



# The Obligation of Countries Not to Introduce Dangerous Living Species

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Environmental pollution is no longer restricted to the borders of a specific country. This has led to global attention to transboundary pollution and its various types, most notably the pollution of international watercourses and seas. Facing these challenges requires uniting international efforts by obligating the countries that have international watercourses and the countries that have sea borders under the international law with specific duties to prevent, combat, or limit pollution of international watercourses and seas which should include the obligation of countries not to introduce dangerous living species into international watercourses and seas that cause tangible damage to the biodiversity. Hence, this research revolves centrally around the obligation of countries having international watercourses and riparian countries not to introduce new, dangerous living species that cause tangible damage to biodiversity enshrined in the international law. The research followed the analytical and comparative method, by conducting a comprehensive review of International and regional conventions and protocols concerning watercourses and seas. The research provides several recommendations including the necessity to enshrine the obligation not to introduce new, live species to international watercourses and seas in treaties and instruments of international organizations, also It is needful to establish an effective system of international responsibility.

**Key words:** *Convention; Protocol; Seas; Watercourses; Living Species.*



## 1. INTRODUCTION

Environmental pollution is one of the most significant challenges that is plaguing world countries. Many factors have led to the increase in environmental pollution, the most important of which are technological advancement and industrial development. Environmental pollution is no longer restricted to the borders of a specific country. This has drawn the attention of the world's countries to transboundary pollution and its various types; most notably the pollution of international watercourses and seas. The latter requires uniting international efforts, especially the countries that have international watercourses and the countries that have sea borders, by obligating them under the international law with specific duties to prevent, combat, or limit pollution of international watercourses and seas. This should also include the obligation of countries not to introduce new, dangerous living species into international watercourses and seas that cause tangible damage to the biodiversity. A question arises; is the obligation of countries having international watercourses and riparian countries not to introduce new, dangerous living species that cause tangible damage to biodiversity enshrined in the international law?

The European Environment Agency (EEA) report of 2006 on Priority Issues in the Mediterranean Environment regards introducing exotic species as a crucial issue. The report describes it as “biological invasions” and defines it as “extra-Mediterranean plants and animals that have been unintentionally introduced, have invaded and/or have been imported (The European Environment Agency (EEA), 2006).

The introduction of such new species threatens the biodiversity as explained below:

1. It changes the biodiversity, such as the dominance of a particular species that expands at the expense of other species. Such change has been repeatedly recorded. For example, the rapid decline in the numbers of the starfish *Asterina Gibbosa*, prawns *Melicertus Kerathurus*, and jellyfish *Rhizostomu Pulmo*. On the other hand, the numbers of exotic species, such as *Asterina Burtoni* and *Rhipiliema*, have increased.
2. Fish populations of red mullet and hake have been forced to migrate to deeper waters by the exotic species *Upeneus Moluccensis* and *Saurida Undosquamis*, respectively.
3. The clam *Ruditapes Philippinarum* has impacted the natural environment and has prevailed original species because their harvesting has led to increased loads of suspended material.
4. A significant number of exotic species have become valuable fishery resources in the Levantine area. Those most notable are the prawns *Marsupenaeus Japonicus*, the crab *Portunus Pelagicus*, and a few fish species, such as the mullets (The European Environment Agency (EEA), 2006).

Another example of threatening biodiversity because of the introduction of new, exotic species of fishes is that prior to the introduction of the Nile Perch and Nile Tilapia in the



1950s, Lake Victoria has had between 350-400 species of the fish family Cichlidae. By the early 1980s, however, a dramatic shift occurred because of the introduction of the carnivorous Nile Perch, which destroyed the community of more than 350 fish species. The destruction of the original species of the lake has also enriched it with harmful oxygen-consuming plants, as the decomposition of submerged or suspended plants and algae currently requires a lot of oxygen, which contributes to the exacerbation of the permanent anaerobic conditions at the bottom of the lake.

It is, therefore, necessary to learn from the very beginning the extent to which international treaties enshrine the obligation of international watercourse states not to introduce living species, the extent to which the sea-related conventions are concerned with its regulation, and the enshrining of the Food and Agriculture Organization (FAO) to it (McCaffrey, 1998).

## **2. INTERNATIONAL TREATIES ENSHRINING THE OBLIGATION OF INTERNATIONAL WATERCOURSE STATES NOT TO INTRODUCE LIVE SPECIES**

### **2.1. Convention on the Law of the Non-navigational Uses of International Watercourses of 1998**

The obligation of “not to introduce new, dangerous species into international watercourses” is originated in Article (196) of the 1982 Convention on the Law of the Sea and in a recommendation adopted by the International Law Association at the 1982 Montreal session (Al-Jundi, 2001).

The Convention on the Law of the Non-navigational Uses of International Watercourses of 1997 adopts such obligation in Article (22). It stipulates that “Watercourse States shall take all measures necessary to prevent the introduction of species, alien or new, into an international watercourse, which may have effects detrimental to the ecosystem of the watercourse, resulting in significant harm to other watercourse states, which are not aware that all this damage has been done until after it has already happened.

It is worth noting that the commitment set forth in Article (22) only applies if a significant harm is caused to other riparian watercourse states (McCaffrey, 1998). It is observed that the expression "significant harm" continues to replace "serious harm" (Al-Adly, 2007).

It is worth mentioning, moreover, that the statement of understanding issued by the working group that has discussed the Convention notes that Articles (21) to (23) “impose due diligence on Watercourse States,” that is, embody an obligation to due diligence (McCaffrey, 1998).



## **2.2. The Revised Protocol on Shared Watercourses in the Southern African Development Community (SADC) of 2000**

Article (4/2/c) of the Revised Protocol on Shared Watercourses in SADC, concluded on 24 August 1996 and entered into force on 25 January 2000, obligates the member states (Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, and Zimbabwe) to take all the necessary measures to prevent the introduction of exotic aquatic species into the shared watercourses system that may have harmful effects on the ecosystem (The Revised Protocol on Shared Watercourses in the Southern African Development Community (SADC), 2000).

As for the Tripartite Interim Agreement between the Republic of Mozambique, the Republic of South Africa, and the Kingdom of Swaziland for Co-operation on the Protection and Sustainable Utilization of the Water Resources of the Incomati and Maputo Watercourses, which was signed on 29 August 2002, obligates member states to take all the necessary measures to prevent the introduction of exotic or new species into watercourses (MAPUTO) and (INCOMATI) that could have harmful effects on the ecosystem of watercourses and lead to significant harm to the member states (Tripartite Interim Agreement, 2002).

## **3. CONVENTIONS RELATING TO THE SEAS**

### **3.1. The Convention on the Law of the Sea**

Article (196) of the Convention on the Law of the Sea of 1982, concluded on 10 January 1982, obliges the party states to take all the measures necessary to prevent, reduce, and control pollution of the marine environment resulting from the use of technologies under their jurisdiction or control, or the intentional or accidental introduction of species, alien or new, to a particular part of the marine environment, which may cause significant and harmful changes thereto.

Article (206) stipulates that when States have reasonable grounds for believing that planned activities under their jurisdiction or control may cause substantial pollution of or significant and harmful changes to the marine environment, they shall, as far as practicable, assess the potential effects of such activities on the marine environment and shall communicate reports of the results of such assessments in the manner provided in Article (205).

The application of the precautionary principle to the marine environment can be cited in Part (XII) of the Convention on the Law of the Sea, where Article (206) of the Convention stipulates that countries shall assess the substantial effects that may cause substantial pollution of or significant and harmful changes to the marine environment (Al-Jundi, 2004).



The Convention on the Law of the Sea has not adopted the principle of objective liability for pollution, despite the proposals made in this regard at the Law of the Sea Conference by Australia, Norway, and Kenya at the Third Law of the Sea Conference. In fact, Article (235) of the Convention on the Law of the Sea opts for a tort-based approach for negligence resulting from failure to take the necessary measures to prevent pollution (Al-Jundi, 1992; Barnes, 2013).

### **3.2. Tehran Convention of 2003**

The Framework Convention for the Protection of the Marine Environment of the Caspian Sea, signed in Tehran in November 2003, is the first agreement concluded between the five coastal states of the Caspian Sea, namely Azerbaijan, Iran, Kazakhstan, the Russian Federation, and Turkmenistan. Turkmenistan was the first country to ratify the agreement. The representatives of the member states decided to expedite developing protocols on biodiversity and others (Governing Council of the United Nations Environment Programme (UNEP), 2005).

The Framework Convention for the Protection of the Marine Environment of the Caspian Sea, known as the Tehran Convention, which has been concluded on 4 November 2003 in Tehran between Azerbaijan, Iran, Kazakhstan, the Russian Federation, and Turkmenistan, defines “Invasive alien species” in Article (1) as, alien species whose establishment and spread may cause economic or environmental damage to the ecosystems or biological resources of the Caspian Sea.

The Convention addresses the obligation of the Contracting Parties to prevent the introduction of invasive, alien species in Article (12), entitled, “Prevention of Introduction, Control and Combating of Invasive Alien Species.” The said article stipulates that Contracting Parties shall take all appropriate measures to prevent the introduction into the Caspian Sea and to control and combat invasive alien species, which threaten ecosystems, habitats, or species ([www.tehranconvention.org](http://www.tehranconvention.org)).

The introduction of alien species has occurred both accidentally and intentionally in the Caspian Sea. Between 1930 and 1970, at least nine species of fish were intentionally introduced for economic purposes, such as the Grey mullet and the Coho salmon. This deliberate species introduction resulted in the elimination of several native species, e.g. molluscs such as *Mytilaster* and *Abra* (Stolberg, Borysova et al., 2006).

Concerns over loss of biodiversity in the Caspian Sea at genetic, species, and habitat levels are widespread in the region. Loss of biodiversity is occurring as result of many factors, including overfishing and the introduction of alien species. With clear threats to some of the

economically important fish species (including Sturgeon), general concern over loss of biodiversity is increasing (Janusz, 2005; Kvitsinskaia, 2009).

Documentation of the loss of biodiversity in the Caspian region is generally sparse. The damage to biodiversity is evident, but quantitative evidence is sparse. There is clearly an information gap in this issue for many reasons:

1. basin-wide assessments of biodiversity at repeated intervals are not available because of the large expenses associated with this kind of monitoring.
2. Red books of the four northern Caspian countries list rare and endangered species, but lack a general context of their impact on overall diversity.
3. Country reports on biodiversity provide largely incomplete lists that do not permit quantitative assessment of the loss of biodiversity in the Caspian Sea (Stolberg, Borysova et al., 2006).

### **3.3. Protocol Concerning the Conservation of Biological Diversity in the Red Sea and Gulf of Aden of 2005**

The Protocol Concerning the Conservation of Biological Diversity and the Establishment of Network of Protected Areas in the Red Sea and Gulf of Aden, which was signed on 12 January 2005 in Jeddah, defines the “Alien species” as the species or sub-species that have been introduced into an area outside their past or present natural distribution.

This Protocol was published in Jordanian Official Gazette no. 4948, dated 1 February 2009. The Researcher would like to refer to the royal decree, approving Council of Ministers resolution no. (3470), date 16/12/2008, concerning the approval of the protocol. It worth noting that the Contracting Parties are Jordan, KSA, Yemen, Djibouti, Sudan, Egypt, and Somalia, as parties to the Regional Convention for the Conservation of the Red Sea and of the Gulf of Aden Environment (Jeddah Convention), ratified in 1982.

Paragraph (1) of Article (8) of the Protocol obliges the Contracting Parties to prevent the introduction to the wild of non-indigenous or genetically modified species and prohibit those that may have harmful impacts on the ecosystems, habitats, that is, the place where the living organisms originate, or species.

Paragraph (2) of the same article stipulates that Contracting Parties shall control and regulate those already introduced alien species through monitoring and shall eradicate such species if possible.

As for Paragraph (3) of Article (8) of the Protocol, it adopts the reporting system. It stipulates, therefore, that the Contracting Parties shall periodically provide a report for each identified alien species or genotype, in accordance with a common regional format.



One of the cases in which treaties become binding to a third state, without its approval, is when the treaty becomes a customary rule. This cites Article (38) of Vienna Convention on the Law of Treaties, which stipulates that, Nothing in articles (34) to (37) precludes a rule set forth in a treaty from becoming binding upon a third State as a customary rule (Al-Jundi, 2005).

#### **4. FAO ENSHRINING THE OBLIGATION OF INTERNATIONAL WATERCOURSES STATES NOT TO INTRODUCE LIVING, DANGEROUS SPECIES**

The Technical Guidelines for Responsible Fisheries, introduced by Food and Agriculture Organization (FAO) in Rome in 2012, highlights the Code of Conduct for Responsible Fisheries. It stipulates in Clause (2) of Paragraph (2) of Article (9) that, States should, with due respect to their neighboring States and in accordance with international law, ensure responsible choice of species, siting and management of aquaculture activities which could affect transboundary aquatic ecosystems.

Clause (3) of Paragraph (2) of the same article stipulates that “States should consult with their neighboring States, as appropriate, before introducing non-indigenous species into transboundary aquatic ecosystems” (Food and Agriculture Organization of the United Nations (FAO), 2012).

The import of alien, new aquatic species for the first time in an area involves in many cases potentially severe risks, such as disease transfer. Thus, requests related to this matter must be subject to an analysis of ecological and disease transfer risks.

The first movement (introduction) of a new exotic aquatic species into an area often poses an unknown and potentially high level of pathogen risk, and thus such requests should be subjected to ecological, genetic and pathogen risk analyses (International Council for the Exploration of the Sea (ICES), 2005).

Such introductions will require special stakeholder consultations, including all countries sharing transboundary waters, to evaluate scientific evidence regarding the risk of introducing pathogens to new areas.

In cases where insufficient knowledge exists in relation to disease risks posed by a particular movement of an aquatic animal, a precautionary approach should be adopted by the receiving country (Food and Agriculture Organization of the United Nations (FAO), 2012).



The FAO has directed Neighboring countries, and in particular, those having shared waterways, to develop and promote regional mechanisms to assure that adequate financial resources, expertise, and capacity are available to deal with national disease emergencies, including the deployment of regional emergency teams to affected countries (Food and Agriculture Organization of the United Nations (FAO), 2020).

As for the area of regional and international cooperation, Countries having shared watersheds should recognize that any negative impacts resulting from introductions and transfers of live aquatic animals into such systems are likely to have serious consequences not only for the importing country, but also for other countries sharing the watershed. Consultation with neighboring countries during the risk analysis process and before an introduction or transfer is approved is thus essential. The risk analysis process should take into consideration the appropriate levels of protections of all countries likely to be affected by such movements (Food and Agriculture Organization of the United Nations (FAO), 2012; Bartley, Martin, and Halwart, 2005).

## 5. CONCLUSION

Transboundary pollution has become a global challenge, especially the pollution of international watercourses and seas. This obliges international watercourse countries and sea riparian countries to take necessary steps to prevent and combat their pollution, the most significant of which is the obligation not to introduce new, dangerous living species that may cause tangible damage to other countries as they affect biodiversity. Thus, the research in this area carries extra significance and importance. The following are the results and recommendations:

International treaties related to the seas, whether global, such as the Law of the Sea Convention, or regional, such as the Tehran Convention and the Protocol for the Protection of Biological Diversity in the Red Sea and Gulf of Aden, have enshrined the obligation not to introduce new, dangerous species into the seas, which may lead to tangible harm to the riparian states.

Such duty has also been enshrined in the agreements related to international watercourses, such as the Convention on the Law of the Non-navigational Uses of International Watercourses, the Southern African Development Community (SADC), and the European conventions.

Thus, such global treaties may be regarded as a basis for a customary rule. The FAO has enshrined the obligation not to introduce live, dangerous species in the Technical Guidelines for Responsible Fisheries.





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## 6. RECOMMENDATIONS:

1. It is necessary to continue to enshrine the obligation not to introduce new, live species to international watercourses and seas in treaties and instruments of international organizations.
2. It is needful to establish a robust, effective system of international responsibility through concluding international treaties that define the international liability for polluting international watercourses and seas, in order to protect them effectively whenever the obligation not to introduce new, live species to international watercourses and seas is violated.
3. Financial resources must be allocated to scientific research to assess the extent of pollution and damage already caused to biodiversity because of violating such obligation, to be able to control it before its repercussions exacerbate and it becomes difficult to predict its reach.



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