

Basel Convention : background

- In the early 1980s, many developed countries began to enact environmental laws, which led to a dramatic increase in the prices of treating hazardous waste.
- This led to an escalation of disposal costs. This in turn led some operators to seek cheap disposal options for hazardous wastes in the developing world, which was lagging in environmental awareness regulations and enforcement mechanisms.
- During the second half of that decade, it became clear that hazardous wastes originating from industrialized countries were being exported to and buried in developing countries for 'treatment' or 'disposal' without proper care.
- When these practices are more distinct, International outrage led to the drafting and adoption of the Basel Convention.
- In the wake of the discovery of such toxic waste deposits, the Basel Convention was signed, in order to regulate the international transfer of hazardous waste.

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memorize line by line

Ways Through which Hazardous Wastes Affect Human Beings

		<i>Effects</i>
<i>S. No.</i>	<i>Ways</i>	
1	Skin contact	A number of chemicals cause dermatitis due to direct contact with skin. Certain other chemicals like corrosive acids can damage the skin by a single contact. Chemicals like organic solvents can cause damage to the skin due to repeated exposures.
2	Inhalation	Inhalation is a common method wherein humans are exposed to chemicals waste. This is highly difficult to control. Respiratory tracts and lungs could get severely damaged by air pollutants when they are inhaled. Inhalation can also lead to various other complications.
3	Ingestion	Unscientific landfills could result in ingestion of toxic chemicals into ground water. It could also lead to sub soil contamination from leachates of refuse dumps. This could even affect populations that reside away from factory sites. The effects of ingestion could be felt decades after the wastes have been dumped.

Basel Convention :

- A global legal instrument on “the control of transboundary movements of hazardous wastes and on their disposal”.
- Adopted in 1989,
- entered into force on 5th May 1992.
- Status of participation (2019): 188 countries,
- Haiti and the United States have signed the Convention but not ratified.
- “the Ban Amendment” was adopted by the third meeting of the Conference of the Parties (COP) in 1995
- Environmentally Sound Management (1999)

Main Objectives

The principle aims of the Convention are:

- ☐ To minimize the amount and toxicity of hazardous wastes generated and to ensure their environmentally-sound management as close as possible to the source of generation;
- ☐ To reduce the transboundary movement of wastes subject to the Convention to a minimum consistent with the environmentally-sound and efficient management of such wastes;
- ☐ To establish a regulatory system that will apply in cases where transboundary movements are permissible.

Milestones

First decade achievements (1989-1999)

- ❑ Framework for controlling transboundary movements of hazardous wastes; Control system (based on prior written notification);
- ❑ Developed criteria for “Environmentally Sound Management” (ESM).
- ❑ Partnerships to increase co-operation and strategic alliances;

2000-2010 Second decade Priorities

- ❑ Environmentally sound management and active promotion and use of cleaner technologies and production methods;
- ❑ Further reduction of the movement of hazardous and other wastes;
- ❑ Prevention and monitoring of illegal traffic;
- ❑ Improvement of institutional and technical capabilities;
- ❑ Further development of regional and sub-regional centres for training and technology transfer.

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2012-2021 Second decade Priorities

- ❑ The strategic framework for 2012–2021 was adopted by the tenth meeting of the Conference of the Parties
- ❑ Effective implementation of parties’ obligations on transboundary movements of hazardous and other wastes
- ❑ Promoting the implementation of the environmentally sound management of hazardous and other wastes as an essential contribution to the attainment of sustainable livelihood.

The main groups of hazardous waste are:

(i) Flammable waste

Ignitable waste materials are those that readily catch fire and sustain combustion. These could cause a fire during transport or storage of the waste, or after disposal.

Examples of ignitable waste include waste oils, solvents, paints and cleaning materials. Many aerosol cans use butane as a propellant.

(ii) Corrosive waste

Corrosive waste is acid or alkaline and can readily corrode or dissolve flesh, metal or other materials.

Examples of corrosive wastes include acids from metals cleaning processes (*eg* ferric chloride from printed circuit board manufacture) and liquor from steel manufacture.

(iii) Reactive waste

Reactive wastes will readily explode or undergo violent reactions. Reactivity is an important characteristic of hazardous wastes because unstable wastes can pose a problem at any stage of the waste management life cycle.

Examples of reactive wastes include discarded munitions and explosives.

(iv) Toxic waste

Toxic waste is harmful when ingested, inhaled or absorbed through the skin, e.g., cyanide, pesticides

(v) Eco-toxic waste

Some chemicals interfere with respiratory processes in fish or insects; they may mimic or interfere with hormone-driven processes; or be otherwise species-specific.

trout fish to toxins :

Some substances such as oils and detergents that barely affect humans can nevertheless interfere with other species' life processes including reproduction.

Control regime for transboundary movements of hazardous waste :

Prohibitions and restrictions

- No movements to non-Parties .
- No export to States with import prohibition
- No export to States without systems of environmentally sound management (ESM)
- No export for disposal to the area of 60° South latitude (*ie* Antarctica)

Under the Basel Convention

- 4 main characteristics of any hazardous wastes: Toxic, Corrosive, Reactive, Ignitable.
- Definition of hazardous wastes : Wastes other than radioactive wastes which, are chemically activity or toxic, explosive, corrosive and are likely to cause danger to health or the environment

The Convention establishes a core list of hazardous wastes (like, clinical waste, pharmaceutical wastes, wastes containing PCBs, waste from inks, dyes, pigments, and paints, etc) to be controlled when they exhibit one or more of the hazard characteristics set out in Annex III or are other wastes (e.g. wastes collected from households and incinerator ash) listed under Annex II of the Convention.

Basel Convention gives 13 characteristics for hazardous wastes :

- Represented as codes H1 - H13. e.g., H1 - Explosive, H3 - Flammable liquids, H8 - Corrosives, H12 - Ecotoxic etc listed in Annex III;
- *hazardous wastes* are subjected to transboundary movement if:
Wastes that belong to any category listed in Annex I and they do not possess any of the characteristics contained in Annex III.

Which wastes are excluded from the scope of the Basel convention ?

- Radioactive waste.
- Wastes deriving from the normal operations of a ship.

WHAT ARE THE WASTES COVERED BY THE BAN AMENDMENT?

- The Ban Amendment includes most Persistent Organic Pollutants (POPs), most electronic wastes, most obsolete ships, most flammable liquids, and most toxic heavy metals.
- Formally, the Basel Ban covers all wastes listed in Annex I that possess an Annex III hazardous characteristic.

The wastes covered by the Convention include the following: unless they do not possess any of the characteristics contained in Annex III.

1. Biomedical and healthcare wastes
2. Used oils
3. Used lead acid batteries
4. Persistent Organic Pollutants (POPs), chemicals and pesticides that persist for many years in the environment
5. Polychlorinated Biphenyls (PCBs) that are used as heat exchange fluids in electric transformers and capacitors and as additives in paint, carbonless copy paper and plastics
6. E-wastes, including mobile phones and computers
7. Wastes from dismantling of ships
8. Materials that contain mercury and asbestos

Read out all the examples – no need to memorize line by line

E-waste: Toxicity

➤ Electronics contain many toxic substances including heavy metals such as lead, cadmium, and mercury.

- Lead, found in circuit boards and CRTs, is a neurotoxin that can cause impaired development and behavioral challenges in young children.
- Cadmium can cause both acute and chronic toxicity, usually leading to renal damage.
- Mercury is found in most electronic products. Once combined with water, it transforms into methyl mercury, also a neurotoxin.

Environmental pollution is caused by uncontrolled recycling activities such as open burning of wires and cables.

– Two types of pollution are identified.

- Toxic compounds: PAH, PCB, PBDE, PCDD/DFs and heavy metals.
 - Open dumping: Residues from uncontrolled recycling.
- Health or risk assessment is also being carried out.

According to the Guideline for Environmentally Sound Management of E-waste (2008), the current e-waste inventory in India, based on the obsolescence rate and installed base is estimated to be around 8,00,000 tonnes.

The e-waste work plan adopted in the ninth meeting of the Conference of the Parties (COP) ---

Objectives :

- Contribute towards developing national e-waste inventories and policies for implementation of the Basel Convention;
- Facilitate collection and exchange of e-wastes among parties are of best practices with respect to ESM, including information on new technologies and cleaner production methods to prevent and minimize the production of hazardous e-wastes;
- Disseminate information on policy tools, certification schemes and regional initiatives to manage e-wastes in an environmentally sound manner, including success stories to turn wastes into resources, material recovery and recycling; Organize training activities on enforcement to enhance Parties' capacities to monitor and control e-waste transboundary shipments and enforce the Basel Convention.

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The Asia Pacific E-Waste Project

Launched: November 2005

Participating countries: Cambodia, China, India, Indonesia, Malaysia, Singapore, Sri Lanka, the Philippines, Thailand, Vietnam, Pacific Island countries

Basel Convention Regional Centres: Beijing, Jakarta

Funding: Canada, Japan, Netherlands

Developing countries are hurt most - A FEW EXAMPLES OF ILLEGAL TRANSBOUNDARY SHIPMENT OF HAZARDOUS WASTES FROM DEVELOPED COUNTRIES TO DEVELOPING NATIONS ARE DESCRIBED BELOW :

S. No.	Year	Incident
1	1988	The ship <i>Khian Sea</i> nick named 'toxic waste ship' dumped polychlorinated biphenyls from Italy in a farmer's backyard in Koko, Nigeria.
2	1998	3000 tonnes of industrial waste contaminated by mercury, packed in plastic bags was found in an open dump near Sihanoukville, Cambodia. The waste that was labelled as 'cement cake' on the import documents showed its origin to be a Taiwanese petrochemical company. The waste was later returned to Taiwan due to protests from the local people.
3	2000	122 containers of hospital waste illegally exported to Philippines as 'waste paper for recycling'. The Japanese government was forced to take back all the containers.
4	2000	A massive shipment of polychlorinated biphenyl (PCB) contaminated waste from a US military base in Japan was taken to USA and later Canada. The shipment was rejected by both the countries and sent back to Japan. The Japanese Government send it to a tiny island called Wake Island in the Pacific Ocean.

6	2006	The decommissioned aircraft carrier <i>Le Clemenceau</i> with substantial quantities of cancer causing asbestos set sail to Indian ship breaking yard in Alang, Gujarat. After prolonged protests by <i>Greenpeace</i> and a number of other NGOs, and protracted legal twists and turns the ship was send back to France.
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- *Le Clemenceau* a decommissioned warship that was sent to India
- French authorities submitted incorrect statistics about the hazardous waste on board the ship.

Another example of Hazardous Waste: Asbestos

- Use of it is banned in developed countries, but not in developing countries where use is increasing
- Major exporters: USA, Japan, Germany, UK, and France
- Prior to Basel Europe exported thousands of tonnes of hazardous waste to developing countries
- India has become a major consumer, using around thousands of tonnes of asbestos per year, 80% of which is imported

Conclusion

- The ability of each Party to implement the Basel Convention is enhanced.
- The environmentally sound management of hazardous wastes and other wastes is accessible to all Parties.
- Transboundary Movements of hazardous wastes are further reduced and illegal traffic is prevented.

The Basel Convention has been criticized as having several deficiencies, including

- ❑ The greatest problem of the Basel Convention is that it has no enforcement mechanism; nations who break the requirements of the treaty face no penalties, nor do private companies.
- ❑ The transporters of the hazardous wastes produced in Europe and North America, who are generally paid at the beginning of the journey, do not insure the safe delivery of their cargo.
- ❑ Even when the waste is recycled, many developing countries lack the facilities and technology to safely dispose of toxic substances, again leading to adverse impacts on human health and the environment.
- ❑ No complete ban on the transfer of hazardous waste
- ❑ Furthermore, while the United States has signed the Basel Convention, they have not ratified it.
- ❑ Loopholes in the BC allowing exporters to ship hazardous waste legally, classifying the hazardous waste materials as “fertilizer” or “roadfill” defeating the Convention’s purpose.
- ❑ Basel Convention allows POP wastes to be disposed *solely* yet BC does not set *legally binding destruction obligations*, rather it only can offer weak, *non-binding disposal guidelines*.