims for damages to be paid for failure to abide by conventional or contractual duties. The Tribunal also has jurisdiction over disputes regarding the Area by the means of a special Seabed Disputes

Chamber and can carry out judicial reviews of the International Seabed Authority.²³ Nevertheless, it cannot substitute its own verdict or measure for that of the Authority or repeal any fundamental rule, adjustment or procedure constituted by it.

In 1999, a discord between Saint Vincent and the Grenadines and Guinea was one of the first to be resolved by the Tribunal. The M/V Saiga, a vessel carrying the flag of Saint Vincent and the Grenadines had been followed and arrested by the Guinean Navy in international waters south of Guinea's EEZ for the reason that illicit bunkering was claimed to have occurred inside Guinea's EEZ. The Tribunal was entrusted with making a judgement on whether Guinea could implement its customs laws in a region beyond its territorial sea. Even if the ship's captain was eventually found guilty on various counts, the Tribunal decided that Guinea's implementation of customs laws in its EEZ was against UNCLOS.

1.1.7.2. *Annex VII Arbitration*

In case parties to a discord do not choose a particular sort of arbitration within Article 287, an arbitral tribunal within Annex VII is automatically established. Arbitral tribunals established within Annex VII are five-member tribunals. Each party designates one member and the rest of the members that are three have to be ratified by both parties and have to be nationals of third-party States. Verdicts are taken by a majority vote of its members.

1.1.7.3. *Annex VIII Arbitration*

Arbitration within Annex VIII requires the formation of four lists of experts from which arbitral tribunals might be set up to hear special cases. Each party to the convention might designate two experts in each of the areas. The lists are later

²³ *ibid.*

formed and preserved by four different international organizations: (1) the Food and Agriculture Organization for Fisheries; (2) the UN Environment Programme for marine environmental protection; (3) the International Maritime Organization for navigation and ocean dumping; and (4) the Intergovernmental Oceanographic Commission for marine scientific research. Five-member tribunals are constituted by these organizations to carry out fact-finding and resolve discords.

1.1.7.4. *International Court of Justice*

The International Court of Justice (ICJ) is an autonomous court for dispute settlement which was constituted within UN Charter and whose authority is recognized by UNCLOS. A number of discords concerning the law of the sea have already been brought before the ICJ. A significant distinction of arbitration within the ICJ is that once States admit the court's jurisdiction, within the Statute of the International Court of Justice, admission of the ultimate decision in any circumstances cannot be taken back once proceedings are underway. Another distinction is that parties cannot choose the members of the court who will be hearing the case. Despite the fact that arbitration before the ICJ are contingent on the willingness of both parties to consent to and to take part in the arbitration, the Court is strong enough to exert influence over parties to a discord who decline arbitration. For instance, in the 1974 Fisheries Jurisdiction case, even though Iceland did not show up before the court, the fact that the case made it to the degree of international arbitration put remarkable force on Reykjavik to act in accordance with applicable rules of international law.²⁴

²⁴ *ibid.*

1.2. *The 1992 United Nations Convention on the Protection and Use of Transboundary Watercourses and International Lakes (UNECE Water Convention)*

The United Nations Convention on the Protection and Use of Transboundary Watercourses and International Lakes was signed in Helsinki on March 17, 1992, and entered into force on October 6, 1996, under Article 26(1). The UNECE Water Convention was only open to the member states of the United Nations Economic Commission for Europe and regional economic integration organizations consisted of the member states. The UNECE Convention has become open to access for all UN Member States by the amendments regulated later on. The amendments came into force on February 6, 2013 and United Nations Member States can join the Convention since March 1, 2016.

The UNECE Water Convention targets promoting cooperation on transboundary water by setting up obligations to protect the ecology of surface water and groundwater. One of the significant points of UNECE Water Convention is the integration of water resource management at the basin level.²⁵ The UNECE Water Convention describes “transboundary impact” as:

“[A]ny significant adverse effect on the environment resulting from a change in the conditions of transboundary waters caused by a human activity, the physical origin of which is situated wholly or in part within an area under the jurisdiction of a Party, within an area under the jurisdiction of another Party. Such effects on the environment include effects on human health and safety, flora, fauna, soil, air, water, climate, landscape and historical monuments or other physical structures or the interaction among these factors; they also include effects on the

²⁵ Maria E. Milanes-Murcia, 'Cannabis And Water Management: International Regulation And The Legal Framework Of The European Union' (2017) 49 The University of the Pacific Law Review.

cultural heritage or socio-economic conditions resulting from alterations to those factors.”²⁶

Under Article 2 of the UNECE Convention, all “[p]arties shall take all appropriate measures to prevent, control and reduce any transboundary impact.”²⁷ The UNECE Convention includes the terms “prevent, reduce and control”²⁸ which are similar to Article 194 (1) of the 1982 United Nations Convention on the Law of the Sea, and the Helsinki Rules. The UNECE Convention aims to provide “ecologically sound and rational water management, conservation of water resources and environmental protection”²⁹, as well as the reasonable and equitable use of water. In order to achieve these targets, the UNECE Convention imposes the precautionary principle, the polluter-pays principle, and the concept of sustainable development in each transboundary basin. The UNECE Convention regulates specific guidelines for developing water-quality objectives and criteria, considering “specific water-quality requirements,” such as “raw water for drinking-water purposes, [and] irrigation.”³⁰

1.3. *The 1997 United Nation Convention on the Law of the Non-Navigational Uses of International Watercourses*

The United Nation Convention on the Law of the Non-Navigational Uses of International Watercourses was signed in New York on May 21, 1997, and came into force on August 17, 2014, under Article 36(1). There are 36 parties to this

²⁶ Convention on the Protection and Use of Transboundary Watercourses and International Lakes (adopted 17-18 March 1992, entered into force 6 October 1996) 1936 UNTS 269 (UNECE Water Convention) art 1.

²⁷ *ibid* art 2(1).

²⁸ *ibid* art 2(2).

²⁹ *ibid*.

³⁰ *ibid* annex III(c).

convention by February 21, 2017. The 1997 Watercourses Convention “applies to uses of international watercourses and of their waters for purposes other than navigation and to measures of protection, preservation, and management related to the uses of those watercourses and their waters.”³¹ The 1997 Convention regulates certain principles of international law: (1) equitable and reasonable utilization and participation, with an essential factor to apply this principle being ecological and natural characters of the area, (2) obligation not to cause significant harm, and (3) general obligation to cooperate. The 1997 Watercourses Convention in Part IV refers to protection, preservation, and management. It is stated that “[w]atercourse States shall, individually and, where appropriate, jointly, protect and preserve the ecosystems of international watercourses.”³² The International Law Commission (ILC) clarified that “in some cases it will be necessary and appropriate that watercourse States cooperate, on an equitable basis, to protect and preserve the ecosystems of international watercourses.”³³ The terminology “ ‘individually or jointly is therefore to be understood as meaning that joint, cooperative action is to be taken where appropriate, and that such action is to be taken on an equitable basis.’ ”³⁴ Article 21 addresses prevention, reduction, and control of pollution. 1994 report of ILC clarified the obligation to prevent, which “relates to new pollution of international watercourses, while the obligations to ‘reduce’ and ‘control’ relate to existing pollution.”³⁵ “[P]ollution of an international watercourse” is described as “any detrimental alteration in the composition or quality of the waters of an international watercourse which results directly or indirectly from

³¹ Convention on the Law of the Non-Navigational Uses of International Watercourses (opened for signature 21 May 1997, entered into force 17 August 2014) 2999 UNTS (UN Watercourses Convention) art 1.

³² *ibid* art 20.

³³ Milanés-Murcia (n 22), citing THE INT’L L. COMM’N, YEARBOOK OF THE INT’L L. COMMISSION 1994, at 119, ¶ 4 (1996).

³⁴ *ibid*.

³⁵ *ibid*.

human conduct.”³⁶ The description of pollution is more general and can apply to any kind of detrimental alterations.

The 1997 Convention applies the concept “significant harm” not only to other watercourse states but also to the environment in case the waters are used for beneficial aims.³⁷ Indeed, the harm is the threshold to restrict the level of pollution. The Convention establishes the obligation to “take steps to harmonize their policies” depending on different type of circumstances.³⁸

Article 21.3 obligates that watercourse states shall approve to provide the following measures and methods

to prevent, reduce[,] and control pollution of an international watercourse:

- a) Setting joint water quality objectives and criteria;
- b) Establishing techniques and practices to address pollution from point and non-point sources;
- c) Establishing a list of substances, the introduction of which into the waters of an international watercourse is to be prohibited, limited, investigated or monitored.³⁹

Article 22 addresses the prevention of alien or new species into an international watercourse, which may have harmful impacts on the ecosystem. The term ‘species’ includes both flora and fauna and ‘alien’ means the species which are non-native, ‘new’ contains species which have been genetically modified or generated by means of biological engineering.⁴⁰ States should take all the

³⁶ UN Watercourses Convention (n 28) art 21(1).

³⁷ *ibid* art 21(2).

³⁸ *ibid*.

³⁹ *ibid* art 21(3).

⁴⁰ Milanes-Murcia (n 22), citing THE INT’L L. COMM’N, YEARBOOK OF THE INT’L L. COMMISSION 1994, at 121, ¶ 2 (1996).

necessary measures to prevent the introduction of alien or new species. Article 23 refers to the important issue of marine environment pollution by establishing a regulation to avoid further damage. “In particular, the obligation not to cause pollution damage to the marine environment from land-based sources is recognized both in the 1982 United Nations Convention on the Law of the Sea and in conventions concerning various regional seas.”⁴¹

1.4. *Human Right to Water*

1.4.1. *Background*

Water is a vital component of life. Social and economic progress is closely associated with water.⁴² Clean water, however, is not accessible for common man in most parts of the world and for a large number of people. More than a billion people in the developing world are in the need of safe drinking water.⁴³ Study has demonstrated that approximately three billion people have no access to sufficient drinking water and sanitation means, that are essential for diminishing exposure to water-related diseases such as typhoid fever, cholera, diarrhea, etc.⁴⁴ Water-related diseases, arising from unsafe drinking water and the lack of convenient sanitation means, are among the main reasons of death in the developing world.⁴⁵ Average water usage varies from 200-300 liters a person a day in most countries in Europe to less than 10 liters in countries such as Mozambique, whereas people that have no access to improved water in

⁴¹ *ibid*, citing THE INT’L L. COMM’N, YEARBOOK OF THE INT’L L. COMMISSION 1994, at 121, ¶ 1 (1996).

⁴² Salman M.A. Salman and Siobhán McInerney-Lankford, *The Human Right to Water : Legal and Policy Dimensions* (World Bank 2004).

⁴³ Nehaluddin Ahmad, ‘Human right to water under international law regime: an overview’ (2020) 0 Commonwealth Law Bulletin.

⁴⁴ Ahmad (n 40).

⁴⁵ Salman and McInerney-Lankford (n 39).

developing countries utilize much less, partly because they have to carry it along long distances and water is heavy. For the 884 million people or so people in the world that live more than one kilometer from a water body, water usage is generally less than 5 liters a day of unsafe water.⁴⁶ It is a fact that lactating women involved in even moderate physical activity should consume 7.5 liters a day. More than 800 million people have no access to safe water each day, and every 20 seconds a child dies due to water-related disease, caused by unavailability of safe water. The number of countries that are experiencing circumstances where water resources are not able to meet even the minimum needs of the people increase dramatically.⁴⁷ Fundamental human needs remain neglected every single day. The crisis attracts less attention than, for example, wars and natural disasters as it is silent. It has turned out to be a fact that this is an insistent crisis.

The global water crisis is not only associated with access to water for household uses, but is multifaceted.⁴⁸ It becomes visible in the shrinking and drying up of major rivers and lakes, the Aral Sea, the Colorado and the Jordan representing some of the most significant examples.⁴⁹ The annoying situation of many water bodies manifest itself in their diminution and also in their contamination. All of 14 major rivers are dramatically contaminated in India. To exemplify, 200 million litres of sewage and 20 million litres of waste are released into the Yamuna in Delhi each and every day.⁵⁰ Either occurrence, shrinking water bodies and water contamination, have an ecological aspect alongside their

⁴⁶ Ahmad (n 40).

⁴⁷ *ibid* 2.

⁴⁸ Inga T. Winkler, *The Human Right To Water Significance, Legal Status And Implications For Water Allocation* (Hart 2012) 1.

⁴⁹ UN Development Programme 'Human Development Report 2006, Beyond scarcity: Power, poverty and the global water crisis' (2006) 141.

⁵⁰ *ibid* 143.

relation with public health and the reduction of water accessible for human usage.⁵¹

Water is a multi-purpose resource which is not only utilized in households, but on much bigger scale in the agricultural and industrial sectors. Therefore, water is also fundamental for food security, economic development and livelihood security.⁵²

Water is fundamental for human life, just like air. It is essential for assuring the well-being and human dignity, indispensable for education and development and a fundamental requirement for the healthy functioning of the environment and ecosystems of all of the world. Thus, a lack has significant impacts on human health and aggravates poverty. Throughout the history, access to water has been a source of continuous conflict led by force of arms, power, and economic imperatives. It is difficult to find any disagreement in regard to these simultaneously trite and profound facts even in political debate. In the modern West, technology and relative abundance of water has mostly blunted public gratitude of the fundamental link between clean water and human life. Water has not been a priority for a long time on the International agenda though less addressed.⁵³ Primary human rights documents such as the Universal Declaration of Human Rights of 1948, hereinafter UDHR⁵⁴, as well as the two covenants of 1966⁵⁵ do not explicitly address the right to water.⁵⁶

⁵¹ *ibid.*

⁵² Winkler (n 40).

⁵³ Ahmad (n 40) 2.

⁵⁴ Universal Declaration on Human Rights, UNGA Res 217 A (III) (10 Dec 1948).

⁵⁵ International Covenant on Civil and Political Rights (adopted 16 December 1966, entered into force 23 March 1976) 999 UNTS 171 (ICCPR) and International Covenant on Economic, Social and Cultural Rights (adopted 16 December 1966, entered into force 3 January 1976) 993 UNTS 3 (ICESCR).

⁵⁶ Ahmad (n 40) 2.

Water, which has been asserted by states and people, has many various meanings, based on the framework. Water can be described according to quality, quantity, affordability, access, location and utilization. Whereas the precise division of each international legal discipline is not easy because of the rise in the number of multidisciplinary research⁵⁷, various international legal regimes either domestically or internationally might be considered, based on what descriptions water researchers choose. Whereas the sea is regulated by the Law of the Sea, surface water and ground water are regulated by the Law of International Watercourses. The sustainable preservation of water quality for future generations is mainly regulated by international environmental law.

People, either individually or collectively, assert their right to water against states or other formations, including multinational corporations, within the human rights legal regime. Traditionally, states claimed rights to non-navigational and navigational utilization of water, including both quality and quantity of water.⁵⁸ The International Law Commission has made attempts to establish legal regimes for the utilization of water by states since the late 1960s.⁵⁹ To elaborate, the International Law Commission finished a project to develop principles for non-navigational uses of international watercourses in 1994; the 6th Committee working group completed drafting articles on the subject in 1997, and then the UN General Assembly adopted the Convention on the Law of Non-Navigational Uses of International Watercourses in May 1997.⁶⁰ This treaty covers non-navigational uses of international water courses, such as surface water and ground water⁶¹, and involves precautions to protect, preserve and

⁵⁷ Human rights, international environmental law, law of the sea, law on international water courses, and international humanitarian law are all inseparably associated with each other.

⁵⁸ UN Watercourses Convention (n 28) art 9 and art 21.

⁵⁹ 'The Helsinki Rules on the Uses of the Waters of International Rivers' in International Law Association Report of the Fifty-Second Conference (Helsinki 1966) (International Law Association, London 1967) 52, 484.

⁶⁰ Convention on the Law of the Non-Navigational Uses of International Watercourses.

⁶¹ The treaty did not expressly cover aquifers.

manage them.⁶² Within this framework, states assert their rights vis-à-vis other states. The treaty highlights the equitable and reasonable usage of an international water-course,⁶³ the obligation not to cause significant harm,⁶⁴ and the obligation for states sharing a particular watercourse to cooperate.⁶⁵

The international environmental law has also referred to the problems regarding water, which highlights the sustainable development of water resources with a particular attention on preserving and improving the quality of water for future generations.⁶⁶ There are various declarations and action plans since 1970s such as the New Delhi Statement,⁶⁷ the Stockholm Declaration, the Rio Declaration,⁶⁸ the Dublin Statement on Water and Sustainable Development ('Dublin Statement'),⁶⁹ and Agenda 21⁷⁰ highlighted the insufficiency of fresh water and environmentally sustainable development of water resources for future generations. The Convention on the Protection and Use of Transboundary Watercourses and International Lakes⁷¹ followed this pattern and systematized the general environmental principles regarding international water. The human right to water was shaped by a narrow public health perspective and prioritized

⁶² UN Watercourses Convention (n 28).

⁶³ *ibid* art 5 and art 6.

⁶⁴ *ibid* art 7.

⁶⁵ *ibid* art 8.

⁶⁶ Ahmad (n 40) 3.

⁶⁷ UNGA 'Global Consultation on Safe Water and Sanitation, New Delhi Statement' UN Doc A/C.2/45/3 (1990).

⁶⁸ UNGA 'United Nations Conference on Environment and Development, Rio Declaration on Environment and Development' Principle 3, UN Doc A/CONF.151/5/Rev.1, 31 I.L.M. 874 (1992).

⁶⁹ International Conference on Water and the Environment, 'The Dublin Statement on Water and Sustainable Development' (31 January 1992). <<http://www.un-documents.net/h2o-dub.htm>> accessed 20 January 2020, Principle 1.26 U.N. Conference on Environment and Development Agenda 21, UN Doc. A/CONF.151

⁷⁰ *ibid*, Dublin Statement on Water Vol. II (1992).

⁷¹ UNECE Water Convention.

for the provision of safe and clean water for drinking, sanitation, hygiene, and other domestic activities.⁷²

1.4.2. *Scope of the Right*

It is important to make clear the term ‘water right’ when considering its actual meaning. Doing so is complex as there is no commonly agreed description. Actually, the concept ‘water right’ is used in various frameworks and various jurisdictions to imply quite different things. This is partially due to the dramatic variations in the conceptions of water and water rights across the world. Water law, and thereby water rights, reveal economic, social and cultural insights of water. Such insights are in turn formed by various elements involving geography, climate and the great variability in the availability of water resources and also the utilizations to which water is assigned. In conclusion, it is important to precisely identify that each country encounters peculiar water problems. What is normal and logical in one country in regard to both the utilization and adjustment of water may seem quite unusual or even unreasonable in another country.

In questioning what water right is, the simplest answer would be given in the following: it is occasionally perceived to be a legal right to extract and utilize a quantity of water from a natural origin such as a river, stream or aquifer. However water rights occasionally exceed the entitlement to only quantity of the basic chemical compound which is water: the flow of the water is also a prominent constituent of a water right. Therefore a water right may be granted a legal right to confiscate or reserve a particular quantity of water in a natural source behind a dam or other hydraulic installation.

This may be as a precursor to extraction or, as in the example of hydropower production, it may be associated with the utilization of water within the water

⁷² Ahmad (n 40) 3-4.

course. This kind of utilization is generally known as a ‘non-consumptive’ utilization. Additionally, many of the other activities involving water and water courses are usually regulated either as part of a water rights regime, or at least in close cooperation with it.⁷³

The right to water includes primarily the right of access to water, which requires the right to access water in the amount and quality adequate to satisfy vital human needs. These needs include drinking, the production of food and sanitation. Accessibility requires the physical dimension, water should be within safe physical range for all segments of the population; the economic dimension, water, and water facilities and services, must be affordable for everyone; and the dimension of non-discriminatory access. Rights frequently considered as associated with the right to water are the rights to seek, receive, and impart information regarding public decisions and policies that have an impact on the right to water; the right to effective review mechanisms, involving judicial review, of such decisions; and the right to remedies for the violation of these rights.⁷⁴

1.4.3. *The Emergence of the Human Right to Water*

The concept ‘human right to water’ has emerged basically in response to the need to access for water. It has important effects in terms of the distribution of resources and potential to play a significant role in addressing this issue. It ensures access to safe and affordable water in adequate quantities without discrimination and it is a binding obligation for States to act upon the lack of access. For this reason, it has a strengthening effect for the people as it gives them a legitimate right for their claims over the relevant policies of States concerning the essential need for water . These claims are indeed a subject of human rights and it can provide efficient and coherent framework to base those claims to improve access to water.

⁷³ Ahmad (n 40) 4.

⁷⁴ Eyal Benvenisti, ‘Water, Right to, International Protection’ [2010] Oxford University Press 1.

It has mostly been controversial to address the human right to water within a proper framework, on the contrary to other human rights as it was not explicitly recognized either in the Universal Declaration of Human Rights (UDHR) or in the International Covenant on Economic, Social and Cultural Rights (Social Covenant/ICESCR).⁷⁵ Many of the scholars have been concerned that proliferation of human rights might cause the danger of undermining the significance of recognized human rights. Alston stated that

“[t]he challenge is to achieve an appropriate balance between, on the one hand, the need to maintain the integrity and credibility of the human rights tradition, and on the other hand, the need to adopt a dynamic approach that fully reflects changing needs and perspectives and responds to the new threats to human dignity and well-being.”⁷⁶

Compared to other issues that were subject to the dispute from a human rights perspective, such as access to information technologies, it may be appropriate to differentiate the need for access to water as it is not much of a concern to changing living standards and circumstances. Water has always been fundamental to life, human health and dignity. However, it has only recently started to be dealt with from a human rights perspective. Considering this cannot be related to changing needs, threats to access to water only now become more apparent or are only now understood. Certain aspects are relevant within that regard: Water is increasingly considered as a scarce resource. Water pollution and its effect on human health have become more and more evident.

When the Social Covenant was drafted in the 1950s and 1960s, water was basically not taken into account as an urgent issue. It was considered as freely available as the air to breathe and its availability was taken for granted by the

⁷⁵ Winkler (n 40) 8-11.

⁷⁶ *ibid*, citing P Alston, ‘Conjuring Up New Human Rights: A Proposal for Quality Control’ (1984) 78 *American Journal of International Law* 607,609.

drafters of the Covenant. Thus, the issue was more likely to be neglected in the phase of drafting the Social Covenant. However, on the other side as the water is essential for human survival, it cannot be separated from the other well-established human rights such as the human right to food. The Committee on Economic, Social and Cultural Rights (CESCR) points out in that regard that '[t]he right to water clearly falls within the category of guarantees essential for securing an adequate standard of living, particularly since it is one of the most fundamental conditions for survival'⁷⁷. Therefore, it would be incorrect to evaluate the consideration of water from the perspective of human rights as undermining the value of human rights and indeed it fills a gap in the human rights framework which has become more apparent than ever in recent years with the increasing awareness of the crisis in the lack of access to water.

Whereas the issue of a human right to water has already been dealt with in some seminal work from the 1990s, it has only recently received increasing attention. The importance of General Comment No 15 of the CESCR from 2002 cannot be neglected since it has paved the way for the discussion of the right to water and triggered its further recognition. Thereafter, many improvements have taken place within the UN context.

The UN High Commissioner for Human Rights presented a report in August 2007 concerning 'scope and content of the relevant human rights obligations related to equitable access to safe drinking water and sanitation under international human rights instruments'. It concluded 'that it is now time to consider access to safe drinking water and sanitation as a human right'⁷⁸. The Human Rights Council established a Special Procedure on human rights, water

⁷⁷ Committee on Economic, Social and Cultural Rights, General Comment No 15, *The right to water* (Arts 11 and 12 of the International Covenant on Economic, Social and Cultural Rights), 20 January 2003, E/C.12/2002/11, para 3.

⁷⁸ Human Rights Council, *Report of the United Nations High Commissioner for Human Rights on the scope and content of the relevant human rights obligations related to equitable access to safe drinking water and sanitation under international human rights instruments*, 16 August 2007, A/HRC/6/3, para 66.

and sanitation in March 2008. Catarina de Albuquerque took up her mandate in November 2008. She contributes to raising awareness of water and sanitation and their perception as human rights through her work.

A milestone took place in 2010 concerning the recognition of the human right to water. The UN General Assembly adopted a resolution on the right to water and sanitation in July 2010 which explicitly ‘[r]ecognises the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights’.⁷⁹ This was approved by the Human Rights Council in September 2010, which stated ‘that the human right to safe drinking water and sanitation is derived from the right to an adequate standard of living and inextricably related to the right to the highest attainable standard of physical and mental health, as well as the right to life and human dignity’⁸⁰. Although these resolutions are a very important political step towards the recognition of the right to water, many questions remain from the legal point of view in regard to the status of the right, i.e. whether it is legally binding and has a basis in international human rights law.⁸¹

1.4.4. *The Right to Water as a Human Right*

The human right to water is not identified precisely in the first generation of human rights instruments, namely the Universal Declaration of Human Rights (1948) (‘UDHR’)⁸² and the two International Covenants of 1966⁸³, the International Covenant on Civil and Political Rights (1966) (‘ICCPR’) and the International Covenant on Economic, Social and Cultural Rights (1966)

⁷⁹ General Assembly, *The human right to water and sanitation*, 3 August 2010, A/Res/64/292, para 1.

⁸⁰ Human Rights Council, *Human rights and access to safe drinking water and sanitation*, 6 October 2010, A/HRC/Res/15/9, para 3.

⁸¹ Winkler (n 40) 8-11.

⁸² UDHR (n 51).

⁸³ ICCPR and ICESCR (n 52).

(‘ICESCR’). It was probably escalating water stress and possibly its particular effect on women and children which resulted in the precise attribute to the right to water in the 1979 Convention on the Elimination of All Forms of Discrimination against Women, Art. 14 (2) of which sets out that:

“States Parties shall take all appropriate measures to eliminate discrimination against women in rural areas in order to ensure, on a basis of equality of men and women, that they participate in and benefit from rural development and, in particular, shall ensure to such women the right:... (h) To enjoy adequate living conditions, particularly in relation to...sanitation...and water supply...”⁸⁴

The same may apply to the 1989 Convention on the Rights of the Child, whose Art. 24 requires States Parties to ‘recognize the right of the child to the enjoyment of the highest attainable standard of health’⁸⁵, and to:

“pursue full implementation of this right and, in particular, shall take appropriate measures:...(c) To combat disease and malnutrition, including within the framework of primary health care, through, inter alia...the provision of adequate nutritious foods and clean drinking-water, taking into consideration the dangers and risks of environmental pollution...”⁸⁶

It is prominent that these attributes emphasize States Parties’ water-related obligations as stemmed from their more general obligations to provide equality for women and health to children. A similar inference has been done for those human rights instruments which do not refer to the right to water precisely.⁸⁷ It

⁸⁴ Convention on the Elimination of All Forms of Discrimination against Women (opened for signature 1 March 1980, entered into force 3 September 1981) 1249 UNTS 13 art 14(2).

⁸⁵ Convention on the Rights of the Child (adopted 20 November 1989, entered into force 2 September 1990) 1577 UNTS 3 art 24(1).

⁸⁶ *ibid* art 24(2).

⁸⁷ Benvenisti (n 71) 3.

has been stated that the right to water is stemmed from the right to life, set out in Art. 6 ICCPR⁸⁸, and the right to adequate standard of living, involving adequate food, expressed in Art. 25 UDHR⁸⁹ and set out in Art. 11 ICESCR.⁹⁰ The Human Rights Committee ('HRC') did not refer to the right to water in its general comments, however it did demonstrate its desire to consider the right to life in a non-restrictive way, and highlighted that safeguarding this right necessitates that States adopt positive measures. In this regard, the HRC 'considered that it would be desirable for States parties to take all possible measures to reduce infant mortality and to increase life expectancy, especially in adopting measures to eliminate malnutrition and epidemics'.⁹¹ The Committee on Economic, Social and Cultural Rights (CESCR) has elaborated on the right to water in a number of general comments, the most recent and the most comprehensive of them being General Comment No 15 of 2002 (on the Right to Water).⁹² The CESCR, in this Comment, takes into account the right to water as falling 'within the category of guarantees essential for securing an adequate standard of living, particularly since it is one of the most fundamental conditions for survival', and is also 'inextricably related' to the right to the highest attainable standard of health and the rights to adequate housing and adequate food.⁹³ As it states in this Comment, this CESCR has persistently referred to the right to water throughout its consideration of States Parties' reports.

⁸⁸ ICCPR (n 52) art 6.

⁸⁹ UDHR (n 51) art 25.

⁹⁰ ICESCR (n 52) art 11.

⁹¹ Human Rights Committee, 'General Comment 6, Article 6' (Sixteenth session, 1982) in 'Compilation of General Comments and General Recommendations Adopted by Human Rights Treaty Bodies' (1994), U.N. Doc. HRI/GEN/1/Rev.1 at 6, para 6.

⁹² Committee on Economic, Social and Cultural Rights, 'General Comment 15, The right to water' (Twenty-ninth session, 2003), U.N. Doc. E/C.12/2002/11 (2002), reprinted in 'Compilation of General Comments and General Recommendations Adopted by Human Rights Treaty Bodies' (2003), U.N. Doc. HRI/GEN/1/Rev.6 at 105.

⁹³ *ibid* para 3.

The UN Human Rights Council (United Nations Commission on Human Rights/United Nations Human Rights Council) adopted Resolution 7/22 on Human Rights and Access to Safe Drinking Water and Sanitation in March 2008, inter alia ‘[e]mphasizing that international human rights law instruments, including the Covenant on Economic, Social and Cultural Rights, the International Convention on the Elimination of All Forms of Discrimination against Women and the Convention on the Rights of the Child entail obligations in relation to access to safe drinking water and sanitation’.⁹⁴ Through this resolution, the Council designated an independent expert on human rights duties in regard to access to safe drinking water and sanitation, who is to identify, encourage, and exchange perspectives on best applications in regard to access to safe drinking water, and, within this framework, to prepare a report, summarizing the best applications. It was expected from the expert to realize further clarifications of the context of human rights obligations, involving non-discrimination obligations, relating to access to safe drinking water and sanitation. The report of the expert of 1 July 2009 concentrated on the human rights obligations regarding sanitation. After evaluating the indivisible connections among the access to sanitation and a number of human rights, the independent expert Catarina de Albuquerque advised that the access to sanitation be recognized as an independent human right instead of being stemmed from other human rights.⁹⁵

The Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes concentrates in Art. 1 on the States Parties’ obligation to:

“promote at all appropriate levels, nationally as well as in transboundary and international contexts, the protection of human health and well-being, both

⁹⁴ Human Rights Council Res 7/22 (2008) UN Doc A/HRC/RES/7/22.

⁹⁵ Human Rights Council ‘Report of the Independent Expert on the Issue of Human Rights Obligations Related to Access to Safe Drinking Water and Sanitation’ (2009) UN Doc A/HRC/12/24.

individual and collective, within a framework of sustainable development, through improving water management, including the protection of water ecosystems, and through preventing, controlling and reducing water-related disease.”⁹⁶

Art. 5 (1) Protocol on Water and Health sets out that: “Equitable access to water, adequate in terms both of quantity and of quality, should be provided for all members of the population, especially those who suffer a disadvantage or social exclusion.”⁹⁷

The right to access clean water has been recognized by national courts as required in the right to life or the right to health environment prescribed in the national constitutions or stemmed from international legal mechanisms. This right has been recognized in different frameworks: in the framework of analyzing development plans, in analyzing water management policies, and in adjudicating discords between industry and consumers.⁹⁸

1.5. *Watershed Management: Integrated Water Resource Management*

Many of the scholars and lawmakers have spared their time to solve the issues derived from the complexities of water management throughout the long period of time. Experts in water management, including engineers and legal authorities from several countries came together at the International Conference on Water and the Environment in Dublin to form a unified theory of water management in 1992.⁹⁹ Considering various factors, such as the increasing scarcity of water,

⁹⁶ The Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes (adopted 17 June 1999, entered into force 4 August 2005) 2331 UNTS 202 art 1.

⁹⁷ *ibid* art 5(1).

⁹⁸ Benvenisti (n 71) 6.

⁹⁹ Anthony Perko, ‘Watershed Management: A Comparison Between Efforts in the United States and the European Union’ (2013) 16(1) U Denv Water L Rev, 166, 169.

certain social circumstances involved, and long-term solutions, the Conference promoted “a process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems.”¹⁰⁰ The Conference put forward the four “Dublin Principles” that constitute the essential tenets of Integrated Water Resource Management (IWRM):¹⁰¹

- I. Fresh water is a finite and vulnerable resource, essential to sustain life, development and the environment;
- II. Water development and management should be based on a participatory approach, involving users, planners and policymakers at all levels;
- III. Women play a central part in the provision, management and safeguarding of water; and
- IV. Water has an economic value in all its competing uses and should be recognized as an economic good.¹⁰²

IWRM urges water management within the framework of watershed or basin boundaries, not artificial political or administrative divisions, according to the Conference’s design.¹⁰³ This approach is opposed to the existing legal structures of many nations in which the laws governing a river’s administration vary as it

¹⁰⁰ *ibid* 169, citing Anil Agarwal et. al., Global Water P’ship, Tac Background Paper No. 4 at 22 (2000), available at http://www.gwp.org/Global/GWP-CACENA_Files/en/pdf/tec04.pdf [hereinafter Global Water P’ship].

¹⁰¹ *ibid* 169, citing Patrick Moriarty et. al., Integrated Water Resources Management: Thematic Overview Paper 4 (2004) (“[IWRM’s] conceptual backbone is provided by a set of four core principles, agreed upon by the Dublin Ministerial Conference.”).

¹⁰² *ibid* 170, citing Anil Agarwal et. al., Global Water P’ship, Tac Background Paper No. 4 at 13-14 (2000), available at http://www.gwp.org/Global/GWP-CACENA_Files/en/pdf/tec04.pdf [hereinafter Global Water P’ship].

¹⁰³ *ibid* 170, citing Anil Agarwal et. al., Global Water P’ship, Tac Background Paper No. 4 at 24-26 (2000), available at http://www.gwp.org/Global/GWP-CACENA_Files/en/pdf/tec04.pdf [hereinafter Global Water P’ship].

flows through multiple jurisdictions.¹⁰⁴ For instance, in United States the Missouri River separates Nebraska and Iowa.¹⁰⁵ However, legislations of the two states do not have much in common regarding the water's legal status: Nebraska's Constitution adopts the doctrine of prior appropriation¹⁰⁶, whereas Iowa embraces riparian water law.¹⁰⁷ Therefore, the states have to consider the differences in the legal structures although all parties are located in the Missouri Basin, when they work together on a water project, such as the Lewis and Clarke Regional Water System.¹⁰⁸ On the contrary, IWRM ensures that waters of a flowing stream, as well as its hydrologically connected groundwater, must be managed through their geographic route, regardless of whether they cut across existing political boundaries.¹⁰⁹ Because "existing administrative divisions and regulatory conditions might discourage the [integrated] management of water," watershed management helps diminish jurisdictional challenges among the authorities who would not otherwise work together.¹¹⁰ This applies on the international level as well, in which different states might work together by aiming integrated watershed management, regardless of national boundaries.¹¹¹

¹⁰⁴ *ibid* 170, citing Christine A. Klein, The Constitutional Mythology of Western Water Law, 14 Va. Env'tl. L. J. 343, 345-48 (1995) (providing a brief description of different states' contrasting water law systems).

¹⁰⁵ *ibid* 170, citing Trudy A. Suchan et. al., U.S. Census Bureau, Census Atlas of the United States 259 (2007), available at http://www.census.gov/population/www/cen2000/censusatlas/pdf/15_Reference-Maps.pdf.

¹⁰⁶ *ibid* 170, citing Neb. Const. art. XV, § 6.

¹⁰⁷ *ibid* 170, citing Kundel Farms v. Vir-Jo Farms, Inc. 467 N.W.2d291, 294 (Iowa Ct. App. 1991).

¹⁰⁸ *ibid* 170, citing Lewis & Clark Regional Water System, <http://www.lcrws.org/index.php> (last visited Nov. 14, 2012).

¹⁰⁹ *ibid* 170, citing Anil Agarwal et. al., Global Water P'ship, Tac Background Paper No. 4 at 47 (2000), available at http://www.gwp.org/Global/GWP-CACENA_Files/en/pdf/tec04.pdf [hereinafter Global Water P'ship].

¹¹⁰ *ibid* 170, citing Anil Agarwal et. al., Global Water P'ship, Tac Background Paper No. 4 at 47 (2000), available at http://www.gwp.org/Global/GWP-CACENA_Files/en/pdf/tec04.pdf [hereinafter Global Water P'ship].

¹¹¹ *ibid* 170, citing Anil Agarwal et. al., Global Water P'ship, Tac Background Paper No. 4 at 48-49 (2000), available at http://www.gwp.org/Global/GWP-CACENA_Files/en/pdf/tec04.pdf [hereinafter Global Water P'ship].

Political theorists Liesbet Hooghe and Gary Marks put forward two governmental structures of political control.¹¹² Administrative entities are represented as either “Type I” or “Type II” government structures.¹¹³ Type I government structures are constituency-based, multifunction bodies, such as cities and states.¹¹⁴ This can be exemplified from United States as they utilize this type of model, in which governing authorities within a specific geographic unit manage all administrative and regulatory functions in that region.¹¹⁵ Type II government structures are described according to their function, such that their boundaries contain as many constituencies as necessary to regulate the relevant subject over which they maintain control, instead of being restricted to a single geographic region.¹¹⁶ IWRM foresees water management bodies as Type II government structures.¹¹⁷ These bodies would manage all of the functions related to water within a specific geographic region, regardless of what state or other jurisdiction might rule across its boundaries.¹¹⁸

¹¹² *ibid* 170, citing Liesbet Hooghe & Gary Marks, *Unraveling the Central State, but How? Types of Multi-Level Governance*, 97 AM. POL. SCI. REV. 233, 233-43 (2003).

¹¹³ *ibid* 170, citing Edella Schlager & William Blomquist, *Embracing Watershed Politics* 21 (2008).

¹¹⁴ *ibid* 170, citing Edella Schlager & William Blomquist, *Embracing Watershed Politics* 21 (2008).

¹¹⁵ *ibid* 170, citing Liesbet Hooghe & Gary Marks, *Unraveling the Central State, but How? Types of Multi-Level Governance*, 97 AM. POL. SCI. REV. 233, at 233 (2003) (detailing how the organization of public transit in the San Francisco Bay Area is divided between seven different municipalities; this is in contrast to a Type-II structure that would cut across jurisdictional lines to provide the single service of public transportation for the entire area).

¹¹⁶ *ibid* 171, citing Edella Schlager & William Blomquist, *Embracing Watershed Politics* 21 (2008).

¹¹⁷ *ibid* 171, citing Anil Agarwal et. al., *Global Water P’ship*, Tac Background Paper No. 4 at 44-50 (2000), available at http://www.gwp.org/Global/GWP-CACENA_Files/en/pdf/tec04.pdf [hereinafter *Global Water P’ship*].

¹¹⁸ *ibid* 171, citing Anil Agarwal et. al., *Global Water P’ship*, Tac Background Paper No. 4 at 44-50 (2000), available at http://www.gwp.org/Global/GWP-CACENA_Files/en/pdf/tec04.pdf [hereinafter *Global Water P’ship*].

Constituting a Type II entity to manage a watershed has the benefit of simplifying issues that derive from separate agencies and jurisdictions.¹¹⁹ It might also lead to fairer distribution and more effective use of water resources, compared to the practice of Type I government structures.¹²⁰ For instance, the respective Type I systems in Texas and Oklahoma enable two landowners, which are the one in Texas and the other one in Oklahoma, to pursue their respective laws, however still end up in unjust result. The common law *cujus doctrine*¹²¹ links mineral rights and the right to use groundwater to landownership in Texas.¹²² For example, a Texan farmer could draw groundwater linked to a stream with no limit as long as the land above the groundwater belongs to the ownership of the farmer.¹²³ As the nature of groundwater is “fugitive”, such drawing might lower the water table.¹²⁴ In return, this action might render groundwater unattainable to a farmer through the border in Oklahoma, who has to apply for well permits restricting the farmer to a specified amount of water per year.¹²⁵ As an alternative, if the states adjusted groundwater on a river basin

¹¹⁹ *ibid* 171, citing Anil Agarwal et. al., Global Water P’ship, Tac Background Paper No. 4 at 47 (2000), available at http://www.gwp.org/Global/GWP-CACENA_Files/en/pdf/tec04.pdf [hereinafter Global Water P’ship].

¹²⁰ *ibid* 171, citing Anil Agarwal et. al., Global Water P’ship, Tac Background Paper No. 4 at 47-50 (2000), available at http://www.gwp.org/Global/GWP-CACENA_Files/en/pdf/tec04.pdf [hereinafter Global Water P’ship].

¹²¹ *ibid* 171, citing “Cujus est solum, ejus est usque ad coelum et ad inferos”; this Latin phrase translates as “To whomsoever the soil belongs, he owns also to the sky and to the depths.” See *Bd. of Cnty. Comm’rs of Cnty. of Park v. Park Cnty. Sportsmen’s Ranch, L.L.C.* 45 P.3d 693, 700-01 (2002).

¹²² *ibid* 171, citing *Sipriano v. Great Spring Waters of Am., Inc.*, 1 S.W.3d 75, 76-80 (Tex. 1999) (affirming the *cujus doctrine*, while noting that groundwater regulation was being considered by the legislature).

¹²³ *ibid* 171, citing *Sipriano v. Great Spring Waters of Am., Inc.*, 1 S.W.3d 75, 76-80 (Tex. 1999) (affirming the *cujus doctrine*, while noting that groundwater regulation was being considered by the legislature).

¹²⁴ *ibid* 171, citing Daniel L. Brendle, U.S. Geological Survey, Evaluation of Possible Alternatives to Lower the High Water Table of St. Charles Mesa, Pueblo County, Colorado 8-10 (2002), available at <http://pubs.usgs.gov/wri/wri014190/pdf/wrir01-4190.pdf>.

¹²⁵ *ibid* 171, citing Okla. Stat. tit. 82, § 1020.2, 1020.7 (2012).

level, the same laws would apply to both farmers, preventing a potentially unfair outcome.

On the contrary, Colorado divides its water management into seven water parts based on the state's seven major river basins.¹²⁶ In each part, a water court listens to all disagreements within that basin.¹²⁷ Thus, if the two farmers in the example above lived in the same basin in Colorado, the water court for that basin would adjudge their respective rights, and they would acquire equal treatment concerning who should acquire well permits.¹²⁸ However, the Colorado water parts cannot be taken into account as correct representation of Type II entities within the framework of Hooghe and Marks' theory. For instance, the water courts of Colorado can only listen to water matters which legislation describes.¹²⁹ Furthermore, water matters regarding pollution discharges and dam construction still require federal surveillance in addition to the water courts' jurisdiction.¹³⁰ Additionally the water parts, though aligned across river basins in the spirit of IWRM, do not have the authority beyond the boundaries of Colorado, therefore leaving parts of some river basins under the jurisdiction of other states.¹³¹ Even so, the Colorado water divisions serve as a model of a nascent Type II water management structure within the United States, because river basins to a certain extent describe the water divisions' authority and the divisions have control over many water matters within their boundaries.

¹²⁶ *ibid* 171, citing Colo. Rev. Stat. § 37-92-201 (2012).

¹²⁷ *ibid* 171, citing Colo. Rev. Stat. § 37-92-203 (2012).

¹²⁸ *ibid* 172, [Provided that the farmers' groundwater is hydrologically connected in the same river basin (and thus the same water division) as in the manner discussed in the Texas-Oklahoma example. The situation becomes more complicated for groundwater that does not align with river basins, which is a matter beyond the scope of this example.]

¹²⁹ *ibid* 172, citing Colo Rev. Stat. § 37-92-203(1) (2012).

¹³⁰ *ibid* 172, citing 16 U.S.C. § 797(e) (2012).

¹³¹ *ibid* 172, citing Colo Rev. Stat. § 37-92-201 (2012) (the jurisdiction of the water courts is expressly limited to "lands in the state of Colorado").

As a matter of fact, the concept of basin-wide management does not provide a solution in every case concerning the use of water. Transbasin water diversions and other complexities constitute challenges in determining which body holds the authority over a dispute's subject matter.¹³² Although existing Type I government units approved to use watersheds as the essential administrative unit, they still have to determine to what extent they would describe each watershed.¹³³ As a matter of geologic fact, most of the rivers are tributaries of other rivers.¹³⁴ For example, administration could be based only through Cherry Creek which flows along Denver or it could be absorbed into a larger South Platte River district.¹³⁵ Similarly, states which share a river with Colorado might demand to ground administration through the larger Missouri River Basin to better refer to their downstream needs.¹³⁶ Supposably, the challenge in determining the scale of water administration will bring some localized concerns into dispute with larger regional concerns, based on the priorities of the various parties involved. This dispute may ruin the objective of constituting Type II watershed zones, and may cause issues alike those within existing administrative divisions. Even so, supporters of IWRM principles believe that they are an

¹³² *ibid* 172, citing Barbara Cosens, *Resolving Conflict in Non-Ideal, Complex Systems: Solutions for the Law Science Breakdown in Environmental and Natural Resources Law*, 48 NAT. RES. J. 257, 259-65 (2008) (discussing "the complexity of the intersection between human and natural systems in legal disputes involving natural resources").

¹³³ *ibid* 172, citing Edella Schlager & William Blomquist, *Embracing Watershed Politics* at 24 (2008).

¹³⁴ *ibid* 172, citing Xiaodong Jian et al., U.S. Geological Survey, *Streamflow Of 2007— Water Year Summary 3* (2008), available at <http://pubs.usgs.gov/fs/2008/3042/FS-2008-3042.pdf>.

¹³⁵ *ibid* 172, citing (Colorado's water districts discussed above have "drawn the line" along seven major river basins: the South Platte, Arkansas, Rio Grande, Gunnison, Colorado, White/ Yampa, and San Juan.) Colo. Rev. Stat. § 37-92-201 (2012).

¹³⁶ *ibid* 172, citing John H. Davidson, *Adapting to Climate Change: Transbasin Water Diversions and an Example from the Missouri River Valley*, 11 Vt. J. Env'tl. L. 757, 760 (2010) ("The Missouri River Basin encompasses ten states, several Canadian provinces, twenty-five Indian tribes, and nearly the full range of human land uses.").

advancement over existing legal structures, and that their practice is an objective that governments should work toward.¹³⁷



¹³⁷ *ibid* 173, citing Anil Agarwal et. al., Global Water P'ship, Tac Background Paper No. 4 at 47-50 (2000), available at http://www.gwp.org/Global/GWP-CACENA_Files/en/pdf/tec04.pdf [hereinafter Global Water P'ship].

CHAPTER 2

2. WATER MANAGEMENT POLICY FROM THE PERSPECTIVE OF EUROPEAN UNION LAW

2.1. EU Legal Order

Since the earliest period of EC environmental legislations, precautions regarding water contamination and water quality have been a primary concern. This tendency has been preserved via following waves of environmental legislation thereby the water industry is currently the most wholly supplied from between those regarding the three environmental means of water, air and earth. A result of this advanced, expensive and at the moment comparatively comprehensive development, is that water regulation has functioned as a testing field for policy principles and legislative attempts that have been implemented to other fields of environmental affairs. Also, the requirement for water-specific regulation still exists in spite of the increasing tendency for a more incorporated attitude to supervision of contamination. The evident physical reality is that water is different from air or earth, and efforts to absorb legislative perspectives to environmental quality should acknowledge the exclusive features of the aquatic environment and the distinct legislative provision that this necessitates. Thus, inevitably, water legislation will continue to be a priority in the framework of Community environmental law for the foreseeable future.

Due to its comparatively premature progress, the legal protection of the aquatic environment has constituted the setting where a number of essential problems in Community environmental policy and law have initially emerged and been discussed. Mainly, these are formulations of the essential question for all environmental lawyers: what is the aim of environmental law? At Community level, the general, but vague, reply appears to be to safeguard the environment and, sometimes, the ecosystems which are contingent upon it. Nevertheless, the

obscurities of this reply are intense. Even assuming that the physical limits of the 'environment' are able of specification, the question regarding why it must be safeguarded appears to allow strongly various responses. Anthropocentricists assume that safeguarding is required to protect human wellbeing, the quality of life or the actualization of aesthetic goals.¹³⁸ Ecocentricists discuss that the aim is to safeguard species, ecosystems or habitats, and that these must prevail over the human matters. Whereas these separate standings bring about varying policy and legislative prime concerns, the fundamental cause for safeguarding the environment is still unspecified at Community level. Therefore, it is not rare to encounter the aim of certain environmental legislation comprehensively expressed to involve the largest possible set of justifications, however with no manifestation regarding how inconsistencies among varying justifications are to be harmonized.

Whereas the principal logic for Community environmental policy and legislation is, possibly intentionally, kept equivocal, the essence of the 'safeguarding' which is looked for leads to evenly troublesome accumulation of strategic value judgments. Not least troublesome is the indecisiveness among efforts to adjust actions that are harmful to the environment, on the one side, and to preserve tolerable levels of environmental effect, on the other, that is to be encountered in varying environmental legislation, and quite often united within the same part of legislation. Many instances of 'negatively' designed precautions requiring the types of action that are to be the concern of limitation or ban, such as the hindrance of polluting emissions or actions are present. Other, 'positively' designed precautions are established upon the goals which must be looked for the quality of the environment, or standards that are to be effected for some part of the environment. Therefore, an important and repeating problem is whether a principally negative (emission or activity limitation-enforcing) attitude or

¹³⁸ William Howarth 'Accommodation without Resolution? Emission Controls and Environmental Quality Objectives in the Proposed EC Water Framework Directive' (1999) 1 Environmental Law Review 6, 6-7.

positive (environmental goal-necessitating) attitude serves as the most convenient strategy for environmental protection in a certain framework.

These opposing strategies for supervision of pollution and environmental protection have been well clarified in Community water legislation in which a plurality of attitudes has been pursued in consecutive regulations. Whereas certain Directives have abandoned among environmental strategies, a considerably different stress might be observed among those precautions which intend to preserve environmental quality standards. Whereas it is obvious that the Community is challenged by a strategic quandary in determining whether, or when, a negative or positive legislative attitude is required, any effort to offer a precise settlement of the quandary has been scrupulously avoided, choosing ‘hedged bet’ attitude that has developed throughout a several years.¹³⁹

2.2. *EU Water Framework Directive*

2.2.1. *Background*

The European Union is neither a conventional international organization nor a federal state but a supranational organization consisted of 27 member states with exclusive implications for its organization and unified legal structure. Environmental regulation is an area of common competency among member states and the European Union, which implies that the member states share sovereignty with the European Union over water law and policy. The European Union has the authorization to adopt obligatory legislation for all member states and the authorization to join in international agreements, whereas the member states keep ultimate sovereignty because the European Union cannot take action exceeding the power assigned to it by the member states.

¹³⁹ *ibid* 7-8.

Within the framework of EU Treaty, the European Union regulates solely what is absolutely necessary in regard to international matters, such as the formation of markets among member states and transboundary environmental protection. The preference to establish scaled-up environmental adjustments through EU legislation instead of leaving water management to the judgement of member states is depended upon the subsidiarity and proportionality principles. These principles indicate that the European Union may only act if and to the extent that the goals of the suggested action cannot be adequately met at national level, and thus the problem is better handled at supranational level. This legal structure of *acquis communautaire*, the EU body of law, tries to realize regulatory harmony among member states via mandatory adoption of EU rules and has been formulated as a more passive type of reterritorialization than outright border delineation.

The favored legal mechanism in water policy is the directive, as in the other environmental policies. Directives should be applied in the national legal structures of member states in a way that ensures the goals of the legislation are wholly obtained, whereas the preference of the instruments to fulfil them belongs to member states on a large scale. In regard to panarchy, the directive rescales management across hydrologic boundaries, i.e., watersheds. Rescaling brings about the hybrid type of jurisdictional power: supranational goals, i.e., directives, implemented by means of state policies, i.e., state legislation.¹⁴⁰ Unified decision making at the supranational level is likely to distress national borders, as some have labelled “postsovereign environmental governance”, whereas rather concentrated on natural boundaries.¹⁴¹ Nevertheless, by legislation member states are obliged to carry out transposition of the directive in their own legal structure and for its implementation and enforcement,

¹⁴⁰ Olivia O. Green, Ahjond S. Garmestani, Helena F. M. W. van Rijswijk and Andrea M. Keessen, ‘EU Water Governance: Striking the Right Balance between Regulatory Flexibility and Enforcement?’ (2013) 18 *Ecology and Society*.

¹⁴¹ Bradley C. Karkkainen, ‘Post-Sovereign Environmental Governance’ [2004] The MIT Press 72.

therefore authorizing states to lay down the details of how to accomplish the objectives of the directive.

The European Commission monitors state performances because the member states are accountable to the commission for compliance with EU regulatory obligations. The commission takes preventative action through, for instance, launching performance score boards and supervisory documents and takes enforcement action through getting member states before the European Court of Justice to encounter economic sanctions for noncompliance. Due to the intrinsic elasticity provided in directive application from state to state, surveillance results in problems, and enforcement lags. Inadequate or unwilling application may evade enforcement action due to the subjectivity intrinsic in the determination, contrary to enforcement actions for nontransposition of EU law into national law, that is impartially decided, i.e., law is either transposed or not. The burden of proof are under the responsibility of the Commission, however the Commission has restricted capability for overseeing the application and fulfilment of EU law, based largely on accusations and national implementation reports. As a result, there are significant variations among member states to the degree of which they abide by EU environmental obligations.

The initial EU water legislation solely included standards for water bodies utilized as drinking water sources. After five years, in 1980, EU water legislation enlarged to contain obligatory quality standards for the protection of drinking water, fisheries, shellfish beds, bathing waters, and groundwater. Additionally, directives were established to diminish water contamination from municipal, industrial and agricultural sources by adjusting emission, i.e., wastewater, standards for discharges. This industry-specific attitude was renounced in 2000 in favor of an integrated, river basin-specific attitude which would be better able to cope with regional differences and unpredictability and transforming environmental, economic, and societal requirements. Accordingly, European

Water Framework Directive (2000/60/EC) was enacted on 22 December 2000.¹⁴²

The Water Framework Directive (WFD) signified a new beginning by constituting river basin management, enlarging the extent of water protection to all water bodies, encouraging sustainable utilization of water, tentatively connecting water management with other policies, permitting regional and multilevel goal setting, enlarging public participation, launching ecological standards, and making adaptation to climate change easier.¹⁴³ This comprehensive component of legislation intends to bring in line existing European water policy, to improve water quality along all of Europe's aquatic environments and to defeat contradictions in the prior fragmentary attitude. Scholars have stated that it signifies the most prominent initiative in water resource management to be launched on an international level for many years.

The initial proposal for a WFD was submitted in 1997. After short period of time, however, the Council of Ministers and European Parliament returned it to the drawing board depending on that scientific and technical context of the proposal has been inadequate. The redrafting could take place throughout short period of time, corresponding to two six-month presidencies for political convenience. The WFD necessitates EU Member States to seek for accomplishing good quality and ecological status for most of their waters (surface, groundwater, transitional and coastal) as of the year 2015 by the means of combination of approaches such as Integrated River Basin Management, River Basin Management Plans, Programmes of Measures, compulsory consultation and a combined approach to water quality, water quantity, cost recovery and monitoring.¹⁴⁴ Article 4 of the Directive establishes the

¹⁴² European Water Framework Directive (n 2).

¹⁴³ Green, Garmestani, Rijswick and Keessen (n 135) 3.

¹⁴⁴ Emilie Lagacé, John Holmes and Rachael McDonnell, 'Science-Policy Guidelines as a Benchmark: Making the European Water Framework Directive' [2008] Area 421, 423.

environmental goals with separate objectives and standards for surface waters and groundwater.¹⁴⁵ Surface waters should acquire good chemical and ecological status by 2015; whereas groundwater must be in a good chemical and quantitative status at that time. Chemical objectives are determined at the EU level for the most dangerous substances and at the national level for less dangerous substances. Ecological objectives are set at the sub-basin level. The scientific and technical annexes of the Directive (Annexes II and V) present a range of work guidelines and normative descriptions for evaluation, however leave the descriptions of practical goals, instructions and measures to succeeding daughter directives and expert committees. Clearly, the accomplishment of such an open-ended approach stems mostly from political commitment and hard scientific work.¹⁴⁶

The Directive is characterized by its cyclical planning process, depended on a programmatic method to protect and improve the status of river basins. The consequences of the evaluation of the physical status and human effects on a water system are component of the river basin management plans which have to be analyzed and updated every six years. Later, a program of measures must be presented to deal with the reasons of not accomplishing good status of waters. This program of measures depends on a unified method for point and diffuse sources and unites environmental quality standards with wastewater control measures. It incorporates the obligatory measures from other EU water legislation, such as discharge controls depending on best available technologies, wastewater restriction values, and in the case of diffuse effects, best environmental management applications. Member states may enlarge their program of measures by adding voluntary measures such as education, market-oriented tools, covenants, and different other practical measures, e.g., desalination.¹⁴⁷

¹⁴⁵ European Water Framework Directive (n 2) art 4.

¹⁴⁶ Lagacé, Holmes and McDonnell (n 139) 424.

¹⁴⁷ Green, Garmestani, Rijswick and Keessen (n 135) 3.

One of the most significant criticisms against the WFD has possibly been the prominent gap between the policy and the scientific capacity which is needed to execute the Directive. This gap is linked to information of processes and forms and also to data itself to specify various water bodies. The EC has granted more than 150 million euros within its 5th Framework Programme (1998-2002) and more in Framework Programme 6 (2002-2006) to research projects directly associated with the WFD. Nevertheless, there are still questions regarding whether the deadlines will be accessible to the scientific community.¹⁴⁸

2.2.2. *Scope*

The regulation of water can be traced back to the earliest times in the history of EU environmental policy and it is one of the subjects which has been approached in a serious manner, involving issues such as drinking water, effluent and groundwater. Nevertheless, the industry had always been bothered, since the adoption of the initial directives at European level in the early of 1970s, by significant application shortages and inadequacy of policy effectiveness. Three issues were specifically significant: low approval rates on the side of target groups, discrepancy among ecological (river basins) and political (political and administrative bodies) scales, and the reality that standards-based approaches adjusting individual or classes of substances entirely disregarded the issue of synergetic ecological impacts.

By WFD, adopted in 2000, the EU launched a promising range of political tools to handle with the difficulties that have been associated with EU water management for a long time.¹⁴⁹ WFD should be positioned somewhere close to the ‘high water mark’ of Community environmental legislation both with respect

¹⁴⁸ Lagacé, Holmes and McDonnell (n 139) 424.

¹⁴⁹ Blandine Boeuf and Oliver Fritsch, ‘Studying the implementation of the Water Framework Directive in Europe: a metaanalysis of 89 journal articles’ (2016) 21 *Ecology and Society*.

to its overall ambition and in regard to novelties it provided. As has been expressed, 'it is the most significant piece of European environmental legislation ever introduced'.¹⁵⁰ It adopts a holistic attitude to the management of waters that consider larger ecosystem and implements a hydrological management approach depending on river basin districts. The preparation process for the water management is objective-driven insofar as it comprises a series of activities pointed towards the accomplishment of environmental goals for all surface waters (involving estuaries and coastal waters) and groundwaters within river basin district management plans. The environmental goals indicated in the Directive shall be accomplished within determined due dates through programmes of measures for their fulfilment. Primarily significant, is the goal of good chemical and ecological status for all related waters by 2015, yet on the other side social and economic factors, and the general purpose of safeguarding sustainable development should be considered as well.¹⁵¹ Fundamentally, the WFD intends to develop an "integrated community policy on water" through gathering every water resource, utilization, value, stakeholder, and related decision-making levels within a common legal regime.¹⁵² Accordingly, the directive establishes a framework for existing policies, abolishes others, and puts forward a reference point for succeeding legislation, such as the new Groundwater Directive.

Good surface water status and good groundwater status were the main goals to be accomplished by 2015. Also, member states are obliged to protect existing water sources from impairment. For surface waters, the evaluation of the status depends on an assessment scale which measures biological and hydromorphological qualities as high, good, moderate, poor, and bad, and

¹⁵⁰ William Howarth, 'Aspirations and Realities under the Water Framework Directive: Proceduralisation, Participation and Practicalities' (2009) 21 *Journal of Environmental Law* 391, 392, citing Le Quesne and C Green, 'Can We Afford Not To? The Costs and Benefits of a Partnership Approach to the Water Framework Directive' (WWF 2005) 4.

¹⁵¹ *ibid* 392.

¹⁵² European Commission, Common implementation strategy for the Water Framework Directive (2000/60/EC) Guidance Document No. 8 Public Participation in Relation to the Water Framework Directive [2003].

chemical qualities as good and fail. The directive, therefore, blazes a trail by completing chemical water quality evaluations with the more general evaluation of ecological quality. Specifically, a surface water source has good quality in case there are solely inconsiderable deviations from the quality of immaculate water sources with minimum anthropogenic effect. Groundwater is categorized as good or poor, depending on its chemical and its quantitative status. Man-made or heavily altered water sources such as canals shall accomplish at least good ecological potential, that is as near as possible to good status. The accomplishment of the 2015 water policy objectives may be postponed up to 2027 or even diminished to a less challenging goal within the attribution to natural circumstances, technical capability, or disproportionate costs.

Considering that the present structure of EU water legislation already comprises comprehensive essential measures, the WFD highly values the procedural dimension of water management. Five innovations are prominent:

River basin districts: Identifying that water is not immobile and that water sources exceed the political and administrative boundaries, member states are obliged to manage water at hydrological scales. Accordingly, River Basin Districts (RBDs) are to be formed, relative management structures are to be constituted, or if member states choose to remain within their present administrative units, cooperation is to be assured among jurisdictions to manage river basins.

River basin management planning: The WFD planning process comprises eight stages: evaluation of water status, identification of physical and societal forces on water bodies, specification of water sources in danger, update of the present River Basin Management Plan, adoption of a Programme of Measures to set out specific actions, application of those two documents, overseeing, and analysis. This series of activities shall be repeated every six years.

Public participation: Involvement activities comprise three elements: information, consultation, and active engagement. Information conditions primarily involve duties to make status and risk evaluations, background information, and maps accessible to the public. With regard to consultation, member states should arrange three rounds of public comment throughout the preparation of River Basin Management Plans. Active engagement defines the strong way of involvement and might comprise planning in small groups and face-to-face.

Economic analysis: The directive urges decision makers to take into account the economic principles at several steps of the planning process. This might comprise cost-benefit analysis to give grounds for exemptions, cost-effectiveness tests and other assessments to detect appropriate management choices, and pricing and cost-recovery means to alter water utilization models.

Policy integration: To accomplish the directive's policy objectives, member state authorities are obliged to realize policy integration not only for the water sector (for example, integration of surface water and groundwater), but also for the adjoining areas, such as flood management, forestry, or climate change. Instead of being a particular administration instrument, policy integration constitutes an instructive principle of WFD water management.

These five elements are held together by a precise schedule. Adopted in 2000, the directive obliged EU member states to transpose it into national law in three years. Member states had at that time responsibility to constitute RBDs, to appoint or form new management authorities at the river basin level, detect and plot water sources, to set up surveillance systems, and to adopt a first River Basin Management Plan and Programme of Measures for each RBD. Since 2009, member states have been able to restart the above-mentioned series of management activities every six years.

Every member state, despite in different degrees, take part in the Common Implementation Strategy (CIS). Formed by the European Commission and the member states in 2001, the CIS brings together domestic water executives, governors, specialists in order to set out best applications and urge mutual learning. With regard to arrangement, CIS attendees cooperate with each other in working groups which manifest crucial difficulties to WFD application, for example, on surveillance, groundwater, heavily altered water sources, or economics. CIS outputs contain more than 30 nonobligatory application instructions which present best-practice samples, recommendation for particular water management issues, and standards for good water management.

The WFD is a legally obligatory EU policy, that is why every member state are required to transpose the directive and implement it. EU candidate states may apply parts of the directive as component of their accession treaties; associated countries such as Norway and Switzerland may adopt main aspects of WFD water governance.

In short, every EU member state apply the WFD. Throughout the last nine years, those countries may have taken part in at least six coinciding, but notionally separate activities: water governance at hydrological extents, the preparation of River Basin Management Plans and Programmes of Measures, public participation, economic analysis, policy integration, and also involvement in CIS working groups at the EU level.¹⁵³

2.2.2.1. River Basin Management

The aim of the River Basin Management Plan (RBMP) is to summarize the goals which have been determined for the water resources within RBD and to clarify the programme of measures formulated to accomplish those goals. Further involved in the plan will be the analyses which have been utilized to illuminate

¹⁵³ Boeuf and Fritsch (n 144) 2-3.

the course of goal setting and the programme of measures, and also the information on monitoring adjustments and the status of the water resources situated within the river basin district. The plan might involve any other programmes and management plans as well which have priorly been developed for that region, for instance, incorporating, sub-catchments, industries, streams or water sorts.

The RBMP must detect, classify and investigate all the elements within the river basin, thus supplying the required information to monitor basin and reward good water status for quality, quantity and pollution degrees where suitable. The RBMP must target improving private areas of concern, for instance, detecting, and decreasing afterwards, existing pollution degrees or abiding by the general principles regarding groundwater extraction and impoundment. Significantly, the legislation involves both surface and groundwaters, acknowledging that there are inherent connections among varying water resources and ecosystems within a single river basin.

The Directive entails that determining of suitable goals, setting up of the programme of measures and targeting of monitoring are specified by examination into each distinct RBD. The RBMP should therefore involve:

- an evaluation of the features of each water resource, e.g. existing diffuse and source pollution, detecting particular protection zones, extent, quality, saltiness;
- an analysis of the effect of human activity on the status of surface and groundwater, e.g. a spatial examination of pressures and impacts and a review of human activity; and
- a financial evaluation of water utilization, e.g. the expenses related to water services and how to retrieve them.

There are many other significant dimensions of the Directive. First, it suggests that there should be more incorporation of the objectives of sustainable water application and management into other EU and domestic policies which might have contact with and thus potentially either encourage or damage the Directive, such as agriculture, transport and regional policy. Second, RBMPs should be revised every six years, after the first issuing of plans in 2009, with a prominent duty to assure public participation in both the formation and update of RBMPs. Third, the RBMPs must consider the present natural stream circumstances and hydrological cycle, and fourth, in respect to diffuse pollution, there must be a utilization of Best Available Techniques and Best Environmental Practices. As in domestic legislation, the WFD stands for the use of the precautionary principle in respect to accomplishing environmental goals as well and it is championed that where feasible the polluter must be required to pay.

The Directive sets out that enforcement will follow in case either it is not adhered to the incorporation process throughout a particular schedule or in case good water status is not ultimately acquired.¹⁵⁴ Nevertheless, it is uncertain how stringent the punishments will be, or how strictly any potential means of avoidance might be toughened since the member states have not yet decided on the essence of the “effective, proportionate and dissuasive”¹⁵⁵ enforcement measures.

2.2.2.2. Monitoring

The particular goals of the WFD are to preserve the status of present high- and good-status water resources and to improve water resources which are below good status at the minimum to good status. The monitoring programmes established within the WFD are planned to brief and assist the programme of

¹⁵⁴ Iain White and Joe Howe, ‘POLICY AND PRACTICE: Planning and the European union water framework directive’ (2003) 46 *Journal of Environmental Planning and Management* 621, 622-623.

¹⁵⁵ European Water Framework Directive (n 2) 60.

measures (PoMs). Monitoring and status categorization that are in process offer means of assessing if the implementation of actions and measures has been successful in achieving the environmental goals for each water source. Elaborated data put forward by monitoring that is in process are anticipated to demonstrate if PoMs require to be fixed or enlarged, since implementation of the WFD continues via the first and succeeding six-year cycles of RBMPs. Likewise, the WFD monitoring programme is not stable: it is planned to be flexible with the aim of reacting quickly to exclusive occurrences, to alterations in risks and pressures, and by the means of outcomes acquired.¹⁵⁶

Article 8 of the WFD sets out the conditions for the monitoring of surface water status, groundwater status and protected areas.¹⁵⁷ Monitoring programmes are obliged to provide reasonable and inclusive review of water status within each RBD and are thus prominent to fulfilling the WFD's settled goal of accomplishing good status in all water sources by 2015.¹⁵⁸

Monitoring of the WFD basically involves conducting sampling and examination of surface waters utilized for the extraction of drinking water, in compliance with the approaches established in the Water Framework Directive and evaluating the degree to which surface waters utilized for the extraction of drinking water abide by the quality standards, in compliance with determined evaluation criteria.

Monitoring conditions must be taken into account and made functional considering the responsibility to organize or effort to organize activities in respect to international river basin districts in order to accomplish the goals of the directive.

¹⁵⁶ Eleanor Mayes and Ian Codling, 'WATER FRAMEWORK DIRECTIVE AND RELATED MONITORING PROGRAMMES' (2009) 109B *Biology and Environment: Proceedings of the Royal Irish Academy* 321, 324.

¹⁵⁷ European Water Framework Directive (n 2) art 8.

¹⁵⁸ Mayes and Codling (n 151) 325.

Monitoring duties can be fulfilled by distributing duty among central and local government structures, environmental protection organizations, public services managers and private sector operators whose activities might effect water sources. When it comes to private managers, such duties can be made requirements of their licenses or warrants. Nevertheless, it is prominent that, taken together, the monitoring and examination tackled fulfils the conditions of the directive in a complete manner. The Member State remains accountable for any such mistake irrespective of any such distribution of duties to monitor in application.¹⁵⁹

For waters inside each river basin district, it was instructed to set up or ensure the formation of (in compliance with Article 8 and Annex V¹⁶⁰, and any additional technical provisions to be established according to Article 21¹⁶¹), and make functional by, at the latest, six years following the entry into force of the directive, programmes for monitoring water status for forming a reasonable and inclusive review of water status therein:¹⁶²

- for surface waters, such programmes are to include:
 - the size and level or velocity of stream to the degree pertinent for ecological and chemical status and ecological potential (the conditions pertinent here within Article 7¹⁶³ should be taken into account as well.)
 - ecological and chemical status and ecological potential
- for groundwater, such programmes are to include:

¹⁵⁹ " (2015) 2015 Glob Envtl L Ann 69, 75.

¹⁶⁰ European Water Framework Directive (n 2) art 8 and annex V.

¹⁶¹ *ibid* art 21.

¹⁶² Glob Envt L Ann (n 154) 76.

¹⁶³ European Water Framework Directive (n 2) art 7.

- monitoring of the chemical and quantitative status; and
- for protected areas, aforementioned programmes, as augmented by those provisions included in Community legislation within which the exclusive protected areas have been formed.¹⁶⁴

The Member States must target possessing a monitoring system established to permit it to show that it is proficient of, and is, accomplishing the goals of the directive, involving, especially, those stated in Articles 4, 7, 16 and 17.¹⁶⁵

2.2.2.3. *Programme of Measures*

Having conducted monitoring to specify the status of the water sources within a RBD, Article 11 entails that authorized officials should further utilize this information in developing an incorporated Programme of Measures to fulfil the Directive's environmental goals, especially that of "good water status" within the catchment.¹⁶⁶ These will consist of mandatory basic measures that involve, *inter alia*, fulfilling the conditions of other pertinent Directives¹⁶⁷ and the authorization of discharges and extraction, and where appropriate completed by additional measures in case the basic measures are not adequate to fulfil the environmental goals. Additional measures are presented in an Annex to the Directive¹⁶⁸ as a noncomprehensive list of potential schemes for enhancing water status, varying from financial means to settled treaties to reclamation projects and Research and Development (R&D). Figure 1 puts forward the offered attitude to the development of the Programme of Measures more comprehensively.

¹⁶⁴ Glob Evt L Ann (n 154) 76.

¹⁶⁵ *ibid* arts 4, 7, 16 and 17.

¹⁶⁶ European Water Framework Directive (n 2) art 11.

¹⁶⁷ Pertinent Directives: Bathing Water, Birds, Drinking Water, Major Accidents, Environmental Impact Assessment, Sewage Sludge, Urban Waste Water Treatment, Plant Protection Products, Nitrates, Habitats, Integrated Pollution Prevention and Control.

¹⁶⁸ European Water Framework Directive (n 2) annex.

As expressed before, the Programme of Measures and other comprehensive information concerning the river basin will be wrapped and put forward in a document named River Basin Management Plan. These plans will be subject to a course of public consultation.

River Basin Management occurs on a 6 year cycle, with the initial plan issued 10 years after adoption of the directive, and analyzed and updated every 6 years subsequently to consider additional measures required to fulfil the Directive environmental goals for any specific water source.¹⁶⁹

2.2.2.4. *Combined Approach*

The Water Framework Directive adopts a “combined approach” for the supervision of pollution:

- restricting pollution at origin by specifying emission boundary values or other emission checks
- constituting water quality goals for water sources; or
- ensuring supervision of particular scattered effects.

In each circumstance, the approach which ensures establishing the most rigid provisions will apply. Therefore Member States will have to specify in their programmes of measures both boundary values to supervise emissions from individual point sources and environmental quality standards to restrict the aggregate effect of such emissions and also setting provisions to consider diffuse sources of pollution. The emissions boundary values will have to be in accordance with Community, national and regional legislation, *inter alia* with

¹⁶⁹ Martin Griffiths, ‘The European Water Framework Directive: An Approach to Integrated River Basin Management’ (2002) 5 European Water Management Online 12-13.

the IPPC Directive (2008/1/EC)¹⁷⁰ and the Urban Waste Water Treatment Directive (91/271/EC)¹⁷¹ for facilities and discharges included by these directives, the Nitrates Directive (91/676/EC)¹⁷², the directives adopted within Article 16 of the Water Framework Directive¹⁷³, the directives in Annex IX¹⁷⁴ of that directive and any other pertinent Community legislation.¹⁷⁵

For pertinent contaminants and pollution sources of first concern (“priority substances” within Article 16) the Water Framework Directive requires the Council and the Parliament to set Community emission checks and water quality goals. In case environmental quality goals or emission boundary values have been specified for certain hazardous substances within the daughter directives of the 1976 directive on discharges of dangerous substances to water (2006/11/EC)¹⁷⁶, these are to be analyzed and if required integrated into the Water Framework Directive. Decision 2455/2001/EC¹⁷⁷ has already presented a first list of priority substances, added to the Water Framework Directive as Annex X.¹⁷⁸

¹⁷⁰ Directive 2008/1/EC of the European Parliament and of the Council of 15 January 2008 concerning integrated pollution prevention and control (Codified version) (Text with EEA relevance) [2008] OJ L24/8 (IPPC Directive).

¹⁷¹ Council Directive 91/271/EEC of 21 May 1991 concerning urban waste-water treatment [1991] OJ L135/40 (Urban Waste Water Treatment Directive).

¹⁷² Council Directive 91/676/EEC of 12 December 1991 concerning the protection of waters against pollution caused by nitrates from agricultural sources [1991] OJ L375/1 (The Nitrates Directive).

¹⁷³ European Water Framework Directive (n 2) art 16.

¹⁷⁴ *ibid* annex IX.

¹⁷⁵ *ibid* art 10.

¹⁷⁶ Directive 2006/11/EC of the European Parliament and of the Council of 15 February 2006 on pollution caused by certain dangerous substances discharged into the aquatic environment of the Community (Codified version) (Text with EEA relevance) [2006] OJ L64/52.

¹⁷⁷ Decision No 2455/2001/EC of the European Parliament and of the Council of 20 November 2001 establishing the list of priority substances in the field of water policy and amending Directive 2000/60/EC (Text with EEA relevance) [2001] OJ L331/1.

¹⁷⁸ European Water Framework Directive (n 2) annex X.

To accomplish the pertinent level of authority, competent officials must be granted adequate legal powers and means to be in a status to:

- detect and monitor all sorts of discharges and other effects in the river basin districts
- arrange all the set of actions having an existent or potential effect on water bodies within a river basin management framework.
- assign, evaluate and alter as suitable authorizations for the discharge of wastewaters and enforce accordance with authorization requirements and adopt other appropriate supervision precautions in this respect; and
- tackle pollution prevention actions through, for instance, enforcing water preservation areas, or through supervising particular actions that could have negative effects over the status of water.

Since waters utilized for drinking water extraction are subject to specific protection, Member States are obliged to establish environmental quality standards for each prominent source of water which is utilized for extraction or which might be so utilized in future. These quality standards should be planned to guarantee that within the anticipated water treatment management the extracted water will fulfil the conditions of the Drinking Water Directive (80/778/EEC¹⁷⁹ as amended by 98/83/EC¹⁸⁰).¹⁸¹

The Water Framework Directive refer to water quantity as well to the extent that it is related to water quality. To that end, any extraction of groundwater or surface water, apart from such as are of irrelevant concern, must be subject to an authorization process. The same is valid for impoundment precautions influencing fresh surface water. Authorizations must solely be provided for

¹⁷⁹ Council Directive 80/778/EEC of 15 July 1980 relating to the quality of water intended for human consumption [1980] OJ L229/11.

¹⁸⁰ Council Directive 98/83/EC of 3 November 1998 on the quality of water intended for human consumption [1998] OJ L330/32 (Drinking Water Directive).

¹⁸¹ European Water Framework Directive (n 2) art 7.

extraction in case they are in accordance with the goal of a long-run balance between extraction and recharge rates. In granting authorizations, officials will have to consider the effect of extractions over water quality, water availability, water status and over other potential water consumers.

Evaluation and management of water demand necessitate forward planning by regional officials, in cooperation with the officials or corporations which provide drinking water or else extract water for utilization or utilize water on any considerable extent, to evaluate the future effect of increase in population and industrial and other advancements over the availability of water in the river basin. The potential effect over groundwater is especially significant in that regard.

2.2.2.5. Cost Recovery

Water is fundamental for a various financial and also environmental and health causes, such as the preservation of drinking water reserves, the irrigation of harvest and utilization in many sectors. It is thus fundamental to the viability of communities. Waterways have typically been utilized for the transportation of sewer waters and wastes, both industrial and human. The implementation of financial means – such as fees for utilization of water as a source or for the release of sewer waters into waterways or as maintenance fees only for possessing an authorization – is a policy precisely supported in the Water Framework Directive. Member States are to consider the principle of retrieving the expenses of water services, involving environmental and resource expenses, taking into account the financial evaluation stated in that directive and in compliance, especially, with the “polluter pays” principle. Financial analysis therefore turns out to be a fundamental component of water management designing. Water pricing policies should be implemented by 2010, putting forward a sufficient motivation for the effective utilization of water, and ensuring a sufficient contribution of the various water consumers to retrieving the expenses of water services. Nevertheless, the directive does not hinder the

financing of certain precautionary or remedial measures for accomplishing the goals of the directive. Moreover, derogation is feasible in case this does not jeopardize the aim and accomplishment of the goals of the directive.

Taking into consideration the principle of the recovery of costs of water services is a dramatic novelty at European Community level. Nevertheless, a number of EU Member States have been pursuing this manner in their national legislation completely or to a significant degree for a certain period of time (Austria, Belgium, Denmark, Finland, France, Germany, Luxembourg, the Netherlands, Sweden, United Kingdom).¹⁸² Besides, it must be stated that alike but not same provision, entailing that the expenses of landfilling be held responsible by the manager, has already been adopted by the Community.¹⁸³

Funding programmes to enhance water quality and to supply sufficient water reserve will be a significant challenge for all candidate states. Fees corresponding to the aforementioned principle will make a contribution to the required investments; nevertheless, the launch of such fees may constitute a crucial issue if they necessitate significant alterations. The expenses will have to be undertaken by the consumer/user regardless of being domestic, industrial or agricultural, and will have to involve the establishment, funding and preservation of precautions such as the abstraction, treatment and allocation of water for drinking or irrigation aims or other utilizations, and the accumulation, treatment and discharge of effluent.¹⁸⁴

¹⁸² " (2015) 2015 Glob Env'tl L Ann 5, 13-14.

¹⁸³ Council Directive 1999/31/EC of 26 April 1999 on the landfill of waste [1999] OJ L182/1 (Landfill Directive).

¹⁸⁴ Glob Env'tl L Ann (n 161) 14.

2.2.2.6. *Public Participation*

Public participation is one of the most prominent constituents of the WFD.¹⁸⁵ In the introduction of Article 14 it expressed that the very accomplishment of the directive depends on close collaboration among pertinent officials and the public involving the consumers of the water source. Public participation is highlighted as a fundamental element in the successful application of the precautions taken to accomplish good ecological status.¹⁸⁶ The WFD puts forward opposing perspectives of public participation. In the legislative document, public participation is limited to information sharing and consultation prior to the eventual judgments are taken by the pertinent officials. Secondly, the utilization of public participation along all management stages involving the determination of reference condition is emphasized in Guidance Document No. 8.¹⁸⁷

Even if the requirement of public participation and involvement is emphasized in Guidance Document No. 8¹⁸⁸, the position put forward in the WFD legislative document demonstrates that public participation is not an objective in and of its own and it is entrusted to member states to determine the structure and extent of participation. No description of public participation and how it could be incorporated in the course of describing the objectives of the WFD is presented. Besides, public participation is merely required in the application of management precautions not in the descriptions of the objectives of good ecological status that these precautions intend to accomplish. It is expressed in Guidance Document No.8 that the position of public participation in the WFD is:

¹⁸⁵ Salar Valinia, Hans Peter Hansen, Martyn Norman Futter, Kevin H. Bishop, Nadarajah Srisankarajah and Jens Fölster 'Problems with the reconciliation of good ecological status and public participation in the Water Framework Directive' (2012) 433 *Science of the Total Environment* 482, 483.

¹⁸⁶ European Water Framework Directive (n 2) art 14.

¹⁸⁷ Guidance Document No. 8 (n 147) 59.

¹⁸⁸ Guidance Document No. 8 (n 147).

“...to improve decision-making, by ensuring that decisions are soundly based on shared knowledge, experiences and scientific evidence, that decisions are influenced by the views and experience of those affected by them, that innovative and creative options are considered and that new arrangements are workable, and acceptable to the public”¹⁸⁹

The prominence of the expression above might be negligible, since member states are not obliged legally to utilize the guidance documents when applying the WFD. Therefore, public participation is largely based on the political desire of the pertinent officials, especially how to carry out public participation at national, regional and basin extents in which the real alterations will take place.

The predominant criticism of public participation in WFD application put forward in the legislative document can be outlined as in the following:

- The WFD misses precise manifestations with respect to how, who and when public participation must be utilized.
- Public participation by its own is not an objective of the WFD, instead a course which must be applied.
- Public involvement is promoted merely in the application stage in the WFD, not in the objective determination or designing phases.

The pillars of good ecological status and public participation are defined individually without any obvious connection or inner association in WFD. Whereas the legislative document of the WFD does encourage an integrative attitude toward water management, there is no endorsement for how these two pillars may operate in cooperation.¹⁹⁰ This purpose is entrusted to the guidance

¹⁸⁹ *ibid.*

¹⁹⁰ Valinia, Hansen, Futter, Bishop, Skandarajah and Fölster (n 164) 484.

documents¹⁹¹ in which a connection gets to be more evident when examining these documents. Despite the fact that the purpose is present in the guidance documents, there is no legal frame or particular instruction on how the two pillars must be connected. This can end in the guidance documents getting to be detached from the legislative document. Taking these criticisms into consideration, there is an obvious requirement to investigate the inner functions and incongruities of the two pillars and to develop a perception of how reference condition and public participation can complete one another.¹⁹²

2.2.3. *Implementation*

By the time discussion regarding the phrasing of the new directive was over, the discussion regarding the interpretation and implementation of the directive started. The Commission has witnessed with lots of water policy directives that member states did not make enough effort for implementation unless enforceable legal moves compelled them to take steps. This kind of attitude was regarded as inadequate since it was time consuming, bureaucratic, costly and confrontational. To refrain from reiterating this pattern with the WFD, the Commission projected to develop advisory recommendations in regard to the implementation process. It was designed that these would be in the structure of non-obligatory instruction documents, that refer to particular fields of the WFD, however that must allow member states to start the implementation process immediately. They would be created by ten working groups involving individuals from the Commission, from European legal bodies (e.g. the EEA), from the governments of member states and from various non-governmental organizations. For joining the working groups as members NGOs should fulfil requirements constituted by the Commission. Apart from this functional effort to get implementation in process, political discussion have continued in three

¹⁹¹ Guidance Document No. 8 (n 147) and European Commission, Common implementation strategy for the Water Framework Directive (2000/60/EC) Guidance Document No. River and lakes – Typology, reference conditions and classification systems [2003].

¹⁹² Valinia, Hansen, Futter, Bishop, Skandarajah and Fölster (n 164) 484.

fields: water pricing, organizing the list of priority hazardous substances and interpreting the directive's provision on implementation due dates.¹⁹³

It was sarcastic that even if the WFD initiated with the argument that water 'is not a commercial product' and that the Council of Ministers had pushed the request that full cost recovery must be legally obligatory out of the final text, the initial regard of the Commission has been to provoke a debate, which will result in effective implementation of the water pricing article of the Water Framework directive. This will contribute to meeting the environmental objectives of the directive in the most cost-effective way.'¹⁹⁴ Although the WFD merely states that member states should guarantee that pricing policies offer an 'adequate incentive' to utilize water effectively, the Commission is proceeding with more ambitious plans to launch full-cost pricing. DG Environment consider 'pricing' as something of a magic formula, as the concept around which other policy industries (such as agriculture) can be jointed with water policy. Efficient water pricing is considered as the tool for environmental protection, lessened costs and an equal distribution of the financial responsibility of the WFD. It must be considered that the Commission do not articulate that pricing is the sole instrument which can be the solution for water body issues. Nevertheless, they do assert that pricing should be taken into account in a rightful way to assure it encourages more effective and less contaminating utilization of limited water bodies. In September 2000, a conference in Lille demonstrated that both the water sector and environmental interest group were predominantly supportive of the Commission's proposals on pricing. The Commission remained to get large support from the European Parliament as well over this subject. Nevertheless, considering the powerful opposition from the governments of member states

¹⁹³ Ben Page and Maria Kaika, 'The EU Water Framework Directive: part 2. Policy innovation and the shifting choreography of governance' [2003] *European Environment* 328.

¹⁹⁴ Communication from the Commission to the Council, the European Parliament and the Economic and Social Committee - Pricing policies for enhancing the sustainability of water resources /* COM/2000/0477 final */ [2000].

before, it appears that this trend tends to encounter strict opposition in the future as well.

A second dimension of the WFD which turned out to be the concern of sudden discussion was the list of priority hazardous substances whose releases were projected to be gradually diminished to zero in 20 years of the list being approved. The first list of 32 hazardous substances had been framed in February 2000 and the WFD indicated that the priority substances would be a subset of this list. The European Parliament Environment Committee requested in September 2000 that the list must be enlarged, their new list had 39 contaminants of which 24-28 were to be granted priority status. The Commission rejected this request and offered rather to split the list of 32 substances into groups, placed between 1-5, those placed 1 would certainly be on the priority list; those placed 5 would certainly not; those placed in the rest of the list were subject to discussion. The benchmark for placement were legislative, medical, technical and economic. The approach was greeted vigilantly by the chemical sector and environmentalists. The water sector made strong campaign that the cost of abolishing the contaminants must be the main element in the evaluation of whether they were involved in the list or not. The Commission offered to incorporate 11 substances from the original 32 into the priority list, and certainly exclude 10 from the priority list in January 2001. The rest continued to be subject for discussion and were labelled as 'under review' till 2003. The European Parliament Environment Committee approved the list of 11 priority chemicals, however on the other side moved three more chemicals into the group 'under review'. MEPs voted on the list in May 2001, and even if they had some worries in regard to the rapidity with which the Commission planned to tackle the analysis of the list, it was enacted predominantly as offered.

The third field of dispute is about the interpretation of the WFD text's pledge to diminish the priority hazardous substances gradually within 20 years. From a legal perspective of Council of Ministers Legal Service, the directive does not compel member states to adopt control precautions ending up in zero emissions

as of the termination of the 20 year time frame. Instead, it compels the European Commission to convey proposals permitting this to occur. This gives member states space to disregard those proposals should they desire. Environmentalists considered this as proof that member states are attempting to avoid politically approved duties through benefiting from backdoor legal interpretations. The Environment Commissioner, Margot Wallström, confessed that she concurs with this interpretation of law and could not promise that the governments of member states would adopt the Commission's proposals for zero emissions of priority hazardous substances.

Thereby, rather than being the termination of an intense period of campaigning and interpretation, the adoption of the WFD in December 2000 indeed signified a new outset of another sequence of quarrel. Whereas this process has the benefit of a simple legal text, that constitutes an undebatable basis from which to take effect, it has the drawback that this sequence of discussion takes effect mostly in the unclear bureaucratic sphere, contrary to a transparent democratic one.¹⁹⁵

Implementation and enforcement are fundamental elements of the functioning of measures in environmental policies. The policy measures of the WFD distinguish between compulsory simple measures and voluntary complementary measures, both implemented through river basin management plans.¹⁹⁶ The simple measures comprise other water legislation such as the Nitrates Directive¹⁹⁷ or the Urban Waste Water Treatment Directive¹⁹⁸, diminishing of point and non-point pollution, water pricing, and control of water extractions. The complementary measures involve judicial, executive, and financial means,

¹⁹⁵ Page and Kaika (n 149) 339-340.

¹⁹⁶ Timothy Moss, Gabrielle Bouleau, José Albiac and Lenka Slavíková, 'The EU Water Framework Directive Twenty Years On: Introducing the Special Issue' (2020) 13 *Water Alternatives* 446, 448.

¹⁹⁷ The Nitrates Directive (n 167).

¹⁹⁸ Urban Waste Water Treatment Directive (n 166).

codes of good practices, demand management, and improvements of water effectiveness. EU member states have notable flexibility in choosing the suitable combination of measures in each river basin management plan.

Having at the moment arrived at the termination of the second stage of the WFD implementation, it is evident that the enthusiastic goals determined 20 years ago are still quite unaccomplished. Numerous critics evaluating on the WFD's performance draw attention to a considerable gap between desires and accomplishments. The European Commission itself accepts that overall there has been low degree of accomplishment for the environmental goals of good water status.¹⁹⁹ Its most recent evaluation of implementation status along the EU heavilyheartedly comes to the conclusion that "(t)he path towards full compliance with the WFD's objectives by 2027 (...) seems at this stage very challenging."²⁰⁰

The WFD prescribes complementary and enthusiastic ecological goals within a challenging schedule and precise due dates, whereas leaving large leeway for interpretation and flexibility in how these are fulfilled. As a consequence, its implementation is extremely prominent and crucial for its accomplishment. Thus, the WFD CIS was launched to provide a shared comprehension of the Directive and its conditions, and set out solutions depending on common practice and proficiency among the Member States. Nevertheless, it is identified that narrow interpretations of the WFD's conditions, and inadequacy of lucidity in a number of instruction documents led to technical reports of complex quality. Some express merely the least common denominator, because of the consensus-based agreements which governed the decision-making at the Strategic Coordination Group and Water Directors' degrees.

¹⁹⁹ Moss, Bouleau, Albiac and Slavíkova (n 152) 449.

²⁰⁰ Report from the Commission to the European Parliament and the Council on the Implementation of the Water Framework Directive (2000/60/EC) and the Flood Directive (2007/60/EC) Second River Basin Management Plans First Flood Risk Management Plans [2019].

The transposition of the WFD into national legislation and on the other side capacity for authorized bodies to adopt the catchment-based method of the Directive could have diverted from its fundamental principles. For instance, realizing the shift from settled monitoring systems to those that encourages a more integrated approach to water management, as demanded by the WFD, has been an actual issue. Most of the Member States have planned their monitoring programmes depending on the information provided in Annex V and have concentrated on the monitoring of independent structural parameters on the presumption that good quality of such components correlate with good performance of ecosystems. This diverges from the WFD since it is unsuccessful to identify that it is the general status of the ecosystem that the WFD aims to enhance instead of the independent components provided in Annex V of the Directive.

More essentially, specification of river basins (involving analysis of pressures, effects and financial assessment) turned out to be an actual issue for many Member States. This is apparent as well in the restricted connections between pressures and programme of measures (PoMs), in lack of monitoring to catch the interactions among stressors and how best to handle them. The pressure-impact analysis confirmed by supervision monitoring (gathering data for all quality components) is crucial for the achievement of the river basin management plans (RBMPs): For instance, in case an important pressure is neglected in the course of the pressures and impacts analysis, the monitoring will most likely not be planned to measure it and the PoMs will not foresee action to deal with it.²⁰¹ As stated by European Communities (2009), the number of functioning monitoring spots was more than the number of supervision monitoring spots in 17 of 25 reported EU Member States.²⁰² Moreover, the 4th

²⁰¹ Nikolaos Voulvoulis, Karl Dominic Arpon and Theodoros Giakoumis 'The EU Water Framework Directive: From great expectations to problems with implementation' (2017) 575 *Water Alternatives* 358, 361.

²⁰² European Communities, Commission Staff Working Document Accompanying the Report of the Commission to the European Parliament and the Council in accordance with Article 18.3 of

WFD implementation report uncovered issues with the implementation of pressure and impacts analysis and with the source apportionment in 14 and 15 Member States separately. Among 21 of 27 Member States, there were no evident associations between pressures and the PoMs, and in 23 of 27 Member States, the gap analysis had not been efficiently implemented for the development of convenient and cost-efficient precautions.²⁰³

On the contrary, Member States had generally merely presumed to what extent present measures will make a contribution to the accomplishment of the WFD's environmental goals, that also revealed why exemptions had been largely implemented however were insufficiently rationalized. Issues with the implementation of the Directive are apparent in samples in which rather than abiding by the WFD procedure to assure the implementation of convenient precautions which deal with pressures for enhancing status, Member States generally proceeded with conventional water management applications concentrating on regulating individual monitored contaminants which are likely to ignore the complexity of the circumstances taking effect within the basin.²⁰⁴ The decrease in the extent of water resources which reached good status or better, demonstrating a 4% decline between 2009 (26%) and 2015 (22%) in England, when 2015 categorization outcomes were compared with the monitoring standards and means utilized in 2009 categorization baseline, in spite of the considerable spending over PoMs could be associated with this.²⁰⁵ Yet, when PoMs have been developed to deal with pressures, they are generally

the Water Framework Directive 2000/60/EC on Programmes for Monitoring of Water Status [2009].

²⁰³ European Commission, Commission Staff Working Document, Report on the progress in implementation of the Water Framework Directive Programmes of Measures. Accompanying the document: Communication from the Commission to the European Parliament and the Council. The Water Framework Directive and the Floods Directive: Actions towards the 'good status' of EU water and to reduce flood risks [2015].

²⁰⁴ Voulvoulis, Arpon and Giakoumis (n 157).

²⁰⁵ *ibid*, citing Environment Agency, 'Update to the river basin management plans in England. National Evidence and Data Report' (2015) <<https://www.gov.uk/government/publications/river-basin-management-plans-national-evidence-and-data-report> > accessed 15 September 2016.>

depended on enhancing element categorizations which were unsuccessful to attain good status. Those applications demonstrate the evident likelihood to ground management activities in a presumption of linear causality to enhance the real condition of a system. Theoretically, since the elements function as indicators of ecological status, PoMs may have been chosen to aim at symptoms instead of the reasons of water deterioration, with such activities taken been regarded inefficient and generally been unsuccessful.

Furthermore, the concern over element conformity was set forth by Behagel as well, who investigated the prominence of soft river banks as prominent precautions to enhance water quality in the Netherlands, highlighting that “because water quality is defined in terms of six quality elements—chemistry; hydromorphology; phytoplankton; macrophytes (surface plants) and phytobenthos (bottom plants); benthic invertebrate fauna; and fish fauna—measures were specifically designed to address these elements”.²⁰⁶ Essentially, such attention on element conformity is evocative of conventional management applications based upon the command and control model which the WFD was adopted to accomplish, leading to the likelihoods for the larger purpose and goals of the Directive generally being ignored. In general, the enhancement in element categorizations should not be regarded as the finish point when PoMs are chosen; instead something which occurs as a side effect when pressures are diminished and ecosystem wellbeing increases as a consequence.

Study of Kail and Wolter (2011) indicates that in Germany many PoMs have been implemented to deal with point source pollution for many water resources, for which point source pollution was not classified as a pressure. As a result, their efficiency to make a contribution to the WFD goals was queried.²⁰⁷ Another

²⁰⁶ *ibid*, citing Jelle Hendrik Behagel, ‘The politics of democratic governance: the implementation of the Water Framework Directive in the Netherlands’ (PhD Thesis, Wageningen University 2012).

²⁰⁷ *ibid*, citing Jochem Kail and Christian Wolter ‘Analysis and evaluation of large-scale river restoration planning in Germany to better link river research and management’ (2011) 27 *Water Alternatives* 985.

method in Sweden, in the structure of general directions to local, regional and national officials, over how precautions must fulfil environmental goals, was indicated to end in precautions which were mainly administrative; they targeted making the governance of water bodies easier, however did not aim certain environmental issues or diminished the effects of pressures in order to enhance water quality. This was observed in the example of Denmark and Norway as well where precautions concentrated more on launching new actions and projects instead of making a contribution to the accomplishment of the WFD's goals. Despite the fact that such administrative precautions might be prominent in making easier the implementation of the "physical" precautions chosen, it is the requirement for strong proof over the capability of those precautions to handle pressures in order to accomplish the environmental goals which will decide on the achievement of the RBMPs.

An evaluation of Member States' advancement on implementing PoMs demonstrated that there is a likelihood to utilize precautions which abide by the conditions of the directives that preceded the WFD (as component of essential precautions) that, even if they might present general signs, do not put forward precise connections and clarifications concerning their contribution to the WFD implementation and accomplishment of its goals. Implementing precautions to abide only with policies prior to WFD pursues a "low-hanging fruits" attitude as the likelihood is to apply "easy" adjustments rather than encouraging the attainment of the systems comprehension needed for basin management within the WFD. This was affirmed through the communication document accompanying the 4th WFD implementation report, in which the Commission emphasized the requirement of Member States "to step up their efforts to base their PoMs on a sound assessment of pressures and impacts on the aquatic ecosystem and on a reliable assessment of water status."²⁰⁸

²⁰⁸ Communication from the Commission to the European Parliament and the Council. The Water Framework Directive and the Floods Directive: Actions Towards the 'Good Status' of EU Water and to Reduce Flood Risks /* COM/2015/0120 final */ [2015].

Moreover, considering the WFD's participatory conditions, majority of Member States chose to adjust conventional administrative formations and appointed an authorized body by which basin management actions concerned could be made functional. This trend to prefer more conventional applications of centralized decision-making could bring about particular obstacles to the allowance of efficient multi-industrial incorporation and management promoted by the WFD. For instance, study by Moss (2004) investigating the structural inconvenience between the water management framework in Germany and the WFD's basin management conditions, demonstrated cross-industrial collaboration and public participation are regarded as a low priority, since they were regarded as unfamiliar to conventional water management applications.²⁰⁹ Furthermore, Nielsen et. al. (2013) indicated centralized decision-making, as observed in Denmark, to bring about lost chances for effective policy application acquisitions at the local extent, since more centralized structural regulations solely concentrate on superficial incorporation of water management. Even in Member States which had prior regulations for basin management, the policy change towards the WFD's integrative and participatory conditions has demonstrated to be challenging. In the example of France, Liefferink et al. (2011) demonstrated that incorporation of stakeholder profits at the river basin committees, did not ensure the incorporation of these profits at the regional and local extent where application was occurring. Besides, their results demonstrate that the French legislation did not provide a legal context for incorporating other policy areas in water management apart from spatial planning.²¹⁰

Despite the fact that the absence of a paradigm change towards the fundamental principles of the WFD may be considered as either the reason or the impact of

²⁰⁹ Voulvoulis, Arpon and Giakoumis (n 157) 362, citing Timothy Moss 'The governance of land use in river basins: prospects for overcoming problems of institutional interplay with the EU Water Framework Directive' (2004) 21 Land Use Policy 85.

²¹⁰ *ibid*, citing Duncan Liefferink, Mark Wiering and Yukina Uitenboogaart 'The EU Water Framework Directive: A multi-dimensional analysis of implementation and domestic impact' (2011) 28 Land Use Policy 712.

conventional decision-making approaches and formations continuing to be adopted, there has been advancement reported with state officials “planting the seeds” for integrated water management.²¹¹ This is championed through the findings of Jager et al. (2016), with considerable advancement towards more participatory types of water management reported, even in Member States in which public participation and cross-industrial collaboration have been priorly restricted.²¹²

2.3. *Drinking Water Directive*

This directive²¹³ substituted the original Drinking Water Directive (80/778/EEC) in 2003. It was a requirement to modify the original directive taking the scientific and technical developments into consideration, however in compliance with the principle of subsidiarity by decreasing the number of parameters for which Member States were responsible to determine water quality goals and by concentrating on accordance with fundamental quality and health parameters.

The directive puts forward the protection and encouragement of sustainable utilization of water intended for human consumption (and as such can be taken into account as prognosticating the Water Framework Directive).²¹⁴ The main

²¹¹ *ibid*, citing Helle Ørsted Nielsen, Pia Frederiksen, Heli Saarikoski, Anne-Mari Rytönen and Anders Branth Pedersen ‘How different institutional arrangements promote integrated river basin management. Evidence from the Baltic Sea Region’ (2013) 30 Land Use Policy 437.

²¹² *ibid*, citing Nicolas W. Jager, Edward Challies, Elisa Kochskämper, Jens Newig, David Benson, Kirsty Blackstock, Kevin Collins, Anna Ernst, Mariele Evers, Judith Feichtinger, Oliver Fritsch, Geoffrey Gooch, Wiebke Grund, Beatrice Hedelin, Nuria Hernández-Mora, Frank Hüesker, Dave Huitema, Kenneth Irvine, Andreas Klinke, Leonie Lange, Delphine Loupsans, Mark Lubell, Carmen Maganda, Piotr Matczak, Marc Parés, Heli Saarikoski, Lenka Slavíková, Sonja Van der Arend and Yorck Von Korff, ‘Transforming European Water Governance? Participation and River Basin Management under the EU Water Framework Directive in 13 Member States’ (2016) 8 Water 156.

²¹³ Drinking Water Directive (n 175) as amended by Regulation (EC) No 1882/2003 of the European Parliament and of the Council of 29 September 2003 adapting to Council Decision 1999/468/EC the provisions relating to committees which assist the Commission in the exercise of its implementing powers laid down in instruments subject to the procedure referred to in Article 251 of the EC Treaty [2003] OJ L284/1.

²¹⁴ " (2015) 2015 Glob Envtl L Ann 61.

purpose of the directive is to safeguard human health from the negative impacts of the pollution of water intended for human consumption by assuring that it is “wholesome and clean”.²¹⁵ It is valid for all water intended for human consumption, and also water utilized in the production and marketing of food, subject to particular exceptions involving natural mineral waters which are regulated according to, Council Directive 80/777/EEC.²¹⁶ Member States are obliged to observe the quality of drinking water and to take precautions to make certain that abides by the minimum quality standards.²¹⁷ Besides, it stipulates a range of conditions for notifying the Commission and for making the information accessible to the public concerning the quality of drinking water.²¹⁸

The stages still necessary for the application and functioning of this directive in candidate states must be realized taking into account the prevalent provisions of the Water Framework Directive (2000/60/EC)²¹⁹, that has amended the legislative structure largely for Community water-related legislation and presents an amended framework for the practical implementation of this directive.²²⁰ It is advised that any further application of this directive occur following cautious analysis of the Water Framework Directive.²²¹ It is especially prominent to highlight that within the Water Framework Directive water supervision is realized on a river basin district basis, and that the Water

²¹⁵ Drinking Water Directive (n 208) arts 2(1) and 3.

²¹⁶ Council Directive 80/777/EEC of 15 July 1980 on the approximation of the laws of the Member States relating to the exploitation and marketing of natural mineral waters [1980] OJ L229/1 art 2(1).

²¹⁷ Drinking Water Directive (n 208) arts 4 and 7.

²¹⁸ *ibid* art 13.

²¹⁹ European Water Framework Directive (n 2).

²²⁰ Glob Env'tl L Ann (n 209).

²²¹ European Water Framework Directive (n 2).

Framework Directive maintains certain administrative and regulatory supervision regarding international river basin districts.²²²

Directive 98/83/EC²²³ has been amended by Regulation No. 1882/2003.²²⁴ This amendment is procedural and related to the Commission's term analysis and update of Annex I²²⁵ taking into consideration scientific and technical developments. Article 12²²⁶ of the directive has been amended to comprise more exclusive provisions concerning committee procedures.²²⁷

2.4. *Urban Waste Water Treatment Directive*

The directive²²⁸ deals with:

- the collection, treatment and discharge of urban wastewater from accumulations; and
- the treatment and discharge of biodegradable effluent from particular industrial fields.

Its goal is to safeguard the environment from the negative impacts of such effluent discharges. Member States should guarantee that urban wastewater is

²²² Glob Env'tl L Ann (n 209).

²²³ Drinking Water Directive (n 175).

²²⁴ Drinking Water Directive (n 208).

²²⁵ *ibid* annex I.

²²⁶ *ibid* art 12.

²²⁷ Glob Env'tl L Ann (n 209).

²²⁸ Urban Waste Water Treatment Directive (n 166), as amended by Commission Directive 98/15/EC of 27 February 1998 amending Council Directive 91/271/EEC with respect to certain requirements established in Annex I thereof (Text with EEA relevance) [1998] OJ L67/29 and Regulation (EC) No 1882/2003 of the European Parliament and of the Council of 29 September 2003 adapting to Council Decision 1999/468/EC the provisions relating to committees which assist the Commission in the exercise of its implementing powers laid down in instruments subject to the procedure referred to in Article 251 of the EC Treaty [2003] OJ L284/1.

accumulated and treated before discharge in compliance with particular standards and due dates.

With regard to treatment goals, secondary (i.e. biological) treatment is the conventional rule, further nutrient removal in supposedly fragile regions (tertiary treatment); for particular maritime zones primary treatment can be adequate.

The due dates for applying the directive differ in terms of the extent of the accumulation and the features of the receiving waters.

The application and functioning of this directive in candidate states must be realized taking into account the comprehensive provisions of the Water Framework Directive (2000/60/EC)²²⁹, that has amended the legislative structure for Community water-related legislation and that has presented an amended framework for the practical implementation of this directive.²³⁰ It is advised that any further application of this directive occur following cautious analysis of the Water Framework Directive.²³¹

The Urban Waste Water Treatment Directive is specifically referred to in the Water Framework Directive for the aims of the new “combined approach” to water protection legislation.²³² It is pertinent to the specification of “protected areas” within Article 6 and Annex IV, and besides is in particular necessary to be included as a “basic measures” in programmes of measures for river basin managements plans for accomplishing the objectives of last-mentioned directive.²³³

²²⁹ European Water Framework Directive (n 2).

²³⁰ " (2015) 2015 Glob Envtl L Ann 33.

²³¹ European Water Framework Directive (n 2).

²³² *ibid* art 10.

²³³ *ibid* art 6, annex IV and annex VI.

Directive 91/271/EEC²³⁴ was amended by Regulation (EC) No. 1882/2003²³⁵, however this regulation merely includes one paragraph concerning particular committee procedures of the Commission.²³⁶

2.5. *The Nitrates Directive*

The goals of the directive²³⁷ involve diminishing water contamination stemmed from or triggered by nitrates from agricultural sources and avoiding this sort of potential pollution in the future.

To this end, Member States should detect waters influenced by such contamination and waters that could be influenced by such contamination and classify them and every zone flowing into those waters as “vulnerable zones”. For these areas, they should further constitute and apply action programmes to diminish contamination. Those action programmes include compulsory precautions comprising maximum proportions of dung which can be implemented to soil every year. For regions exterior to the vulnerable zones, diminishing of contamination must be encouraged by (voluntary) codes of good agricultural practice. Member States are, within this framework, required to observe the nitrate accumulations, surface waters and also eutrophication in surface waters.²³⁸

It should be highlighted that Water Framework Directive has the inclusive essence at this point and the particular attribution therein to the Nitrates Directive

²³⁴ Urban Waste Water Directive (n 166).

²³⁵ Regulation (EC) No 1882/2003 of the European Parliament and of the Council of 29 September 2003 adapting to Council Decision 1999/468/EC the provisions relating to committees which assist the Commission in the exercise of its implementing powers laid down in instruments subject to the procedure referred to in Article 251 of the EC Treaty [2003] OJ L284/1.

²³⁶ " (2015) 2015 Glob Envtl L Ann 33, 34.

²³⁷ The Nitrates Directive (n 167) as amended by Regulation (EC) No 1882/2003 (n 230).

²³⁸ " (2015) 2015 Glob Envtl L Ann 43.

for the aims of implementing the “combined approach” of water quality and emission boundaries supervision, along with supervision on diffuse sources²³⁹, and the incorporation of the Nitrates Directive further as a “basic” measures to be comprised in the necessary programmes of measures for river basin management plans.

Directive 91/676/EEC²⁴⁰ was amended by Regulation (EC) No. 1882/2003²⁴¹, however this regulation merely includes one paragraph concerning particular committee procedures of the Commission.²⁴²

2.6. Discussion

There is an intrinsic strain between the policy desires of the EU and the legal structure within which those desires are sought. As EU maritime security legislation, in general, targets all vessels, irrespective of the nationality of their flag State or operator, this leads to tensions with respect to international law, within which States, involving flag States, are merely subject to duties to which they have agreed or which have a grounds within customary international law.

The *pacta tertiis* norm, according to which a treaty constitutes neither rights nor duties for third parties, is a fundamental principle of international law, and there is no proof to advocate the perception that navigational rights and liberties, originating from a wide set of sources in customary and treaty law, could be reversed by a body of States consenting to implement substitute norms in particular geographical regions. The pertinence of the *pacta tertiis* norm to the existing concern should thus not be in doubt. The likelihood of obliging vessels carrying the flag of third countries by taking into account EU law, or other

²³⁹ European Water Framework Directive (n 2) art 10.

²⁴⁰ The Nitrates Directive (n 167).

²⁴¹ Regulation (EC) No 1882/2003 (n 230).

²⁴² Glob Env'tl L Ann (n 233).

regional regulations, as symbolizing regional or local customary law is evenly problematic and does not appear to get advocacy in the restricted doctrinal proof of this source of legal duty.

Rather, the legal base for the EU's regulation of foreign vessels lies in their existence in regions within its jurisdiction (or that of its Member States). The jurisdiction of States over foreign vessels is adjusted in the law of the sea and, specifically, in the 1982 United Nations Convention on the Law of the Sea (UNCLOS).²⁴³ The Convention establishes in significant detail the jurisdiction of countries to constitute national regulations (prescriptive or legislative jurisdiction) and to put those regulations into action (enforcement jurisdiction) over foreign vessels in each distinct maritime zone. The legal facilities for the EU to enforce regulations on foreign vessels and are therefore widely restricted to those present within this convention and within overall international law.

UNCLOS, often described as the 'Constitution of the Oceans', highlights particularly the significance of global and united adjustment of maritime security and pollution prevention. Recurrent attributions to perceptions such as the 'generally accepted' or 'applicable' *international* regulations and the 'competent international organization' (in the singular) intend to prevent a fragmentation of maritime law and therefore puts significant limitations on the endeavors of individual countries, or areas, to launch regulations that deviates from those accepted on a global scale, especially in regard to vessels that are solely transiting along their sea zones. Whereas it forms a cautious jurisdictional balance between the maritime and coastal profits of countries, in their capacities as flag, coastal and port countries, that differs in each maritime area, the Convention recognizes very restricted jurisdictional authority over foreign vessels for areas or regional organizations. The presence of EU legislation in this area is thus possible to challenge some fundamental policy principles which have

²⁴³ United Nations Convention on the Law of the Sea (adopted 10 December 1982, entered into force 16 November 1994) 1833 UNTS 3 (UNCLOS).

conventionally dominated maritime security adjustment. This is especially so as EU precautions in this area have concentrated less on constituting regulations for vessels carrying the flags of Member States (flag State perspective), and more on conditions for all vessels entering EU ports (port State perspective) and, more lately, regulations for vessels which are merely passing along the coastal waters of the EU (coastal State perspective).

Considering the very comprehensive technical adjustment of maritime security in the International Maritime Organization (IMO) regulatory conventions (and, with respect to labor conditions for mariners, the conventions adopted by the International Labour Organization (ILO)), EU precautions in this field are generally pertinent to regulations and norms which have already been accepted on a global scale. Nevertheless, the association differs. In a number of incidents, the EU has intended to enhance the application and enforceability of the international regulations basically by copying them into the EC legal structure. Mostly, the EU has intended to bring diverse components of added value to the international regulations and norms through strengthening them in diverse manners. Instances comprise the improvement of officially non-obligatory laws and verdicts to compulsory norms for vessels bound for EU harbors or the initial application of international regulations that have been adopted however still have not come into effect. More lately, the EU has adopted precautions that modify the scope of present international regulations through EU legislation, in particular regarding vessels bound for its harbors. Except for the constant quantitative enlargement of EU maritime security legislation into diverse fields of maritime regulation, the most prominent legislative tendency is possibly an increasing autonomy from the international regulatory system. The gradual evolution of EU legislation is thus growingly leading to more direct problems of accordance with the international regime as constituted by UNCLOS and the regulatory conventions.

Since 1998, the European Community has been a Contracting Party to UNCLOS and has accordingly undertaken the identical rights and duties as States Parties

regarding affairs within its jurisdiction. On the other side, it does not officially take part in any IMO (or ILO) Convention and is therefore not obliged by duties deriving from those conventions within international law, even if indirect duties might come after the close link among those conventions and UNCLOS as mentioned above. Besides, the conventions might, in spite of the absence of their official approval by the Community, have a number of impacts in Community law. The intricacy of the regulatory structure is further highlighted through the growing trend of regional environmental safeguarding systems to adjust shipping affairs. The Community takes part in a number of such conventions (particularly such as those involving the Baltic Sea, the Mediterranean and the North Sea) and the European Commission, operating in the name of the Community, has occasionally played a fundamental role in developing these regional shipping regulations.²⁴⁴

When it comes to transboundary extent, EU taken considerable actions toward efficient solutions for the transboundary impacts of environmental mishaps.²⁴⁵ A significant achievement is the Environmental Liability Directive (ELD)²⁴⁶, that provides Member States influenced by environmental harm originated in another Member State the right to assert reimbursement for the cost incurred for precautionary and solution oriented measures from the accountable operator. European law further adjusts an explicit context for transboundary legal dispute in civil affairs through victim-friendly regulations regarding jurisdiction and the preference of feasible law. A significant deficiency exists in the absence of efficient, coordinated regulations regarding harm assertions of private

²⁴⁴ Henrik Ringbom, *The EU Maritime Safety Policy and International Law* (Martinus Nijhoff Publishers 2008) 3-6.

²⁴⁵ Monika Hinteregger 'Transboundary Environmental Damage and the Law of the European Union' (2011) 105 *Proceedings of the Annual Meeting* (American Society of International Law) 433, 436.

²⁴⁶ Directive 2004/35/CE of the European Parliament and of the Council of 21 April 2004 on environmental liability with regard to the prevention and remedying of environmental damage [2004] OJ L143/56.

individuals. The European Commission should continue to the original project, from the introduction of the elaboration of the ELD, to form an extensive tort law directive assigning a strict accountability rule for hazardous actions. This rule should complete the EU public law tools for contamination hindrance defined above. It should ensure the compulsory cover for the operator, illuminate the injured party's burden of proof for causation, and include logical and efficient class action instruments.²⁴⁷

A comparative evaluation between 1997 UN Watercourses Convention and the 2000 EU Water Framework Directive demonstrates that there are no significant confrontation among the means. Nevertheless, varieties are present, both in the extent of each tool and the scope of the duties situated upon the parties. With respect to extent, the 2000 EU Water Framework Directive evidently has a larger area of responsibility involving all EU waters, both national and international; while the 1997 UN Watercourses Convention is concerned specifically with international watercourses. In regard to the scope of the essential duties included within the means, there is a significant variation in that; the degree of provision included in the 2000 EU Water Framework Directive is much more elaborated and explicit compared to the 1997 UN Watercourses Convention.²⁴⁸

The normative content of the right to water signifies for the EU to abide by the principle of accessibility of drinking water.²⁴⁹ On the ground of the provisions of the European Convention on Human Rights (EConvHR), the European Court of Human Rights (ECHR) resolved that a violation of the State's requirement to adhering to the right to water could correspond to a breach of art 3 of the Convention on "inhuman or degrading treatment". On an external scale, the

²⁴⁷ Hinteregger (n 245).

²⁴⁸ Alistair S. Rieu-Clarke 'THE ROLE AND RELEVANCE OF THE UN CONVENTION ON THE LAW OF THE NON-NAVIGATIONAL USES OF INTERNATIONAL WATERCOURSES TO THE EU AND ITS MEMBER STATES' (2008) 78 *British Yearbook of International Law* 389, 413.

²⁴⁹ Vivien Deloge 'Road to 2015: The European Union and the Realisation of the Human Right to Water' (2012) 16 *New Zealand Journal of Environmental Law* 8.

accomplishment of Millennium Development Goal (MDG) 7.C on access to water and sanitation is constituent of the EU development policy targeting extermination of penury in compliance with the principle of sustainable development established within art 3(5) of the Treaty on European Union. The right to water also necessitates the implementation of the principle of affordability, that signifies the application of exclusive tariff policies permitting the most in need not to be excluded from obtaining drinking water. Failure in privatization projects brought about the reevaluation of the principle of full recovery of costs created by investments in water and sanitation services and to promote a sustainable cost recovery principle more probable to consider all needs. Also, the EU Water Framework Directive necessitated Member States to apply as of 2010 novel tariff policies “to provide adequate incentives for users to use the water resources efficiently”.²⁵⁰ Besides, a flagship scheme highlighting resource efficacy within the novel Europe 2020 Strategy for smart, sustainable and inclusive development was launched.²⁵¹

Within the structure of EU legislation related in particular to water, the level of ‘integration’, in the meaning of adopting an IWRM attitude is very restricted. The fundamental Directive dealing with the water environment, the WFD, might have asserted to have ensured the integration in the safeguarding and sustainable management of waters, however, in practice, the grounds for this assertion is comparatively restricted.²⁵² Particularly, the WFD fails to reach the extensive codification of EU water legislation, with prominent water Directives, regarding Drinking Water Quality (98/83/EC)²⁵³, Bathing Water Quality (75/160/EEC and

²⁵⁰ European Water Framework Directive (n 2) art 9.

²⁵¹ Deloge (n 249) 8-9.

²⁵² William Howarth ‘Going with the flow: Integrated Water Resources Management, the EU Water Framework Directive and ecological flows’ (2018) 38 Legal Studies 298, 304.

²⁵³ Drinking Water Directive (n 180).

2006/7/EC)²⁵⁴, Municipal Waste Water Treatment (91/271/EEC)²⁵⁵ and Agricultural Nitrates (91/676/EEC)²⁵⁶ remaining mostly distinct from the WFD. Even within its own boundaries, the WFD is deficient in interface with other policies and legislation that have prominent effects for the water environment and larger matters of water management. In summary, the WFD takes into account a little to the issues of water quantity and the numerous other water management matters that fall within the extent of IWRM.²⁵⁷



²⁵⁴ Directive 2006/7/EC of the European Parliament and of the Council of 15 February 2006 concerning the management of bathing water quality and repealing Directive 76/160/EEC [2006] OJ L64/37.

²⁵⁵ Urban Waste Water Treatment Directive (n 171).

²⁵⁶ The Nitrates Directive (n 172).

²⁵⁷ Howarth (n 252).

CHAPTER 3

3. COMPARISON OF CUSTOMARY INTERNATIONAL LAW AND TREATY LAW IN REGARD TO WATER MANAGEMENT POLICY

3.1. *Customary International Law*

It has been more than half a century since the four 1958 Geneva Conventions on the Law of the Sea were adopted²⁵⁸, however they have not been quite admitted as the UNCLOS.²⁵⁹ Nevertheless various countries that have great maritime benefits are not party to one or more of these conventions.²⁶⁰

Throughout the last several decades, various international means have addressed to the “customary law of the sea as reflected in” UNCLOS, in general terms.²⁶¹ This circumstance brings about the question of which provisions in these agreements are currently taken into account as customary international law obligatory over all countries. A second question is which norms of customary international law not included in law of the sea agreements are feasible in the

²⁵⁸ Convention on the Territorial Sea and the Contiguous Zone (adopted 21 February 1957, entered into force 10 September 1964) 516 UNTS 205; Convention on the High Seas (entered into force 30 September 1962) 450 UNTS 11; Convention on Fishing and Conservation of the Living Resources of the High Seas (entered into force 20 March 1966) 559 UNTS 285; and Convention on the Continental Shelf (entered into force 10 June 1964) 499 UNTS 311.

²⁵⁹ UNCLOS (n 5).

²⁶⁰ Among the 30 states not party to the UNCLOS, 15 are coastal states and 15 are landlocked. The coastal states not party to the Convention comprise: Colombia, Iran, Israel, Peru, Turkey, the United States, and Venezuela. The number of parties to the 1958 Geneva Conventions on the Law of the Sea is comparatively few: Convention on the Territorial Sea and the Contiguous Zone, n (240), 52 parties; Convention on the Continental Shelf, n (240), 58 parties; and Convention on the High Seas, n (240), 63 parties.

²⁶¹ Instances comprise: Agreement on Cooperation on Marine Oil Pollution Preparedness and Response in the Arctic (signed 15 May 2013, entered into force 2016) art 16; International Convention for the Control and Management of Ships' Ballast Water and Sediments (adopted 13 February 2004, entered into force 8 September 2017) (BWM) art 16; and ; International Convention on the Control of Harmful Anti-fouling Systems on Ships (adopted 5 October 2001, entered into force 17 September 2008) art 15.

framework of law of the sea.²⁶² Proof of the answers to the first question is existent in the verdicts and distinct views of the International Tribunal for the Law of the Sea (ITLOS) and arbitrations.²⁶³

Countries and law of the sea specialists have declared opinions on these questions as well.²⁶⁴ For instance, the United States referred to the initial question in the President's Ocean Policy Statement of 10 March 1983:

“The [UNCLOS] convention contains provisions with respect to traditional uses of the oceans [such as navigation and overflight] which generally confirm existing maritime law and practice”²⁶⁵

The United States and the Soviet Union stated that UNCLOS, “with respect to the traditional uses of the oceans, generally constitute[s] international law and practice”²⁶⁶ in 1989.

²⁶² J. Ashley Roach ‘Today’s Customary International Law of the Sea’ (2014) 45 *Ocean Development & International Law* 239.

²⁶³ Verdicts of bodies established by UNCLOS (n 5), such as the International Tribunal for the Law of the Sea (ITLOS), and Annexes VII and VIII arbitral tribunals are unlikely to deal with the initial question as solely parties to the Convention can resort to their jurisdiction. Nevertheless, Article 293(1) of UNCLOS entails tribunals to implement “other rules of international law not incompatible with” UNCLOS where the Convention did not express those rules. See The “ARA Libertad” Case (Argentina v. Ghana) (Provisional Measures), 15 December 2012, and The M/V “Saiga” (No. 2) Case (St. Vincent and the Grenadines v. Guinea) (Judgment) 1 July 1999, both accessible at the ITLOS Web site, www.itlos.org.

²⁶⁴ Roach (n 244) 241.

²⁶⁵ Ronald Reagan, ‘President’s Ocean Policy Statement’ (United States, 10 March 1983) accessible at the Division of Ocean Affairs and the Law of the Sea (DOALOS) Web site at www.un.org/Depts/los/. Secretary of State Hillary Clinton specified this point in particular as customary international law in her testimony in support of UNCLOS before the Senate Foreign Relations Committee on 23 May 2012, available at www.foreign.senate.gov/.

²⁶⁶ ‘Joint Statement by the United States and Soviet Union, with Uniform Interpretation of Rules of International Law Governing Innocent Passage’ (2 September 1989), *Law of the Sea Bulletin* 14 (1989): 12–13; 28 *I.L.M.* 1444–1447 (1989); and *American Journal of International Law* 84 (1990): 239–242.

Whereas not in particular referring to the customary international law of the sea, the International Law Association (ILA) and the International Law Commission (ILC) have referred to particular aspects of customary international law.²⁶⁷ The ILA adopted a “Statement of Principles Applicable to the Formation of General Customary International Law” at its 60th conference in London, in 2000.²⁶⁸ The ILC has been working on the subject “Identification of customary international law” since 2012.²⁶⁹

International Court has had to encounter forthrightly the initial question of what is the customary law of the sea recently, since, in several controversial cases, one of the parties had not agreed to be bound by the pertinent agreement. The Court was compelled to resolve what would be the pertinent provisions obligatory for both parties; which is, to express what provisions of the 1958 or 1982 Conventions were customary international law and therefore obligatory for the countries subject to being a persistent objector.

In *Qatar v. Bahrain* (2001)²⁷⁰ and *Nicaragua v. Colombia* (2012)²⁷¹, Qatar and Colombia were not party to the 1982 UNCLOS whereas Bahrain and Nicaragua were. Also, neither Qatar nor Bahrain were party to the 1958 Conventions

²⁶⁷ Roach (n 244) 241.

²⁶⁸ International Law Association (ILA) ‘Final Report of the Committee on Formation of Customary (General) International Law: Statement of Principles Applicable to the Formation of General Customary International Law (as amended at the London Conference)’ in Report of the Sixty–Ninth Conference (London 2000) 712-777.

²⁶⁹ International Law Commission (ILC), “Formation and evidence of customary international law/Identification of customary international law,” available at www.legal.un.org/ilc/summaries/13.htm. See links to the Secretariat’s study that endeavored to identify elements in the previous work of the commission that could be particularly relevant to the topic, UN Doc. A/CN.4/659 (14 March 2013), and the special rapporteur’s introductory report, UN Doc. A/CN.4/663 (17 May 2013).

²⁷⁰ *Maritime Delimitation and Territorial Questions Between Qatar and Bahrain* (Qatar v Bahrain) (Judgment) [2001] ICJ Rep 91, para 167.

²⁷¹ *Territorial and Maritime Dispute (Nicaragua v. Colombia)* (Judgment) [2012] ICJ Rep 666, para 114.

whereas Nicaragua was party to none of the 1958 Conventions and Colombia was party merely to the Convention on the Continental Shelf.

It must be stated that, apart from the example of the 1969 *North Sea Continental Shelf Cases*,²⁷² the Court has not clarified why a certain provision of the law of the sea agreements fulfil the standards for customary international law. The Court has merely articulated whether particular agreement provisions are customary international law or not.²⁷³

3.1.1. *Sources of Customary International Law*

Up to the recent years, international law reigned over a comparatively small and unstructured community of countries. The United Nations was formed as late as the end of World War II with solely 51 members – Switzerland by itself preferred to remain out of the United Nations, and numerous discomfited Axis countries were kept out.²⁷⁴ The United Nations and other international organizations are definitely considered as complete actors (“legal persons”) in the international legal structure.²⁷⁵ Dramatically increasing non-governmental and other official and semi-official entrants are currently acting their unique albeit lesser role. Even natural and artificial persons (individuals and corporations) are currently accepted to some degree as entrants in the international legal society.

Alterations in the United Nations and in other international systems have converted the international legal structure from the comparatively basic system of the past to a progressively various and mixed society of players who generally

²⁷² North Sea Continental Shelf Cases (Federal Republic of Germany/The Netherlands; Federal Republic of Germany/Denmark) [1969] ICJ Rep 28-29, paras 37-38 and 37-45, paras 60-81.

²⁷³ Roach (n 244) 242.

²⁷⁴ Joseph W. Dellapenna ‘The customary international law of transboundary fresh waters’ (2001) 1 Int. J. Global Environmental Issues 264, 265.

²⁷⁵ Advisory Opinion on reparations for injuries suffered in the service of the United Nations 1949 ICJ 174.

no more have much information about each other. Also, this enlarging society of countries manifests more sharply distinguished cultural customs than the smaller community of countries before World War II; these dissimilarities were highlighted as well through separation of the world into blocs characterized by ideological antagonism. This is clearly the context where one can anticipate that the entrants would greet the occurrence of specialized and more formal legal systems. Moreover, on a regional scale this does seem to be occurring (take into account, for instance, the Association of Southeast Asian States, the European Union, or the North American Free Trade Association). This has even been correct on a global level for specialized types of activity (take into account, for instance, the International Atomic Energy Agency, the International Civil Aviation Organization, and the World Trade Organization). Still, to a great extent, the international legal structure continues to be institutionally undeveloped and decentralized.²⁷⁶

3.1.2. *Water Management*

An abundant proportion of custom concerning internationally shared fresh water has appeared, mostly throughout the previous century. International discords concerning non-navigational utilizations of fresh water were infrequent and instead settled without difficulty prior to modern industrial period. Throughout the history, the process of claim and counterclaim in regard to internationally shared fresh waters concentrated on surface waters. The implementation of the resulting norms to international aquifers is a comparatively new advancement.

3.1.2.1. *State Practice and Opinio Juris*

Industrialization led to the extensive utilization and large-scale deviation of water from its source of origin. The resulting international claims and counterclaims rapidly settled into a foreseeable sequence, contingent on the

²⁷⁶ Dellapenna (n 256) 255-266.

riparian status of the country asserting the claim. Solely riparian countries (countries along which, or across which, a river streams) have any legal right, without a treaty, to utilize the water of a lake, river, or other surface body. Nevertheless, above that point, the sequences of international claim and counter claim firstly deviated sharply in terms of the riparian status of the state asserting the claim. The uppermost riparian country every time firstly asserts 'absolute territorial sovereignty'.²⁷⁷ Through this assertion, the upper riparian country claims a right to do whatever it desire with the water irrespective of its impact on other riparian countries. Downstream countries, on the other side, usually asserts a right to the 'absolute integrity of the watercourse'.²⁷⁸ These lower riparian countries assert that upper riparian countries cannot do anything that has an impact on the quality or quantity of water which streams down the watercourse. Friedrich Berber stated that these assertions "are grounded in an individualistic and anarchical conception of international law in which personal and egotistical interests are raised to the level of guiding principles and no solution is offered for the conflicting interests of the upper and lower riparians".²⁷⁹

The absolute incongruity of such assertions assures that none of those assertions will be victorious at the end, even if the process of negotiations or else settling the discord included in these assertions may continue for decades. The general settlement is found in a term of 'restricted sovereignty' which is also called 'equitable utilisation'.²⁸⁰ States which are both upper and lower riparians on the same watercourse (generally according to different states) frequently are the first to claim a theory of restricted sovereignty within which each state accepts the

²⁷⁷ *ibid* 269.

²⁷⁸ *ibid*.

²⁷⁹ *ibid*, citing Berber, F.J. (Batstone, R.K. translator) (1959) *Rivers in International Law*, p.14.

²⁸⁰ *ibid* 270.

right of all riparian countries to utilize water from a shared body as far as their utilizations do not hinder utilizations in other riparian countries irrationally.²⁸¹

3.1.2.2. *The Helsinki Rules*

One specifically significant sort of expert opinion is a report or ‘codification’ of one or another of the international unions of legal experts which have bloomed since the nineteenth century. Great number of these unions have tackled to synthesize the incidents of states in dealing with the common management of international surface water bodies. These have comprised the Asian-African Legal Consultative Committee, *l’Institut de droit international*, and the Inter-American Bar Association. Whereas these unions have no official status as lawmakers, the prominence of the views of the ‘most highly qualified publicists’ in customary international legal courses provide them a prominence which would be considerable for a similar union in a national legal structure. Their views carry particular weight due to the reputation of the members who worked on those projects, and due to the endorsement of the final outcome carries the warrant of a huge and various proportion of expert opinion.²⁸²

The International Law Association, a reputable non-governmental organization of legal experts formed in 1873, finished the most known work of the customary international law of transboundary water bodies in 1966. The outcome is recognized as the Helsinki Rules on the Uses of the Waters of International Rivers.²⁸³ The Helsinki Rules were the first initiative by any international association to codify the complete law of international watercourses. The resulting norms have strongly affected state practice and also endeavors of other

²⁸¹ *ibid.*

²⁸² Dellapenna (n 256) 273.

²⁸³ International Law Association ‘The Helsinki Rules on the Uses of the Waters of International Rivers’ in Report of the Fifty-Second Conference (Helsinki 1966) (Helsinki Rules). The project was begun in 1954 and produced an interim report to the Association’s Conference in new York in 1958. *Int. L. Ass’n, Research Project on the Law and Uses of International Rivers*, pp.197-198 (1959) (NYU Conference).

international associations in investigating the law of internationally shared fresh waters.

The Helsinki Rules regard international drainage basins (catchments extending over two or more countries) as inseparable hydrological units to be managed as a single unit to assure the “maximum utilization and development of any portion of its waters”.²⁸⁴ This norm precisely comprises every branches (involving branch groundwater) under the term of ‘drainage basin’ and therefore extends above the main international watercourse itself. The Rules framed the expression ‘equitable utilisation’ to signify the norm of restricted sovereignty as implemented to fresh waters: “Each basin State is entitled, within its territory, to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin”.²⁸⁵ The International Law Association has continued to design norms regarding water-centred actions not referred to straightforwardly or sufficiently by the Helsinki Rules, comprising supervision of flood (1972), contamination (1972 and 1982), navigability (1974), safeguarding of waterworks throughout armed confrontations (1976), mutual management (1976 and 1986), flow regulation (1980), prevalent environmental governance issues (1980), groundwater (1986), cross-media contamination (1966), and remedies (1996).

Furthermore, The International Law Association developed what some consider as a second principle managing the governance of internationally shared water resources, that each state shall not bring about ‘substantial damage’ to the environment or the natural circumstance of the waters above the boundaries of the state’s jurisdiction.²⁸⁶ The American Law Institute, an unofficial union of legal experts, lawyers, and scholars which has been prominent to a great extent in the development of US law, has further stated that countries should “take such

²⁸⁴ Helsinki Rules (n 264) art II and comment (a).

²⁸⁵ *ibid* art IV.

²⁸⁶ Dellapenna (n 256) 273-274.

measures as may be necessary, to the extent practicable under the circumstances” to refrain from damage to adjacent countries.²⁸⁷ None of the organizations tried to figure out the association between the ‘no harm’ norm and the ‘equitable utilisation’ norm, a failure which would lead to significant uncertainty and issues in following years.²⁸⁸

3.2. Discussion

3.2.1. Analysis of Previous Freshwater Discords

Chile brought its discord with Bolivia that dates back a long time regarding the Silala/Siloli watercourse to the ICJ on 6 June 2016. It is a comparatively small catchment, despite that however has been regarded ‘high risk’, mostly due to the tense relationship between Bolivia and Chile. The Silala/Siloli has its origin in Bolivian land and streams across the border into Chile. Bolivia has claimed since 1997 that the watercourse is not “international” and that Bolivia is thus authorized to utilize 100% of its waters.²⁸⁹ Chile demanded in its request that the court “declare that the Silala River system is in fact and in law an international watercourse whose use by Chile and Bolivia is governed by customary international law”.²⁹⁰ This case has the potential to create milestone verdict in the law of non-navigational uses of international watercourses, for at least two causes. Initially, it is the first time that a discord regarding the status of a watercourse as international has been brought to the court. Secondly, in case the court resolves that the Silala/Siloli is in actual an international watercourse, it will have a peculiar chance to illuminate countries’ essential and procedural

²⁸⁷ Advisory Opinion (n 257) restatement (third) 601.

²⁸⁸ Dellapenna (n 256) 274.

²⁸⁹ Tamar Meshel ‘A new transboundary freshwater dispute before the International Court of Justice’ (2016) 42 Water International 92.

²⁹⁰ *Proceedings instituted by Chile against Bolivia with regard to a dispute concerning the status and use of the waters of the Silala River system* 2016 <https://www.icj-cij.org/en/case/162> accessed 29 October 2021.

duties within international water law, which remain to be the concern of debate and contrasting interpretations.

Until today, two cases regarding the non-navigational uses of international watercourses have been brought to the ICJ, and one case to its antecedent, the Permanent Court of International Justice. These are, consecutively, the Case concerning the diversion of water from the Meuse²⁹¹, the Case concerning the Gabčíkovo Nagymaros Project²⁹² and the Case concerning the Pulp Mills on the River Uruguay.²⁹³ Those cases related to utilization discords, comprising either the deviation of water or projects that affected the reserve or quality of water, and neither of them brought into question the status of the freshwater body as an international watercourse. Also, in all of those discords the parties had reached an agreement managing the utilization or distribution of the waters in dispute, that the court addressed and implemented. Thus, the case concerning Silala/Siloli discord is the first time that the questions of the status of a river as an international watercourse, along with its distribution and utilization distinct and except from a particular precaution or project, are located before the court.

3.2.2. *Criticism of Customary International Law*

Dependence on customary international law to assign surface or ground waters in between countries basically has not reached much success. The regime is too unofficial, does not have explicit norms and the tools of realizing and enforcing such norms as it has. The considerable point is that this unofficial regime has been successful insofar as it has been in numerous regions of the world. To start to analyze why the customary international system is not successful initially it

²⁹¹ *The diversion of water from the Meuse (The Netherlands v Belgium)* [1937] PCIJ Judgment of 28 June 1937.

²⁹² *Case concerning the Gabčíkovo-Nagymaros Project (Hungary v Slovakia)* [1997] ICJ Judgment of 25 September 1997.

²⁹³ *Case concerning the Pulp Mills on the River Uruguay (Argentina v Uruguay)* [2010] ICJ Judgment of 20 April 2010.

would be better to take into account the case of the United States (US), a country where there has been a lot of legal disputes in regard to ‘equitable apportionment’ among states that the cases of the US Supreme Court are generally defined as the source of the international norm of ‘equitable utilisation’. Even with each state in the US settling over the norm, and with a highly influential federal judiciary applying mandatory jurisdiction over conflicting states, equitable sharing basically turned out to be too inefficient and too indefinite to please states engaged in discords concerning interstate bodies of water. There have been continual and repeating discords over what should be the general norm and the appropriate implementation of any accepted norm.²⁹⁴

In discords in regard to international water allocation, the absence of detailed federal institutional regulations existing in the US would eventually lead back to the law of the feud. International law is basically too undeveloped to work out the ongoing governance issues in a timely manner. Whereas ambiguity of legal right can bring about collaboration in between the ones sharing a body, it might contribute to drastic dispute as well. Depending merely on an unofficial legal regime to legitimate and restrict assertions to utilize common water bodies is intrinsically unreliable. It gets to be inconsistent either one or more countries regard that it is so militarily superior that it can ignore the benefits of its neighbors, or when one or more countries regard that their benefits are jeopardized by the prevalent circumstance that even the danger of military defeat is more bearable than the ongoing existing circumstance without confrontation.

However, no solution is probable without the formation of the required law. In case a collaborative governance regime is to be established for internationally shared fresh waters, that regime should necessitate the formation of some kind of legal structure for settling discords. The unavoidability of repeating harsh discords, even obvious armed struggle, would continue to be within a term of restrictive sovereignty even where water usage is linked to some more or less

²⁹⁴ Meshel (n 271) 276.

objective record of need (historic utilization or the like) as long as there is no functional substitute system for settling the unavoidable discords. The circumstance would be even worse in case the parties were to assess the right to utilize water through unclearly described equitable apportionment. The closest analogue to this regime is the riparian rights regime (and its interstate analogue of 'equitable apportionment') as implemented in the eastern US. The 'reasonable use' form of riparian rights implemented in the eastern US is probably an even more explanatory instance of why such unclear norms cannot endure as water distribution systems in areas where demand steadily borders on or surpasses supply. The 'reasonable use' theory of riparian rights has hardly worked in regions of US which do not have constant water scarcity and which have a powerful legal system to settle discords among consumers. Whenever water utilization in the eastern US surpasses the obtainable bodies of water, riparian right have been renounced in favor of a novel system of water rights which are strongly governed by public bodies which apportion water to specific utilizations by time-restricted authorizations and give warrant in the bodies to specify the most socially beneficial ('reasonable') utilization of the water.²⁹⁵

Whereas pressure over water bodies itself produces stresses for collaborative solutions to the issues bothering the populations sharing the bodies, the formation of an official legal structure is a required condition to hindering dispute over water in any population where water bodies are under pressure. Collaborative governance has taken numerous shapes across the globe, varying from continuous and never-ending dialogues, to a system of active collaborative governance which stays in the hands of the countries getting involved, to the formation of various regional bodies proficient of making and enforcing their judgments straightforwardly. Experience and also theory therefore demonstrates that crucial dispute in one shape or another cannot be evaded within the norm of

²⁹⁵ *ibid* 276-277.

equitable utilisation without a legal system for the organized examinations and settlement of the discords typical of that theory.²⁹⁶

3.2.3. *Criticism of Treaty Law*

Throughout the world, water is a fundamental, however, unequally allocated natural body. A brief look at the latest map of the world's water-scarce regions corroborates that many of them are located in politically inconsistent and/or poor states. Within the recent decades, environmental deterioration and resource dispute have been determined as national or regional security problems potentially as crucial as armed struggle. A number of water and security researches have made a normative inference that those scarcities will bring about interior and exterior disputes concerning the utilization of restricted water reserves and that those disputes may cause to either military activity or huge disturbance among public and political crises. Today, an increasing connection between water distribution and global security reveals various deficiencies in international water law and management which should be fixed to tackle the entire series of global water scarcities.²⁹⁷

Four deficiencies of international water law are: (1) the gap between the law's ambition to give an assurance all riparian countries an even proportion of existing, shared waters and the motivations for stronger and more prosperous countries to take unilateral steps which biases legal opposing assertions and menaces the welfare of the ones up- and downstream who depend on the water; (2) the gap between global climate change (GCC) adjustment works, that require flexible governance systems, and the law's long-established objective of urging states to confer settled licensing agreements with the aim of ensuring the constancy required for infrastructure investment; (3) the continual subjections of the preservation of aquatic ecosystems to unstable, generally consumptive,

²⁹⁶ *ibid* 277.

²⁹⁷ A. Dan Tarlock 'Four Challenges for International Water Law' (2010) 23 *Tulane Environmental Law Journal* 369, 370.

utilizations in spite of latest, praiseworthy attempts to “blue” international water law; and (4) the frequent encouragement of the building of extensive barrages, despite the fact that those barrages generally do not provide the promised advantages to the poor and damage native populations and aquatic ecosystems.

Customary international water law generally promotes those shortages since it encourages a competition to barrage and therefore supplies motivations for states to invest in extensive projects without attentive deliberation of other feasible manners to utilize the water. It emphasizes strict permissions over collaborative, applicable governance systems. It further makes contribution to the deterioration of aquatic ecosystems by permitting this harm to be sacrificed for the sake of consumptive utilizations, in spite of attempts to encourage a more fair allocation of these essential water bodies in between riparian countries to reduce regional strains and to place environmental values on an equal treatment with economic utilizations.

Two novelties have been offered to complement customary norms to constitute governance systems which are just, flexible and refer to the four strains: (1) shared profits and (2) IWRM integrated with applicable governance. Adaptive management systems require to be more receptive to the incorporation of a larger series of benefits and open to more innovative governance methods to handle and allocate danger.

International law by itself cannot, for sure, form allocation systems which are just and applicable and reduce the dangers of disputes. It is too deficient because of the inefficacy of enforcement. Novelty may in maximum perform two duties. Initially, it may reduce the vagueness intrinsic in the present law and therefore increase the motivations to develop more influential and open governance systems. Secondly, as those systems progress, international water standards can

function as background norms through which the legitimacy and efficacy of a system may be assessed.²⁹⁸



²⁹⁸ Tarlock (n 279) 371-372.

CONCLUSION

International water law is grounded largely on UNCLOS as it has defined the general norms which states should adhere to. Safeguarding the environment, ecosystems and habitats constitute a significant part of UNCLOS. The other two conventions which have prominence in shaping the international water managements are the 1992 United Nations Convention on the Protection and Use of Transboundary Watercourses and International Lakes and the 1997 United Nation Convention on the Law of the Non-Navigational Uses of International Watercourses. Whereas UNECE Water Convention refers to the transboundary impact, the 1997 Watercourses Convention addresses protection and preservation of ecosystems of international watercourses, pollution and the concept of significant harm. On the other side, human right to water is one of the most prominent elements that should be considered carefully since water is essential for sustaining life and should be regarded as basic human right. It is a concept which was not recognized neither in UDHR nor in Social Covenant/ICESCR, however granted its recognition by United Nations General Assembly in 2010. Another pillar of international water law is watershed management. Within this context, IWRM encourages the utilization of water resources at basin level. Dublin Principles sets out the fundamental principles for IWRM.

Water has been a priority throughout the history of EU environmental legislations. Yet, the water legislation of EU expanded in 1980, involving the establishment of quality standards for protection of drinking water and directives to reduce water pollution. Then, a milestone in EU water management policy has occurred through the formation of WFD in 2000 which promotes integrated, river-basin specific approach. Alongside the considerable novelties that it set out, one of the most prominent aims of the WFD is to achieve good quality and ecological status for waters by 2015. The directive adopts a holistic approach towards the management of waters that consider larger ecosystem. Member states of EU are obliged to transpose the WFD into their national law within

three years. The most prominent elements of WFD are in the following: river basin management, monitoring, programme of measures, combined approach, cost recovery and public participation. Through these means, WFD aims to achieve its environmental objectives. WFD is criticized over the significant gap between policy and scientific capacity. Some of the other directives that contributed to the water management in EU legislation are Drinking Water Directive, Urban Waste Water Treatment Directive and Nitrates Directive. Drinking Water Directive sets out safeguarding and promotion of sustainable use of water intended for human consumption. Nitrates Directive, on the other side, aim at diminishing water pollution stemmed from or triggered by nitrates from agricultural sources and preventing this type of potential pollution in the future. Then, the goal of Urban Waste Water Treatment Directive is to protect the environment from the negative impacts of effluent discharges.

Customary international law draws a general framework for states putting forward general practices which are considered as law. Helsinki Rules, the results of the most known work of the customary international law of transboundary water bodies, set out norms for water management. The resulting norms had strong influence over state practices. One of the biggest criticisms against customary international law is that the regime is too unofficial whereas a notable criticism against international water law in general is that it is deficient because of inefficacy of enforcement.

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