The International Regulation of Hazardous Waste

التنظيم الدولي للنفايات الخطرة

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Abstract:

This study examines ways to reduce pollution resulting from the transboundary movement of hazardous waste from major industrialized countries to poor developing countries, particularly in Africa. This practice has harmful effects on developing countries by polluting their environment and endangering the health of their populations, as they lack the technological, economic, and technical capacities needed to address this problem and to manage such waste in an environmentally sound manner. This calls for the necessity of international cooperation between industrialized and developing countries to address this serious issue.

To tackle the problem of hazardous waste movement and regulate it across international borders, the Basel Convention of 1989 was adopted. It is a key legal instrument that addresses the transboundary movement of hazardous waste and its environmentally sound management.

Keywords: Basel Convention, disposal, environmental pollution, hazardous waste, human health, illegal.

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Introduction

The problem of hazardous waste emerged with economic growth and development, particularly in the fields of industry, energy, and transport. Such waste, produced by advanced industrialized countries, can contaminate land, air, water, and food, and may lead to serious poisoning incidents.

Due to its danger, many countries prohibit its import. With the imposition of restrictions on hazardous waste movement within industrialized countries, such waste is often transported and disposed of in developing countries, especially in Africa, which is considered a dumping ground for waste disposal through improper methods[1].

For economic reasons, industrialized countries transfer large quantities of hazardous waste to developing countries, where costs are lower and where there is no adequate environmental management system to handle such waste properly. This makes it necessary for these countries to take measures to reduce and manage such waste, given their very limited capacity to establish and enforce proper treatment standards. Therefore, the transboundary movement of hazardous waste constitutes a global issue that requires global solutions[2].

The Basel Convention represents one of the most important steps taken in modern times toward the international regulation of hazardous waste movement and its control across borders, aiming to eliminate the problem and its environmental impacts. Since African countries are those most affected by pollution from such waste, they have also resorted to adopting a regional agreement, namely the Bamako Convention of 1991, concerning the import and export of hazardous waste to Africa[3].

This study aims to propose solutions to reduce environmental pollution caused by the transboundary movement and disposal of hazardous waste, and to clarify the dimensions of environmental pollution caused by such waste, through the Basel Convention of 1989, which is among the first international agreements addressing the transboundary movement of hazardous waste.

Accordingly, the following research question can be raised:
To what extent is the Basel Convention effective in protecting the environment from pollution caused by hazardous waste?

To answer this question, this study adopts a descriptive-analytical approach, focusing in particular on the Basel Convention, which is the subject of this study, and the role it has played in addressing and regulating the transboundary movement of hazardous waste—one of the major challenges currently facing the international community—as well as its supplementary protocol and the way it defines international liability arising from such movements.

To address this topic, the study is structured as follows:

First: The Basel Convention of 1989, which regulates the movement of hazardous waste and its control across international borders, through an examination of its key characteristics, including its objectives, scope of application, and the general obligations of its member states.

Second: Its supplementary protocol on liability and compensation for damage resulting from such waste, which aims to ensure a comprehensive system of liability and adequate and prompt compensation for damage arising from the transboundary movement and disposal of hazardous waste, whether legal or illegal.

Firstly: The Basel Convention 1989 on the Control of Transboundary Movements of Hazardous Wastes and their disposal

The idea of the development of legal systems related to wastes at the global level, goes back to the approval by the Board of Directors of the UN Environment Program of the Cairo guidelines and principles on the environment of a sound management system of the hazardous wastes. This flexible practical frame has been followed by the adoption of the Basel Convention on March 22nd, 1989, which entered into force on May 5th 1992.[4]

It is worth mentioning that 179 States have ratified this Convention including the European Union.[5] Algeria has also joined this Convention with reservations and became a member[6].

1. Advantages of the Basel Convention

This advantage can be found in:

1.1. Objectives of the Convention

The objectives of the Basel Convention are clear and explicit in its preamble. They can be stated as follows:

- Reducing hazardous waste generation qualitatively and quantitatively.
- Enhancing the control of the transboundary transport of hazardous wastes.
- Encouraging as much as possible the waste disposal in the States where they are produced when this is consistent with the rational and efficient environmental management; such objectives are to be chosen by the Parties.
- Preventing the transport of hazardous wastes unless the conditions of such transport do not threaten human and environmental health.
- These objectives are chosen by the Parties because they are at last meant to protect human and environmental health.

1.2. Field of Application

The article one paragraph (a) of the Basel Convention defines Hazardous wastes as the wastes belonging to any category stated in the Annex 1unless they are not characterized by the properties stated in the Annex 3. The annex 1 of the Basel Convention states the list of the categories of wastes to be controlled.

The article 1 paragraph (a) of the Basel Convention on Hazardous wastes also defines hazardous wastes as "the wastes which are not covered by the paragraph (a) but known and considered, according to the local legislation of the exporting, importing or transiting Party, as hazardous wastes."

The article 3 of the Basel Convention stipulates that each Party should notify the Secretariat General within six months following its accession to the Convention about wastes covered by the article one paragraph (b) under its national legislation. The Parties should also inform the Secretariat of any significant change in the

information provided. The Parties are responsible for providing this information to their sources.

According to Dr. Youssef Al Masry, the interpretation of these definitions is complex and cases of illegal trafficking may arise through various interpretations of the definitions related to hazardous wastes. This may further complicate the problems of translation from one language to another[7].

The Basel Convention considered "other wastes" to be non-hazardous wastes, which are house, hold and stipulated in Annex 2 of the Convention.

2. General Obligations of the Parties to the Basel Convention

The Convention calls on Parties that exercise their right to prohibit the import of wastes for the purpose of disposal to inform other Parties about their decision. It also prohibits the export of wastes unless the importing country agrees, in writing. Each Party to the Convention must take measures stipulated in Article 4 paragraph 2 of the Basel Convention namely:

- Reducing local hazardous wastes generation to a minimum.
- Providing adequate facilities for sound disposal of hazardous wastes.
- Taking necessary steps to prevent waste pollution and reduce its health effects and environmental if any.
- Reducing the transboundary movement of hazardous wastes to a minimum and doing so, in a way that protects health and environment.
- Preventing export of hazardous wastes or other wastes to non-Parties to the Convention
- Providing information regarding the proposed transboundary movement of wastes to the concerned country.
- Preventing the import of wastes if the receiving country finds reason to believe that they are not treated in a genetically sound way.
- Cooperating and preventing illicit trade therein.[8]

Therefore, the obligation undertaken by Parties to the Basel Convention is directly in line with the principles on which it is based and which are:

- Reducing the amount of hazardous wastes.
- Eliminating hazardous materials as close as possible to their production,
- Prohibiting the export of hazardous wastes under certain conditions determined by the Basel Convention,
- Environmental sound management of hazardous wastes wherever they are disposed of,
- Strict control of the international transfers of hazardous wastes by the authorities of the countries.
- The duty of the responsible State to re-import the wastes that are illegally exported as well as the wastes that it cannot be disposed of in an environmental sound manner in the importing country.[9]

2.1. Commitment to Reduce the Generation of Hazardous Wastes to a Minimum

The reducing of the generation of hazardous wastes to a minimum is considered as a traditional obligation for every State Party to the Convention, regarding especially the limitation of the transport of hazardous wastes as stipulated in paragraph 3 of the preamble.

The agreement on this obligation was confirmed by article 4 paragraph 2 of the Basel Convention. However, this commitment is weak because the reduction of the volume of hazardous wastes must be done by taking into account social, technical and economic considerations as stated in Article 4 paragraph 2 (a).

The Basel Convention encourages Parties to cooperate on this purpose, by developing and using new environmental sound techniques that generate less hazardous and other wastes[10].

2.2. Reducing the transboundary movement of hazardous wastes

Many industrialized countries have dealt with hazardous wastes by removing their disposal abroad, meaning their transfer from generating countries to others. Thus, the Basel Convention wants, first and foremost, to address this problem not by banning all transboundary movements but by reaching a compromise solution between the Parties. So, it confesses that each Party has the sovereign right to ban the import of hazardous wastes into its territory, and this recognition represents a victory for environmental concerns over commercial interests[11].

Mechanisms for reducing the transboundary transport of hazardous wastes as stipulated by the Basel Convention can be gathered into five control mechanisms.

2.2.1. Prohibition of Transboundary Transport of Hazardous Wastes Toward a Country That Refuses Their Import

The basic principle of the Basel Convention is that any Party can prohibit the import of hazardous wastes into its territory. Therefore, there can be no legal import unless the importing country gives first, its written approval. This principle is consistent with the compromise reached between developed and developing countries as it does not prohibit it completely, but it makes the transboundary movement exceptional.

The Party to which the hazardous wastes are transferred may prevent their import in two different ways in accordance with the provision of the Article 13 paragraph 2 of the Basel Convention by informing each other and secretariat of its decision not to allow imports, the other parties are notified, and they respect this decision. The second possibility for a Party to refuse to import hazardous wastes into its territory is to do so during the notification and approval procedure that accompanies all exports[12].

2.2.2. Procedures for Exporting Hazardous Wastes

When a country wants to export hazardous wastes or other wastes, it must notify the competent authority in the importing country in writing or request the generator (producer) or the exporter may do so in accordance with Article 6 paragraph 1 of the Basel Convention.

All States Parties are committed to adopt laws and administrative measures to implement this provision and ensure compliance with it, as well as the provisions of the Basel Convention in domestic law. Once the notification of import is received, in which the importing State acknowledges receipt to the exporting State or the source, the exporting State gives a response in writing to allow or not the transfer under conditions or requests additional information before notifying a final response to the competent authorities in the exporting State[13].

The exporting State shall not allow the generator or the source to begin the transboundary transport until it receives a written confirmation from the importing State on one side, and a contract confirmation between the source and the disposer in which they ensure that the targeted wastes will be treated in an environmentally sound way, on the other side[14].

Regarding the transit State, a prior approval is requested for the operation of a transboundary transport of hazardous wastes or any other kind of wastes on its territory even if this territory is not the destination. The transit State may generally waive the requirement of its consent in some cases before permitting the transiting of wastes to its territory.[15]

The Basel Convention also stipulates the way to amend the measure of prohibition or approval when all the States concerned by the operation of transport did not consider the targeted wastes as hazardous wastes. Each State which considers the wastes as not hazardous should bear the obligations arising from these wastes by taking into account its position in the transport process either as an exporting, an importing or a transit country even if the other concerned countries do not consider such wastes as hazardous wastes.[16]

2.2.3. Ensuring That Disposal Is Done in an Environmentally Sound Way

When hazardous wastes or other wastes are exported because they do not violate the provisions of the Convention, the exporting State should ensure that this transport is done towards a State which has the necessary facilities for disposal. This allows an environmentally sound management of these wastes, which means in a way, which protects both the human being and the environment against harmful effects according to Article 4 paragraph 2 (c) of the Basel Convention.[17]

2.2.4. Control of Illegal Transport of Hazardous Wastes

Regarding the legitimate transboundary transport of hazardous wastes, there is a need to assert that such a process of transport is carried out according to provisions of the 1989 Basel Convention respecting the law and permits, notifications and packaging standards the Basel Convention requires in its Article 4, paragraph 7. Each Party should package, label and transport the hazardous wastes and other wastes across borders in a manner consistent with rules and standards internationally recognized and accepted in the field of packaging and labelling. Parties to the Convention must also ensure that the other wastes are accompanied by a transport document from the point of departure of the transboundary movement to the point of disposal. These commitments intended to enable customs officers in particular, to quickly identify the wastes that legally pass across borders.[18]

As for the illegal transfer of hazardous wastes across borders, which takes place without notification or without approval, Article 2, paragraph 1, of the Basel Convention defines it as "any transboundary movement of hazardous wastes or other wastes as defined in Article 9 of the Convention.

The control over the legitimate transport differs from the illegal transport of hazardous wastes, in that the former is related to ensuring that the transport proceeds in accordance with the provisions of the Convention. In contrast, illegal transport exists when the process of transporting hazardous wastes is smuggled and concealed in a contravention of international obligations, by violating the provisions of the Basel Convention. The State that illegally transports its hazardous wastes, bears legal responsibility for that transport, and it can be generally said that any transport of hazardous wastes that does not take place in accordance with control procedures stipulated in the Basel Convention" is considered an illegal transport."[19]

The Basel Convention considers any transboundary movement of hazardous wastes or other wastes as illegal trade when this movement takes place without notifying all States concerned, or without the consent of these States. It also prohibits the transport of these wastes through forgery made by the exporter, or importer, or if the transport does not materially comply with the attached data and documents or results from the international dumping of hazardous wastes or other wastes, which contradicts the provisions of this Convention and the general principals of international law.

The Basel Convention stipulates a separate penalty for the case in which the conduct of the exporter or generator is the one, which carries out illegal trade, and for the case in which the conduct is the result of the importer or remover. In the first instance, the importing State must ensure that the exporter or generator accomplishes the operation, by returning the dangerous wastes, or returning them by their own means, to their lands. If possible, it must be ensured that the importer State must dispose of it in an environmentally sound manner, within 30 days from the time the exporting State is notified of the illegal trade. In the second case, the States of export must ensure that the hazardous wastes are disposed in a sound manner by the importer or by themselves within 30 days from the time the State of import is notified of the illegal trade. There is no other penalty other than those to which States are committed by their national laws that are linked to the violation of international obligations undertaken by the Parties through the obligation to respect the Basel Convention.[20]

Secondly: Protocol on Liability and Compensation for Damage under the Basel Convention

The Parties should cooperate with the aim of adopting a Protocol supplementing the Basel Convention with appropriate procedures with regard to liability and compensation in the event of damage resulting from the transportation of hazardous wastes and other wastes across borders. This Protocol was adopted on December 10th 1999.[21.]

1. Liability and Compensation for Legitimate and Illegal Transboundary Transport of Hazardous Wastes and Other Wastes

The Parties to the Protocol supplementing the Basel Convention on liability and compensation have declared that the aim of the Protocol is to ensure a comprehensive liability regime and a suitable and immediate compensation for damage resulting from the transboundary transport and disposal of hazardous wastes and other wastes regarding legitimate and illegal transport.[22]

1.1. Liability and Compensation for Damage

According to Article 8 of the Basel convention when it is not possible to complete the transfer of hazardous wastes or other wastes across borders for which the consent of the States concerned has been obtained, the State of export must ensure that the wastes in question are returned to the State of export. If alternative arrangements cannot be made for their disposal in an environmentally sound manner within 90 days from the date on which the State of import must inform the State of export and any transit Party not to object to or obstruct the return of these wastes to the State of export.

This Article imposes on the State exporting hazardous wastes to bear responsibility for the damage that results from this transfer, if the efforts of the importer State fails to dispose of theses hazardous wastes in an environmentally sound manner, even if the transfer is carried out by the State is a legitimate transfer. The State of export of hazardous wastes must ensure the proper disposal of theses wastes in the territory or the State of import, and that no damage occurs, even though the transport of wastes was legitimate. Therefore, if harm results from this legitimate transport to the State of import, these hazardous wastes should lead to compensation and return of wastes to its territory.[23]

1.2. Liability and Compensation for Damage Resulting from Illegal Transportation of Hazardous Wastes

The Basel Convention, in its article 9, in the case of transporting hazardous wastes and disposing of them illegally, it is considered as illegal trade because it is the result of behaviour carried out by the exporter or the generator. The States of export shall ensure that the concerned wastes are returned by the exporter or generator or by themselves, if necessary, to the State of export. If this is not possible from a scientific standpoint, their disposal shall be in accordance with provisions of the Convention within 30 days from the time the State of export is notified of illegal trade. For this purpose, the concerned Parties must not oppose, obstruct, or prevent the return of these wastes to the State of export."

This statement confirms that the Basel Convention emphasized the principle of restoring the situation to what it was before, with the commitment of the State of export of hazardous wastes to re-import them within 30 days from the date of its notification of the illegal trade by the State of import. As a punishment, the convention made the State of export, implicated in this illegal trade, responsible for bearing the costs of re-transportation of these wastes.[24] This case happens in the event that an in-kind response is possible. In the event that this is not possible, such

as an accident happening during the process of transporting hazardous wastes across borders, because of the explosion of a truck, cargo ship, or plane, the damage will be significant and cannot be avoided, and it may be difficult to restore the situation to what it was. This is more significant in the field of the environment, as it requires a complete knowledge of everything related to the polluted environment before the pollution occurs. In this case, an alternative must be sought, which is monetary compensation. In addition, it is necessary to combine an in-kind response and cash compensation in cases where the damage to the environment and health is enormous.[25]

Accordingly, the Basel Convention assumes that once there was an illegal transfer for hazardous wastes, this is considered as a violation of one of the provisions of the Convention. This Charter also considered that once this transfer is attributed to a State Party to the Convention, international responsibility arises without requiring damage to occur. Therefore, the Convention expanded the scope of liability, to limit the phenomenon of transporting wastes illegally and entailed proving international liability on the State that transported or disposed of its hazardous wastes with compensation that would repair the damage it caused[26].

2. Settlement of International Disputes

Transporting hazardous wastes may result in harming one of the States, such as destroying the environment or injuring people to which they are affiliated. Then, international responsibility arises on the State to which the harmful behaviour is attributed. The State with the harmful behaviour acknowledges its mistake and pays compensation and repairs the damage directly without raising problems with the affected State. However, if the State with the harmful behaviour disagrees with affected State, does not admit its mistake, and denies that it caused harm by transporting hazardous wastes, the two Parties may disagree about the amount of compensation, and this is where problem arises[27].

Returning to Article 20 of the Basel Convention, any dispute between the Parties as to the interpretation or application of this Convention, they shall be resolved by negotiation or other peaceful. If this case is not possible should be submitted to international court of justice or arbitration[28].

Conclusion:

It seems now clear that the Convention has contributed to reduce the production of hazardous wastes to a minimum, but it has not banned completely and definitively the transfer of these wastes across borders, notably to developing countries, despite their protests.

This Convention has established international legal rules related to limiting the movement of hazardous wastes between countries. It has also called for an environmentally sound management of these wastes in a way that takes into consideration the protection of the environment. However, these provisions and recommendations proved insufficient.

The absence of consensual and comprehensive definition of hazardous wastes within the framework of the Basel Convention has affected the effective implemented of the relevant rules.

We can formulate the following recommendation:

- Banning hazardous wastes completely and definitively so that the conditions stipulated in the Convention, which allows the transfer of wastes between countries, cannot be circumvented.
- Redefining monitoring mechanism by strengthening financial and logistical capabilities to the relevant institutions.
- Ensuring training and specialization in the field of hazardous wastes transportation.
- Developing effective international cooperation, while activating information networks to assist entities concerned with the waste management, to perform perfectly their works.
- Coordinating international efforts to combat illegal trade in hazardous wastes especially in African countries.
- Expressing a political will in developed countries to solve the problem of hazardous wastes in an environmentally sound way.

Margins:

1. Bater Mohamed Ali Werdm, The Earth Future and Globalization: Dangerous Waste Trade, 1st edition, El-ahlia for Publication and Distribution, Amman, 2003, p. 298.
2. Athanase Lawogni, The Beninese Law of Dangerous Waste Cross-Border Movement: Practice and Theory, in Cross-Border Movement of Dangerous Waste, supervised by Michael Faure, Athanase Lawogni, Mathieu Dehoumon, Bruyant edition, Brussels, 2015, p. 309.
3. Jean Maurice Arbour, Sophie Lavallée, Hélène Trudeau, The Environment International Law, Yvon Blais edition, Québec, 2012, pp. 789-790.
4. Stéphane Doumbé Billé, Caroline Migazzi, Kiara Neri, Françoise Paccaud, Anna Maria Smolinska, The Environment International Law, Larcier edition, Brussels, 2013, p. 115.
5. Raphaël Romi, Thomas Dubreuil, Sandrine Rousseau, Mary Sancy, The European and International Law of Environment, Public Law Domat, 2nd edition, Montchrestien, Paris, 2013, p. 249.
6. Presidential Decree, No. 98-158, dated 19th Moharem 1914 corresponding to 16th May 1998, concerning environmental regulations, Official Gazette of People's Democratic Republic of Algeria, No. 34, 16th May 1998, p. 3.
7. Yousef Hassan Yousef El-Massry, The International Judicial Responsibility of Transport and Storage of Dangerous Waste, Dar El-Adaala, Cairo, Egypt, 2016, p. 64.
8. Bater Mohamed Ali Werdm, Op, Cit, p. 400.
9. Jean Maurice Arbour, Sophie Lavallée, Hélène Trudeau, Op, Cit, pp. 795-796.
10. Article 10, of the 2nd paragraph of Basel Convention.
11. Jean Maurice Arbour, Sophie Lavallée, Hélène Trudeau, Op, Cit, p. 797.
12. Jean Maurice Arbour, Sophie Lavallée, Hélène Trudeau, Ibid., p. 798.
13. Check Article 6, paragraph 2 of Basel Convention.
14. Check Article 6, paragraph 3 of Basel Convention.
15. Articles 6, paragraph 4, and 13 of Basel Convention.
16. Article 6, paragraph 5 of Basel Convention.
17. Article 4, paragraph 2(d) of Basel Convention.

18. Check Article 5, paragraph 7, of Basel Convention.
19. Mostafa Fadhel Al-Souaidi, The International Responsibility of Dangerous Waste Transport in Accordance with Basel Convention, 1st edition, Zin Judicial Publications, Beirut, Lebanon, 2018, p. 118.
20. Jean Maurice Arbour, Sophie Lavallée, Hélène Trudeau, Op, Cit, p. 803.
21. Jean Maurice Arbour, Sophie Lavallée, Ibid., p. 812.
22. Article 1, of Basel Protocol.
23. Mostafa Fadhel Al-Souaidi, Op, Cit, p. 50.
24. Ghenimi Tarek, The Judicial Protection of Environment from the Waste Danger in Accordance with International Law, 1st edition, Halabi Judicial Publications, Beirut, Lebanon, 2022, pp. 440-441.
25. Ghenimi Tarek, Ibid., p. 441.
26. Mostafa Fadhel Al-Souaidi, Op, Cit, p. 177-178.
27. Mostafa Fadhel Al-Souaidi, Ibid., p. 169.
28. Article 20, paragraph 1 and 2 of the Basel Convention.