

## CHAPTER III

### THE QUEST FOR THE BIO-MEDICAL WASTE MANAGEMENT UNDER THE INTERNATIONAL ENVIRONMENTAL REGIME: AN OVERVIEW

*“Tragic consequences will surely follow tomorrow our failure to act today”*- Lester B. Pearson, Recipient of Nobel Peace Prize, 1957

The beginning of the present ecological era started at the end of 1960s when after the end of the World War II the need was felt for the global economic development to reconstruct the world. Although such development was unequal with differences in wealth between countries but it was always at the cost of the natural environment. The unprecedented use of exhaustible natural resources such as clean water, air, flora and fauna and minerals by these countries of the world, especially by the developed countries to make the development faster in the name of establishing industries and to satisfy the various needs of mankind resulted in the imbalances in the environment. Therefore, people of the world increasingly demanded action to protect the quantity and quality of the components of the environment for the purpose of maintaining the balance in the environment and this gave rise to the global concerns for environmental crisis that led to the evolution and remarkable growth of international environmental law.<sup>1</sup>

International law signifies the ‘laws of nations’ that States feel themselves bound to observe within the structure of law for governing the relationships among the States. Comprising in greater part the principles and rules of conduct under the international law, at one time, states were the only entities enjoying international legal personality having rights and duties, but today, international organisations, non-state groups and individuals are also seen as being international legal entities in certain situations. The scope of international law is still evolving and as part of its evolution international environmental law has intensely evolved as a new branch of international law to address the new environmental challenges which directly concerned with developmental issues.

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<sup>1</sup> Philippe Sands, *Principles of International Environmental Law* pg. 35 (Cambridge University Press, UK, 2<sup>nd</sup> Edn., 2003).

The term ‘international environmental law’ consists of those substantive, procedural and institutional rules of international law which have as their primary objective the protection of the environment i.e. from the whole biosphere to the habitat of the smallest creature or organism. Environment is generally defined as the objects or the region surrounding anything.<sup>2</sup> The root for the protection of environment under the international environmental law for the first time can be found in an agreement relating to international fishing treaties and the agreements to protect various plant species, but their primary purpose was to sustain the harvesting of economically valuable species. However, genuine measures of environmental protection appeared only during the second half of the 20<sup>th</sup> century. A brief glance at the period prior to the development of modern international environmental law indicates the significance of current international legal norms. On the importance of International environmental law the Commission on International Development known as Pearson Commission in its report in 1969:

“Who can now say where his country will be after a few decades without asking where the world will be. If we want a safe and prosperous world, we will have to take into account common problems of people.”<sup>3</sup>

The Commission<sup>4</sup> listed ten objectives in its report which can be regarded to be the standards of development to be observed by the countries of the world. Therefore, before adopting developmental aspects by the international community they have to be united through general international law, conventions and conferences for the purpose of protecting the global environment. In the following discussions focus has been made on the history and development of international environmental law dividing the aspect into pre-Stockholm, the Stockholm Conference and post-Stockholm period in order to get the detail idea on the subject.

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<sup>2</sup> The Encyclopedia Britannica defines the environment as “the entire range of external influence acting on an organism, both the physical and biological and other organism, i.e. forces of nature surrounding on individual.

<sup>3</sup> Dr. S. K. Kapoor, *International Law* pg. 390 (Central Law Agency, Allahabad, 12<sup>th</sup> Edn., 2008).

<sup>4</sup> The Pearson Report, A New Strategy for Global Development, The UNESCO Courier, (February, 1970) Available at: <http://unesdoc.unesco.org/images/0005/000567/056743eo.pdf> (Last visited on July 3, 2016).

### **3. History and Development of International Environmental Law**

International environmental law is a field of international law that regulates the behaviour of States and international organisations with respect to the environment. Although Stockholm Conference of 1972 is considered as the first steps towards the modern international environmental law by the member countries of the world but its roots can be found in different conventions held prior to 1972. If we turn back to the past centuries, we find different Conventions held for the preservation of biodiversity, protection of endangered species, and protection of human environment from pollution etc. Therefore, it is essential to understand the development of international environmental regime in the light of the following perspectives.

#### **3.1 Pre-Stockholm Development**

As mentioned above that the concern for the environment had first begun to appear on the international agenda during the twentieth century through a number of international conventions. A brief overview of the various Conventions held on different environmental subjects has been discussed herein under to get a detail idea.

##### **3.1.1 Conventions Concerning Water and various Species**

The various conventions relating to water and different species have been discussed below:

- I. Convention for the Protection of Useful Birds to Agriculture, 1902.** It was the first global convention to enter into force for the protection of designated species of wildlife.<sup>5</sup> An even earlier Convention for the Preservation of Wild Animals, Birds and Fish in Africa (May 19, 1900). The Convention concerned useful birds, especially insectivores, and was aimed primarily at enhancing agricultural production.
  
- II. The Fur Seal Treaty of 1911.** Signed on July 7, 1911 the treaty had aimed at adopting effective means for the preservation and protection of the fur seals which frequent the waters of the North Pacific Ocean. This was the first international Convention to outlaw open-water seal hunting by

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<sup>5</sup> Alexandre Kiss and Dinah Shelton, *International Environmental Law* pg. 39 (Transnational Publications, New York, 3<sup>rd</sup> Edn., 2004).

acknowledging the United States jurisdiction in managing the on-shore hunting of seals for commercial purposes. It was the first international treaty to address wildlife preservation issues also. Consisting of XVII Articles the Convention highlighted on the different aspects for the protection of such sea animals.

**III. Convention Concerning the Use of White Lead in Painting, Geneva, 1921<sup>6</sup>** was to protect workers from exposure to white lead and sulphate of lead and of all products containing these pigments. To prohibit the use of white lead, sulphate of lead and of all products containing these pigments in the internal painting of buildings, except where such use is considered necessary by the competent authority after consultation with the employers and workers organization concerned.

**IV. Convention for the Regulation of Whaling, 1931.** The exploitation of whales has spread over the centuries and not until the 20<sup>th</sup> century attempts was made to regulate the whaling throughout the world. The first positive attempt in this regard was made in 1931 when the Convention was signed in Geneva and came into force on Jan. 16, 1935<sup>7</sup>. It applied to all waters, including both the high seas and national and territorial waters. The Convention was only applicable to baleen whales and provided exemptions for aboriginal subsistence whaling. The Convention also prohibits the taking of right whales, calves or suckling whales, immature whales, and females accompanied by calves or suckling whales. It also provided for the licensing of whaling vessels and the collection of statistics of the catches.

Apart from the above mentioned early conventions, several early boundary water treaties contain measures against water pollution. In 1909, a treaty between the United States and Great Britain concerning the boundary water between the United States and Canada was considered a model. It is still in force and was expanded

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<sup>6</sup> Date of Adoption: 25.10.1921, Geneva.

<sup>7</sup> Ray Gambell, "International Management of Whales and Whaling: A Historical Review of the Regulation of Commercial and Aboriginal Subsistence Whaling" Vol. 46 Arctic pg. 97 (June, 1993).

during the 1970s. Under Article VII of the treaty, the contracting parties agreed to establish an International Joint Commission having jurisdiction over all cases involving the use or obstruction or diversion of the boundary water. In 1918, the Commission found that the water of the Detroit and Niagra Rivers were being polluted, and it recommended that no untreated sewage from the cities or towns should be discharged into the boundary water. Consequently, a draft treaty was prepared to carry out the said recommendations of the Commission based on the principle of ‘*sic utere tuo*’<sup>8</sup> which had received recognition in *Corfu channel*<sup>9</sup> case by the International Court of Justice.

During the two World Wars also States entered into a growing number of boundary water agreements. These efforts continued after World War II, especially in Central and Eastern Europe. Some States, like the former Yugoslavia, concluded a network of bilateral agreements to regulate the utilisation of waters through the creation of international commissions. In 1950, Belgium, France and Luxembourg concluded the first treaty entirely dedicated to countering freshwater pollution.<sup>10</sup> In addition to the above the following are such Conventions relating to seas.

**V. The Convention of the High Seas, 1958** was the next step for the prevention of pollution on the high seas. Desiring to codify the rules of international law relating to high seas and recognising that the United Nations Conference on the Law of the Sea, held at Geneva from 24<sup>th</sup> February to 27<sup>th</sup> April, 1958<sup>11</sup>, all the participating nations had adopted that every State, whether coastal or not, has the right to sail ships under its flag on the high seas and every State shall take certain necessary measures for ships under its flag to ensure safety at sea. Also every State shall draw

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<sup>8</sup> It means no State is allowed to alter the natural condition of its territory to the disadvantage of natural conditions of the neighbouring State, adding that a State is not only forbidden to stop or divert the flow of a river which runs from its own to a neighbouring State, but likewise to make such use of water of the river as causes danger to the neighbouring State, or prevent it from making proper use of the flow of the river on its part- Oppenheim, *International Law* pg. 475 (Universal Law Publishing Co. Pvt. Ltd., Delhi, 8<sup>th</sup> Edn., 1955).

<sup>9</sup> Report 4 of the International Court of Justice Report (1949), wherein it was decided that fundamental principle of international law, limits action by one state which would cause injury in the territory of another State.

<sup>10</sup> Alexandre Kiss and Dinah Shelton, *International Environmental Law* pg. 41 (Transnational Publications, New York, 3<sup>rd</sup> Edn., 2004).

<sup>11</sup> Dr. P. C. Sinha and K. Cherry, *International Encyclopedia of Environmental Laws* pg. 256 (Anmol Publication Pvt. Ltd., New Delhi, 1<sup>st</sup> Edn., 1996).

up regulation to prevent pollution of the seas by the discharge of oil from ships and its subsoil, taking into account existing treaty provisions on the subject.

**VI.** In another Convention, namely, **Convention on Fishing and Conservation of the Living Resources of the High Seas, 1958**<sup>12</sup> the main issue of discussion was that how development of modern techniques for the exploitation of the living resources of the sea and increasing man's ability to meet the need of the world expanding population for food have exposed some of those resources of the sea to the danger of over exploitation. It was also considered in that Convention that how such problem was to be solved on the basis of international co-operation. Some of the other international convention relating to high seas such as International Convention Relating to Intervention of the High Seas in Case of Oil Pollution Casualties, 1964, International Convention for the Conservation of Atlantic Tunas 1966 deserved special mention.

**VII. The Oslo Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, 1972** was a regional Convention under which an agreement was signed by 12 Western European States as applied to North East Atlantic and parts of Arctic Ocean. It was the first international agreement to control dumping. The Oslo Convention was followed by London Convention on Dumping 1972 to apply universally. That is to say, it applies to seas everywhere. It applies to high seas and territorial sea but it exempts internal waters. The parties of both Conventions agreed to take measures to prevent pollution of the sea by dumping of harmful wastes and to harmonise their policies in this regard. Both the Conventions made the absolute prohibition of dumping.

### **3.1.2 Convention Concerning Fauna and Flora**

The history of international environmental laws concerning fauna and flora can be trace back during 1930s when some genuinely ecological approaches emerged

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<sup>12</sup> Alexandre Kiss and Dinah Shelton, *International Environmental Law* pg. 37 (Transnational Publications, New York, 3<sup>rd</sup> Edn., 2004).

with the adoption of two regional instruments that can be said as predecessor to the present day environmental jurisprudence. One of such conventions was **Convention Relating to the Preservation of Fauna and Flora in their Natural State** held in London in 1933. This Convention was held with a purpose to ensure protection to the natural fauna and flora from ecological disturbance in 'national parks'<sup>13</sup> within the territories to which it applied. However, it provided for the creation of national parks and strict protection for some species of wild animals. It also included measures regulating the export of hunting trophies and banned certain methods of hunting.

Another Convention, namely **Convention on Nature Protection and Wild Life Preservation in the Western Hemisphere, 1940** envisages the establishment of reserved and the protection of wild animals and plants, especially migratory birds; however, the main provisions of the Convention are more general and less restrictive than those of the London Convention.

**The convention on International Trade in Endangered Species of Wild Fauna and Flora, 1973** aims at ensuring that the international trade in plants and animals should not threaten their survival. It also provides a framework for addressing the illegal trade of the wild animals by placing illegal wildlife trafficking among the top ten most lucrative criminal activities worldwide. The purpose of the Convention as stated in the first paragraph of its preamble is to protect wild fauna and flora for current and future generations. Wild fauna and flora are described as an irreplaceable part of the natural systems of the earth and is valuable from aesthetic, scientific, cultural, recreational and economic points of view.

### **3.1.3 Conventions Concerning Petroleum and its Products**

The early part of the 20<sup>th</sup> Century also witnessed the expansion of imports and exports of petroleum business and the demand for petroleum products and its supply gave rise to a new problem of oil pollution in harbours and coastal regions. To cope up with the problem, in 1922, Great Britain took first initiative in prohibiting the deliberate discharge of oil in its inland waters and territorial sea. But that was applicable only in case of discharge beyond 3 miles from shore. The then U. S.

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<sup>13</sup> Dr. Indranil Bhattacharya, *Textbook of Environmental Laws* pg. 29 (Kamal Law House, Kolkata, 1<sup>st</sup> Edn., 2009).

President also on the basis of the request made by the Congress called a conference of maritime nations to adopt effective means to reduce the pollution of marine water.

Subsequent efforts to combat marine pollution appeared again during the 1950s. **The 1954 International Convention for the Prevention of Pollution of the Sea by Oil**, was the first important step in this direction. After the World War II, in the wake of the resurgence of maritime trade involving the increasing use of petroleum products, the incidents of deliberate or accidental discharge of oil into the sea from the ship was not numerous. In this backdrop, the delegates from 32 States met in London in 1958 to discuss the issue and the outcome is the **International Convention for the Prevention of Pollution by Ships, London**<sup>14</sup>. The Convention was later modified and reinforced, then replaced in 1973 by a much more detailed and effective convention.<sup>15</sup>

### **3.1.4 Convention Concerning Radioactive Substances**

New technologies, in particular, the use and utilisation of nuclear energy, led to the further international regulation. A 1963 treaty addressed military use of radioactive materials, banning nuclear weapons testing in the atmosphere, in outer space and under water.<sup>16</sup> Radioactive pollution is the result of released radionuclides in the environment. It is a by-product of nuclear power generation and use of nuclear technology. Nuclear power can be used either to destroy the earth or to improve greatly the quality of life for all persons. The problems presented by such waste disposal are compounded because of its hazardous nature and require to be handled internationally and hence the importance of international Conventions on the subjects. To deal with such subject the Governments of the United States of America, the United Kingdom of Great Britain and Northern Ireland and the then Union of Soviet Socialist Republic determined to put an end to the contamination of man's environment by radio-active substance. Each of the parties has given undertaking to prohibit, to prevent and not to carry out any nuclear weapon test, explosion or any other nuclear explosion, at any place under its jurisdiction under various international treaties. They are:

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<sup>14</sup> Dr. G. S. Karkara, *Environment Law* pg. 181 (Central Law Publications, Allahabad, 2<sup>nd</sup> Edn., 2000).

<sup>15</sup> International Convention for the Prevention of Pollution by Ships, London, Nov. 2, 1973.

<sup>16</sup> Treaty Banning Nuclear Weapons in the Atmosphere in Outer Space and Underwater, Moscow, Aug. 5, 1963.

**I. Antarctic Treaty, 1959** prohibits nuclear explosions and disposal of radioactive waste materials in Antarctica and provides for inspection of all the areas in the Antarctic by observers of the contracting states.

**II. Nuclear Test Ban Treaty, 1963** provides for putting an end to the contamination of man's environment by radioactive substances and permits no nuclear explosions in the three parts of the biosphere, namely, atmosphere, outer space, under water, including territorial waters or high seas.

**III. Treaty on the principles governing activities of the states in the exploration and use of outer space including the moon and other celestial bodies in 1967** provides that it is the duty of every state launching an object into an orbit or beyond to take precautions or to avoid injury to other states or other permanent change in the environment of the earth or the contamination of the upper atmosphere and outer space and the celestial bodies and the earth.

**IV. The Treaty for the Prohibition of Nuclear Weapons in Latin America (Talteloco Treaty), 1967**, is an outcome of a growing concern about the danger to integrity of human species caused due to continuous release of radioactive elements by nuclear weapons. Under this treaty, the contracting parties have agreed to carry out explosions of nuclear devices for peaceful purposes. The treaty also put stress to convey the fullest possible information on any possible radio-active fall out and also measures as taken to avoid dangers to the population of flora, fauna and territories of party or parties to the treaty.

**V. The Treaty on the Non-Proliferation of Nuclear Weapons, 1968** encourages further the resolution as taken by the parties to the 1963 Nuclear Test Ban Treaty seeking to achieve the discontinuance of all test explosions of nuclear weapons for all time and to continue negotiations to this end for the purpose of prevention of wider dissemination of nuclear weapons. In this treaty, State parties have undertaken to fulfill an obligation for not to transfer nuclear weapon and explosive devices and not to encourage, assist or induce

any non-nuclear weapon State to manufacture or acquire the same. Thereafter Nuclear Test Ban Treaty, 1969 provides for putting an end to the contamination of man's environment by radio-active substances and permits no nuclear explosions in the three parts of the biosphere, namely atmosphere, outer space and underwater including territorial water or the high seas.

**VI. The Treaty on the Prohibition of the Emplacement of Nuclear Weapons and other Weapons of Mass Destruction on the Sea-bed and Ocean Floor and in the Subsoil thereof, 1971**, the parties to the treaty have made a solemn promise not to implant or emplace any nuclear weapons or any other types, of mass destruction or any structures including any launching installations; or facilities for storing, testing or using such weapons on the sea-bed, ocean floor, or subsoil beyond 12 miles from their shore baselines.<sup>17</sup>

### **3.2 Stockholm Conference-A Way Forward**

Prior to the Stockholm conference the various international conventions and conferences held from time to time had only focused specifically on some environmental issues. Many countries had entered into bilateral and multilateral treaties which although were considered as important and negotiated to protect the environment but were inadequate. Such conferences were more regional rather than international and thereby suffered from lack of effective implementation. The establishment of large number of international and regional organisations during these periods that became part and parcel of international community also helped in taking appropriate steps towards improving the quality of life and conserve common resources. But unfortunately, these organisations are beset with divided or ineffectual authority, making corrective actions without the consent of offending governments virtually impossible. The other factors which are discussed below also prompted the world community to take immediate steps under a common platform under which the countries of the world would be in a position to unite together to tackle the threat of environmental pollution. The Stockholm conference is one of such platform to meet the demand of the hour considering the danger involved in it. But before highlighting

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<sup>17</sup> Alexandre Kiss and Dinah Shelton, *International Environmental Law* pg. 41 (Transnational Publications, New York, 3<sup>rd</sup> Edn., 2004).

on the Stockholm conference let us look at the historical background which had helped in the formation of the common platform to combat the environmental issues.

### **3.2.1 Historical Background**

Ecological catastrophe such as the 1967 “black tide” off the coasts of France, England and Belgium, caused by the grounding of the oil tanker Torrey Canyon and later on, the 1971 Minamata case on river pollution by organo-mercury in Japan and a growing public awareness of the world eco-crisis, alerted by media attention emphasized the need to convene a world conference on environment immediately and effectively. On 13 December 1967, a proposal reached the United Nations General Assembly to organise a conference in order to "facilitate co-ordination and to focus the interest of member countries on the extremely complex problems related to the human environment." It was the Swedish delegation, led by Sweden’s U.N. Representatives Sverker Astrom and Borje Billner, who took the initiative to convene the first United Nations Conference on the Human Environment (UNCHE) in its capital city of Stockholm in 1972<sup>18</sup>. Representatives from 113 nations and over 400 non-governmental organizations (NGOs) attended the Stockholm Conference.

### **3.2.2 The Stockholm Declaration on Human Environment**

The Conference popularly known as Stockholm Conference was convened to “examine national and international actions that could limit and eliminate, as far as possible, obstacles to the human environment”<sup>19</sup> and to “provide a framework for comprehensive consideration within the U.N. of the problems of the human environment in order to focus the attention of governments and public opinion on the importance and urgency of this question”<sup>20</sup>. There is no doubt that the Conference raised the discussion of environmental issues to a level previously reserved to topics with a long diplomatic

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<sup>18</sup> Andreas Grieger, “Only One Earth: Stockholm and the Beginning of Modern Environmental Diplomacy”, Environment & Society Portal pg. 10 Arcadia, Rachel Carson Center for Environment and Society, (2012).

<sup>19</sup> Andre Aranha Correa do Lago, *Stockholm, Rio, Johannesburg : Brazil and the Three United Nations Conferences on the Environment*, Ministry of External Relation pg. 25 (Brazil, 2009).

<sup>20</sup> *Ibid.*

The Stockholm Conference was called "to serve as a practical means to encourage and provide guidelines for action by governments and international organisations designed to protect and improve the human environment and to remedy and prevent its impairment, by means of international co-operation, bearing in mind the particular importance of enabling developing countries to forestall occurrence of such problems". The gathering produced the Declaration of the Conference on the human environment and an action plan discussed herein under.

The Secretary-General of the Conference, the Canadian Maurice Strong, declared in the opening ceremony that Stockholm is launching "a new liberation movement to free men from the threat of their thralldom to environmental perils of their own making"<sup>21</sup>. The Stockholm Declaration on the Human Environment begins with the statement that man is at once the creature and molder of his environment; the natural element and the man-made are essential to human well-being and to the full enjoyment of basic human rights, including the right to life. Protecting the human environment is also viewed as a major issue for economic development. The Declaration recognises that the natural growth of world population continuously poses problems for preserving the environment, but expresses a conviction that with social progress and the evolution of production, science and technology, human ability to improve the environment strengthens each day. The declaration noted that many factors harm the environment, including population growth, developing economies, and technological and industrial advancements. Despite the pressure placed on the environment, the declaration proffered 26 principles "to inspire and guide the peoples of the world in the preservation and enhancement of the human environment."

### **3.2.3 The Action Plan**

An 'action plan'<sup>22</sup> had been prepared for the protection and enhancement of the environment. This plan was in effect had taken into consideration all recommendation for international action adopted for environmental protection. Such action plan made a re-arrangement programme which involved three parts:

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<sup>21</sup>*Ibid.* Speech delivered at the Opening Ceremony of the Stockholm Conference by Maurice Strong, Secretary General.

<sup>22</sup> U. N. Doc. A/Conf.48/14, July 3 1972, pg. 10, cited in J. G. Starke, *Introduction to International Law* pg. 404 (Aditya Books Pvt. Ltd., New Delhi, 10<sup>th</sup> Edn., 1994).

1. An 'earthwatch' programme to identify problems of international significance so as to warn against impending environmental crisis;
2. 'Recommendation' concerning environmental management, or in other words, the application in practice of what was shown to be desirable or necessary in regard to the environment and
3. 'Supporting measures' such as education, training, public information and finance.<sup>23</sup>

### 3.2.4 The Principles

Principles 2 to 7<sup>24</sup> constitute the heart of the Declaration. They proclaim that the natural resources of the globe are not only oil and minerals, but also air, water, earth, plants and animals as well as representative samples of natural ecosystems. These should be preserved in the interest of present and future generation. Man has a particular responsibility to safeguard the heritage of wildlife and its habitats. Renewable resources must maintain their ability to replenish themselves and non-renewable resources should not be wasted. In all cases the Declaration emphasises the necessity of adequate resource management. This part concludes by calling for a halt

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<sup>23</sup> Alexandre Kiss and Dinah Shelton, *International Environmental Law* pg. 39 (Transnational Publications, New York, 3<sup>rd</sup> Edn., 2004).

<sup>24</sup> Principle I of the Stockholm Declaration- Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn responsibility to protect and improve the environment for present and future generations.

Principle 2- The natural resources of the earth, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, must be safeguarded for the benefit of present and future generations through careful planning or management, as appropriate.

Principle 3 of the Stockholm Declaration- The capacity of the earth to produce vital renewable resources must be maintained and, wherever practicable, restored or improved.

Principle 4 of the Stockholm Declaration- Man has a special responsibility to safeguard and wisely manage the heritage of wildlife and its habitat, which are now gravely imperilled by a combination of adverse factors. Nature conservation, including wildlife, must therefore receive importance in planning for economic development.

Principle 5 of the Stockholm Declaration- The non-renewable resources of the earth must be employed in such a way as to guard against the danger of their future exhaustion and to ensure that benefits from such employment are shared by all mankind.

Principle 6 of the Stockholm Declaration- The discharge of toxic substances or of other substances and the release of heat, in such quantities or concentrations as to exceed the capacity of the environment to render them harmless, must be halted in order to ensure that serious or irreversible damage is not inflicted upon ecosystems. The just struggle of the peoples of ill countries against pollution should be supported.

Principle 7 of the Stockholm Declaration- States shall take all possible steps to prevent pollution of the seas by substances that are liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea.

to the production of toxic wastes or other matter that cannot be absorbed by the environment.

Principles 8<sup>25</sup> to 25 address implementation of environmental protection. It states that economic and social development is indispensable if an environment favorable to the existence and work of man is to be sought. Principle 9 affirms that the best means to remedy under-development is to enhance financial and technical assistance. National environmental policies should assist the potential progress of poorer countries and they should be accorded supplementary international assistance. Principles 10<sup>26</sup> to 12<sup>27</sup> is concerning the international trade and economic consequences of environmental protection, particularly for developing countries. Principle 13 to 15<sup>28</sup> underline the necessity of integrated, coordinated and rational development planning. Demographic issues produced a simple recommendation in Principle 16 in favour of policies which respect fundamental human rights and are judged adequate by the governments concerned. Principles 18 to 20<sup>29</sup> mention other

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<sup>25</sup> Principle 8 of the Stockholm Declaration- Economic and social development is essential for ensuring a favorable living and working environment for man and for creating conditions on earth that are necessary for the improvement of the quality of life.

<sup>26</sup> It provides that the stability of prices and an adequate remuneration for primary products and goods is essential for the management of the environment.

<sup>27</sup> Principle 11 of the Stockholm Declaration- The environmental policies of all States should enhance and not adversely affect the present or future development potential of developing countries, nor should they hamper the attainment of better living conditions for all, and appropriate steps should be taken by States and international organizations with a view to reaching agreement on meeting the possible national and international economic consequences resulting from the application of environmental measures.

Principle 12 of the Stockholm Declaration- Resources should be made available to preserve and improve the environment, taking into account the circumstances and particular requirements of developing countries and any costs which may emanate- from their incorporating environmental safeguards into their development planning and the need for making available to them, upon their request, additional international technical and financial assistance for this purpose.

<sup>28</sup> Principle 13 of the Stockholm Declaration- In order to achieve a more rational management of resources and thus to improve the environment, States should adopt an integrated and coordinated approach to their development planning so as to ensure that development is compatible with the need to protect and improve environment for the benefit of their population.

Principle 14 of the Stockholm Declaration- Rational planning constitutes an essential tool for reconciling any conflict between the needs of development and the need to protect and improve the environment.

Principle 15 of the Stockholm Declaration- Planning must be applied to human settlements and urbanization with a view to avoiding adverse effects on the environment and obtaining maximum social, economic and environmental benefits for all. In this respect projects which are designed for colonialist and racist domination must be abandoned

<sup>29</sup> Principle 19 of the Stockholm Declaration- Education in environmental matters, for the younger generation as well as adults, giving due consideration to the underprivileged, is essential in order to broaden the basis for an enlightened opinion and responsible conduct by individuals, enterprises and communities in protecting and improving the environment in its full human dimension.

instrument of environment policy; recourse to science and technology, exchange of information, and finally, teaching information about environmental matters.

The last group of principles 21 to 26 is of particular interest in the development of international law. Principle 21<sup>30</sup> is generally recognised today as expressing a basic norm of customary international environment law. The Declaration further affirms that states should cooperate to develop international law regarding liability and compensation for victims of pollution and other environmental damage produced outside their boundaries<sup>31</sup>. They should define criteria and norms in environmental matters, taking into consideration the system of values prevailing in each country, in particular in developing countries.<sup>32</sup> States should cooperate to protect and improve the environment and ensure that international organization play a coordinated, effective and dynamic role in this field.<sup>33</sup> The final principle condemns nuclear weapons and all other means of mass destruction.<sup>34</sup>

One of the aims of Stockholm conference among other was to set guidelines for handling environmental issues by the international agencies under proper and effective international system. A number of agencies such as IAEA (for atomic energy), FAO (for agriculture and forests), UNESCO (for science) and WHO (for environmental health) already had environmental responsibilities of one kind or another. Different resolutions had agreed at the end of the conference which was an important step towards the end of a long debate relating to some issues. It was proclaimed that the developing countries, most of the environmental problems are due to improper conditions where millions are deprived of adequate food and clothing, shelter and education, health and sanitation and therefore, such countries must conform that their efforts towards development must not be cause of concern for others and they should bear in mind their priorities and the need to safeguard and improve the environment.

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<sup>30</sup> States may exploit their resources as they wish but must not endanger others.

<sup>31</sup> Principle 22 of the Stockholm Declaration.

<sup>32</sup> Principle 23 of the Stockholm Declaration.

<sup>33</sup> Principles 24-25 of the Stockholm Declaration.

<sup>34</sup> Principle 26 of the Stockholm Declaration.

### 3.3 Post-Stockholm Developments

The Stockholm conference secures a permanent place for the environment on the world's agenda and led to the establishment of the United Nations Environment Programme (UNEP) to provide the UN with the institutional capacity needed to address and coordinate the recommendations put forward in the Stockholm Action Plan and to advocate for the protection and improvement of the environment.

#### 3.3.1 United Nations Environment Programme (UNEP)

To co-ordinate different environmental activities the United Nations established an agency in the name of The United Nations Environment Programme (UNEP). It assists developing countries in implementing environmentally sound policies and practices. It was founded as a result of the Stockholm conference and has its headquarters in the Gigiri neighborhood of Nairobi, Kenya. UNEP has six regional offices and various country offices. Since its inception, it has played a significant role in the development of international environmental law. It has negotiated and obtained adoption of nearly thirty binding multilateral instruments<sup>35</sup>, including the landmark 1987 Montreal Protocol on Substances that Deplete the Ozone Layer<sup>36</sup> as well as ten sets of non-binding environmental law guidelines and principles. The compliance mechanisms they introduced have become a model for other environmental treaties. The purpose of the UNEP was to “promote international co-operation in the field of the environment and to recommend, as appropriate, policies to this end, [and] to provide general policy guidance for the direction and coordination of environmental programmes within the United Nations system.”<sup>37</sup> The programme makes particular effort to nurture partnerships with other UN bodies in the achievement of sustainable development. The establishment of UNEP secretariat by the General Assembly was “to serve as a focal point for environmental action and co-ordination within the United Nations system.”<sup>38</sup>

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<sup>35</sup>Carol Annette Petsonk, “The Role of the United Nations Environment Programme (UNEP) in the Development of International Environmental Law” Vol. 5 American University International Law Review pg. 352 (1990).

<sup>36</sup>*Ibid.* The Montreal Protocol is a protocol to the Vienna Convention for the Protection of the Ozone Layer, adopted and opened for signature Mar. 22, 1985.

<sup>37</sup>*Ibid* at pg. 354.

<sup>38</sup> *Ibid* at part II, para. 1.

### 3.3.2 Objectives of United Nations Environment Programme

Such objectives can be summarized as under:

- To promote international cooperation in the field of the environment and recommending appropriate policies.
- To monitor the status of the global environment and gathering and disseminating environmental information.
- To catalyse environmental awareness and action to address major environmental threats among governments, the private sector and civil society.
- To facilitate the coordination of UN activities on matters concerned with the environment, and ensuring, through cooperation, liaison and participation, that their activities take environmental considerations into account.
- To develop regional programmes for environmental sustainability.
- To help, upon request, environment ministries and other environmental authorities, in particular in developing countries and countries with economies in transition, to formulate and implement environmental policies.
- To provide country-level environmental capacity building and technology support.
- To help develop international environmental law, and providing expert advice on the development and use of environmental concepts and instruments.

Building on the Vienna Convention and the Montreal Protocol, United Nation Environment Programme has prepared a framework convention on global climate change.<sup>39</sup> Under such framework, to deal with the toxic or dangerous products steps had evolved for the regulation of the same during their whole lifetime. It means that regulations should apply to production, transport, marketing and waste elimination. The regulation of production is a highly technical issue which has to be solved by applying different methods to different groups of products. Therefore, the United Nation Environment Programme has established an International Register of

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<sup>39</sup> *Ibid* at pg. 356.

Potentially Toxic Chemicals containing detailed information on substances of international importance that may be consulted with those responsible for health and environmental protection in different countries.

Since its formation the United Nation Environment Programme has undertaken several environmental law programme to concentrate on broad range of global environmental problem. Apart from the Vienna Convention and Montreal Protocol, the United Nation Environment Programme has adopted various Conventions from time to time. Some of the important Conventions are: Basel Convention, Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention on Conservation of Migratory Species (CMS), Conventions and protocols for the protection of Mediterranean Sea and Persian Gulf, the Caribbean Sea and many more.

It may be mentioned here that initially, the functions of UNEP were much more of a promotional nature than an operational one, but gradually it has achieved its operational character. In this regard, some examples of operational character may be referred to:

- a. In 1978, UNEP sought to achieve formulations of principles to guide States in respect of co-operation for sharing resources and in respect of the problems of liability and compensation for pollution and environmental damage.
- b. In 1978-79, UNEP took the initiative of proposing a world conservation strategy in regard to living resources and this was formally endorsed by the United Nations General Assembly in 1979.
- c. In the same year the UNEP was given the responsibility of administration of three environmental trust funds:
  - i. for the protection of the Mediterranean against pollution;
  - ii. for the protection and development of the marine environment and coastal areas of Bahrain, Iran, Iraq, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates; and

- iii. for the Convention of 1973 on International Trade in endangered species of wild fauna and flora.

One of the main achievements of United Nation Environment Programme has been the United Nations Conference on the Human Settlements, popularly known as the “Habitat Conference”, held at Vancouver on and from 31<sup>st</sup> May to 11<sup>th</sup> June, 1976.<sup>40</sup> Thus in this way, United Nation Environment Programme established itself as an effective machinery of the United National for facilitating the development of international environmental law by convening various Conventions, adopting resolutions and making agreement, including formulation of various environmental programmes and co-ordinating various international, national, regional activities to fulfil the commitment of the Stockholm Declaration, mainly for the development of better human environment and settlements.

### **3.4 Other Important Conventions prior to Nairobi Declaration**

After the Stockholm Conference the most notable international Conventions that were held on different environmental issues are as follow:

- I. Convention on International Trade in Endangered species of Wild flora and fauna, 1973.** It aimed to control and prevent international trade relating to endangered species of wild flora and fauna for the purpose of reducing the economic incentive to poach endangered species and destroy their habitat by closing off the international market.
- II. Convention for prevention of pollution originating from Land-based sources (Paris), 1974.** It was adopted at Paris and signed by 14 Western European countries concerning marine environment pollution originating from land other than dumping and was applied to North Atlantic Ocean.
- III. Convention for the protection of Marine Environment of Baltic Sea Area, Helsinki, 1974.** The Convention represented by seven Baltic States agreed to take all appropriate measures, legislative as well as

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<sup>40</sup> J. G. Starke, *Introduction to International Law* pg. 413 (Aditya Books Pvt. Ltd., New Delhi, 10<sup>th</sup> Edn., 1994).

administrative to prevent and abate pollution and to protect and enhance the marine environment of the Baltic Sea area.

**IV. Convention on Long-Range Transboundary Air Pollution, 1979** is intended to protect the human environment against air pollution and to gradually reduce and prevent air pollution, including long-range transboundary air pollution. It is implemented by the European Monitoring and Evaluation Programme. Since its inception the convention addressed some of the major environmental issues through scientific collaboration and policy negotiation. It consisted of eight protocols for the purpose of identifying specific measure to be taken by parties for reducing emissions that causes air pollutions.

**V. Convention Concerning Occupational Safety and Health and the Working Environment** had convened at Geneva on 3<sup>rd</sup> June, 1981 by the General Conference of the International Labour Organisation. In this Convention, it was proposed that with regard to the safety, health and the working environment, it has become imperative that in the light of national conditions and practice and in consultation with the representative organization each member shall implement and periodically review a coherent national policy in this regard.

### **3.5 Nairobi Declaration, 1982**

In the Nairobi Declaration, the "world community of states ... solemnly requests Governments and people to build on the progress so far achieved, but expresses its serious concern about the present state of the environment worldwide, and recognises the urgent necessity of intensifying the efforts at the global, regional and national levels to protect and improve it."<sup>41</sup>

Ten years after Stockholm, UNEP convened a special session of its Governing Council from 10 to 18 May 1982 to commemorate the Conference's tenth anniversary. In the special session discussion was held and emphasis was put on the validity of the principles agreed at Stockholm, the shortcomings in the

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<sup>41</sup> Paolo Galizzi, "From Stockholm to New York, via Rio and Johannesburg: Has the Environment Lost its Way on the Global Agenda?" Vol. 29 Fordham International Law Journal pg. 968 (2005).

implementation of the Stockholm agenda, and the failure to seriously tackle environmental degradation. The Governing Council adopted the Nairobi Declaration, urgently calling for the adoption of renewed international efforts and measures. The creation of a special commission to frame long term environment strategies for the purpose of achieving sustainable developments upto 2000 and beyond was the main motto under the Nairobi Declaration.

Regarding the question of validity of the different principles that was agreed in Stockholm agenda in the Nairobi Declaration, the “world community of states” reasserted that “the principles of the Stockholm Declaration are as valid today as they were in 1972.”<sup>42</sup> The Declaration noted that the Stockholm Action Plan had, regrettably, only been partially implemented “the results cannot be considered as satisfactory...[it] has not had sufficient impact on the international community as a whole.”<sup>43</sup>

The Nairobi Declaration urged “all Governments and people of the world to discharge their historical responsibility, collectively and individually, to ensure that our small planet is passed over to future generations in a condition which guarantees a life of human dignity for all.”<sup>44</sup> The declaration emphasises on the necessities to promote the progressive development of international environmental law by the world States alongwith the need for environmental management and assessment. On various aspects such as development of new technical innovation in promoting resource substitution, recycling and conservation due to emergence of new environmental problems, like deforestation, soil and water degradation, desertification, changes in the ozone layer, increasing concentration of carbon-dioxide, acid rain, extinctions of various animal and plant species also the declaration put emphasis.

The Nairobi Declaration has helped to identify the prevailing deficiencies in international environmental law during post Stockholm period and proposal for more stringent and just international rules, regulations and guidelines to combat newly emergent environmental problems. The Declaration was further supplemented by the

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<sup>42</sup> *Ibid.*

<sup>43</sup> *Ibid.*

<sup>44</sup> *Ibid* at pg. 10.

elaborate World Charter for Nature (on Conservation of Nature) adopted by the UN General Assembly in a resolution of 20<sup>th</sup> October, 1982.<sup>45</sup>

### **3.6 Vienna convention for the protection of ozone layer, 1985**

In 1981, UNEP acted on a proposal to develop a global convention on the ozone layer with a view to lay down framework for the international efforts to protect the ozone layer. It was adopted in 1985 and entered into force on 22 Sep 1988. The ozone layer is important in keeping out harmful ultraviolet radiation from the sun. The object of the Convention was to promote cooperation by the parties to it by means of systematic observations, research and information exchange on the effects of human activities on the ozone layer and to adopt legislative or administrative measures against activities likely to have adverse effects on the ozone layer. It envisages the taking of appropriate measure to protect human health and environment against adverse effects resulting from human activities that modify or are likely to modify the ozone layer.

### **3.7 Montreal protocol on substances that deplete ozone layer, 1987**

As the Vienna Convention did not include legally binding reduction goals, it gave rise to the need of such kind and the culmination is the accompanying Montreal Protocol on Substances that Deplete the Ozone Layer. The most significant commitments in the protocol are the schedules for phasing out ozone depleting substances. He protocol requires all the parties to eliminate the production and import of nearly hundred substances that deplete the ozone layer as per agreed timelines. It also provided for a multilateral fund which a financial mechanism to help qualifying developing countries to phase out their consumption of ozone depleting substance.

### **3.8 Basel convention on the transboundary movement of hazardous wastes, 1989**

The next important Convention under the international environmental law was the Convention concerning the control of transboundary movements of hazardous wastes and their disposal. The Convention was regarding the risk of damage to human health and the environment due to disposal of hazardous and other wastes and their

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<sup>45</sup> J. G. Starke, *Introduction to International Law* pg. 415 (Aditya Books Pvt. Ltd., New Delhi, 10<sup>th</sup> Edn., 1994).

transboundary movement causing threat to human health. The Convention was adopted on March 22, 1989 by the Conference of Plenipotentiaries in Basel, Switzerland. Such step was taken in response to a public outcry due to the discovery in Africa and other parts of the developing world for depositing of toxic wastes imported from abroad. In addition to this, the rapid worldwide industrial growth leading to detection of traces of toxic chemicals in drinking water supplies, aerated drinks, groundwater sources, and in food and vegetables has focused the attention of the public worldwide on the risks posed by the inappropriate disposal of hazardous waste and accidental release of toxic chemicals into the environment. The growing quantum of wastes and more so the change in the composition of the wastes with industrial processes becoming more complex and the wastes the industry is spewing out are becoming more hazardous, toxic, and dangerous. Therefore, a need was felt to have an international law regulating such transboundary movement of hazardous wastes. This set the stage for the Convention (Basel Convention)<sup>46</sup>, which is intended to establish a global regime for the control of international trade in hazardous and other wastes. The Basel Convention had come into force in 1992 and as of February 2014, 180 States and the European Union are parties to the Convention.<sup>47</sup>

### **3.8.1 Aims and Objectives**

By conferring the duty on the State parties the Convention prohibit the export of hazardous wastes and also envisage taking appropriate measures to reduce the generation of hazardous wastes and other wastes to the minimum. It also aims in ensuring that hazardous wastes should be treated and disposed of as close as possible to their source of generation and also to minimise the waste generation at source.

The definition of 'Hazardous Wastes' by including toxic, poisonous, explosive, corrosive, flammable, ecotoxic, and infectious substances has made it

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<sup>46</sup> *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes*, Council on Foreign Relations, (2010) Available at: [http://www.cfr.org/publication/20588/basel\\_convention\\_on\\_the\\_control\\_of\\_transboundary\\_movements\\_of\\_hazardous\\_wastes.html](http://www.cfr.org/publication/20588/basel_convention_on_the_control_of_transboundary_movements_of_hazardous_wastes.html) (Last visited on Aug. 20, 2015).

<sup>47</sup> Kurukulasuriya Lal and A. Nicholas, *Training Manual on International Environmental Law* pg. 127, United Nation Environment Programme, (Earth Print Publication, 1<sup>st</sup> Edn., 2006).

wide.<sup>48</sup> The definition has to be read with Annexures I to III which spell out the various categories of wastes. Apart from taking into ambit those wastes which are declared hazardous by domestic laws<sup>49</sup>, it also includes clinical wastes, asbestos, and PCB contaminated materials, etc. The other wastes included in the Convention are household wastes and solid waste incinerator ash.

The Basel Convention forbids the export of any hazardous or other waste until the importing and transit nations have provided written authorisation.<sup>50</sup> As part of that authorisation, the importing nation must confirm the existence of a contract between the “exporter and the disposer specifying environmentally sound management of the wastes in question.” To receive such authorisation, an exporter must provide written notification to the designated “competent authority”<sup>51</sup> of the importing nation and of any other nation through which the waste will be transported.<sup>52</sup> The notification must include specified information about such things as the nature and amount of the waste, the waste generator, and the ultimate disposal.<sup>53</sup> The export may not commence until the transit and importing countries agree in writing to the export.<sup>54</sup> In addition to approving the request, the transit and importing countries are authorised to deny permission, request additional information, or approve subject to specified conditions. Although a transit country is to respond within sixty days, a time deadline is inapplicable to the importing nation's response.<sup>55</sup> The Basel Convention specifies that no country shall export to a country which has prohibited imports of particular

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<sup>48</sup>Article 1 of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

<sup>49</sup>Article 2 (1) of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

<sup>50</sup>Article 6 of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

<sup>51</sup>Para 3 (b) of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

<sup>51</sup>Article 5 of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989 providing for each nation to identify a "competent authority," along with the "focal point" to act as the contact point for all matters, filings, and requests related to the export of hazardous waste.

<sup>52</sup>Article 6 para 1 of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

<sup>53</sup>Article 6 providing that an exporter is to provide the information identified on Annex V(A)). Annex V(A) contains twenty-one separate items. *Id.* at Annex V(A).

<sup>54</sup>Para 3 of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

<sup>55</sup>Article 6, para. 4, 3(b) of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

wastes.<sup>56</sup> Signatories of the Convention are also precluded from exporting to non-signatories<sup>57</sup> however, may occur if a bilateral agreement permits such export.<sup>58</sup> In such cases, the agreements are to conform to sound waste management principles.

### **3.8.2 Obligations of the Parties**

As already mentioned above, the Convention sets forth the general obligations requiring parties to ensure that transboundary movement of wastes is reduced to the minimum. Consistent with environmentally sound and efficient management, it reflects an approach that wastes should, as far as possible, be disposed of in the state where they were generated.<sup>59</sup> The parties must not allow exports to parties which have prohibited by legislation all imports, or where they have reason to believe that the wastes will not be managed in an environmentally sound manner, and are obliged to co-operate to improve and achieve environmentally sound management of such wastes.<sup>60</sup> Parties may prohibit the import of such wastes and must consent in writing to any specific imports which they have not prohibited.<sup>61</sup> The Convention also requires parties to provide information about a proposed transboundary movement of hazardous wastes and other wastes to the states concerned and also clearly state the effects of the proposed movement on human health and environment.<sup>62</sup> The parties must prevent the imports of such wastes if they have reason to believe that they will not be managed in an environmentally sound manner.<sup>63</sup> In order to encourage states to become parties to the Convention, wastes may not be exported to or imported from a non-party and they cannot be exported for disposal to the Antarctic area.<sup>64</sup> The

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<sup>56</sup> Article 4 para 1(b) of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

<sup>57</sup> Article 7 of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

<sup>58</sup> Article 11 of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

<sup>59</sup> Article 4 of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

<sup>60</sup> Article 4 (2) (d) and (e), 4 (8) and 11 of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

<sup>61</sup> Article 4 (1) (a) and (c) of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

<sup>62</sup> Article 4 (2) (f) of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

<sup>63</sup> Article 4(2) (g) of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

<sup>64</sup> Article 4 (5) and (6) of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

Convention considers such traffic illegal which contravenes notification or consent requirements, or fails to conform to the documents, or results in deliberate disposal in contravention of the Convention and general principles of international law. Such illegal traffic in hazardous wastes or other wastes is criminal.<sup>65</sup>

The Convention also requires that parties should allow transboundary movement of wastes only if the exporting country does not have the technical capacity, facility, or suitable disposal sites or the wastes in question are required as a raw material for recycling or recovery industries in the state of import or in accordance with other criteria decided by the parties.<sup>66</sup> The transport and disposal of hazardous and other wastes may only be carried out by authorised persons; transboundary movements must conform to generally accepted and recognized international rules and standards of packaging, labeling, and transport, take account of relevant internationally recognized practices, and be accompanied by a movement document until disposal.<sup>67</sup> The Convention makes sure that the exporting parties do not transfer their obligation of environmentally sound management of wastes to the importing country.<sup>68</sup> The Convention also makes it mandatory for the parties to designate or establish one or more competent authorities and one focal point.<sup>69</sup>

### **3.8.3 Cooperation between the parties**

The Basel Convention also provides for cooperation between parties, ranging from exchange of information on issues relevant to the implementation of the Convention to technical assistance, particularly to developing countries<sup>70</sup>. The Secretariat is required to facilitate and support this cooperation, acting as a clearing-house.<sup>71</sup> In the event of a transboundary movement of hazardous wastes having been

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<sup>65</sup> Article 4 (3) and 9 of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

<sup>66</sup> Article 4 (9) of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

<sup>67</sup> Article 4 (7) of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

<sup>68</sup> Article 4 (10) and (11) of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

<sup>69</sup> Article 5 of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

<sup>70</sup> Articles 10 and 13 of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

<sup>71</sup> Article 16 of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

carried out illegally, i.e. in contravention of the provisions of articles 6 and 7, or cannot be completed as foreseen, the Convention attributes responsibility to one or more of the States involved, and imposes the duty to ensure safe disposal, either by re-import into the State of generation or otherwise.<sup>72</sup>

### **3.9 The United Nations Conference on Environment and Development (UNCED), The Rio Declaration**

UNCED emerged from the Brundtland Report. The UN General Assembly resolution accepting the Report<sup>73</sup> and showing deep concern by the continuing deterioration of the environment, serious degradation of the global life-support systems due to global ecological imbalance that lead to an ecological catastrophe and also recognising that decisive, urgent and global action is vital to protect the ecological balance of the Earth, convened a world conference on environment and development for two weeks (June 3-14, 1992) in Rio de Janeiro, Brazil. It is also known as Rio Conference or Earth Summit. It was attended by delegates from 176 States, including 103 Heads of State or Government<sup>74</sup> with different views and objectives. The developed world, in particular, wanted the Summit to re-energise the international community's environmental agenda, while the developing world wanted to put development and economic growth on the center stage. Therefore, the Summit was an attempt reflecting a compromise and a new consensus between developed and developing countries.

Two important documents namely the Rio Declaration on Environment and Development and Agenda 21 the official documents from UNCED have since then taken the central role in shaping the idea of environment and development, most importantly the sustainable development. Whereas the Rio Declaration provided a vision of sustainable development, Agenda 21 provided a comprehensive plan of action that was created to guide and coordinate the work of the UN, governments, and

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<sup>72</sup>Articles 8 and 9 of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes, 1989.

<sup>73</sup>G.A. Res. 44/228, Dec. 22, 1989, cited in Peter P. Rogers, Kazi F. Jalal, *et. al.*, *An Introduction to Sustainable Development*, (Earth Scan, 1<sup>st</sup> Edn., 2008)

<sup>74</sup>Peter H. Sand, "International Environmental Law after Rio", *Kaleidoscope*, Vol. 4 EJIL pg. 378 (1993).

other major groups in their efforts to transition society towards sustainable development<sup>75</sup>.

### **3.9.1 The Rio Declaration**

Having met at Rio to reaffirm the Declaration of the United Nations Conference on the Human Environment, adopted at Stockholm on 16<sup>th</sup> June, 1972 and seeking to build upon it, with the goal of establishing a new and equitable global partnership through the creation of new levels of co-operation among States and to protect the integrity of the global environment and system of development, Rio Declaration framed 27 principles touching eight most important areas which are:

1. Right to environment;
2. Transboundary pollution;
3. Intergenerational equity;
4. Environmental impact assessment;
5. Precautionary approaches;
6. Cooperation, exchange of information, notification and prior consultation;
7. Trade and the Polluter Pays Principles; and
8. Public participation in environmental decision making.

A brief overview of the abovementioned areas have been made under the following heads.

### **3.9.2 The Right to Environment and Sustainable development**

Under Principle 1 it has been proclaimed that human beings are at the center of concerns for sustainable development.<sup>76</sup> They are entitled to a healthy and

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<sup>75</sup> H. Gudmundsson, R.P. Hall, *et al.*, *Sustainable Transportation* pg. 23 (Springer Texts in Business and Economics, 1<sup>st</sup> Edn., 2016).

<sup>76</sup>John Batt and David C. Short, "The Jurisprudence of the 1992 Rio Declaration on Environment and Development: A Law, Science, and Policy Explication of Certain Aspects of the United Nations Conference on Environment and Development" Vol. 8J National Resources and Environmental Law pg. 229 (1992-1993).

productive life in harmony with nature. Principles 3 and 4, read together, represent the core compromise reached at Rio between environmental concern and development. Principle 3 affirms that “The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations,”<sup>77</sup> while Principle 4 reiterates that “In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.”<sup>78</sup>

### 3.9.3 The Legal Principles

The Rio Declaration includes several legal principles. For example, Principle 2 concerning the effect of transboundary activities, reproduces almost verbatim Principle 21 of the Stockholm Declaration, with a minor addition: Principle 2 adds two words, “and developmental,” to the original Stockholm formulation of the principle recognising States’ sovereignty over their natural resources and the obligation not to cause environmental damage. Other more controversial legal principles are also included in the Rio Declaration: “the precautionary principle;<sup>79</sup> the principle of common but differentiated responsibility;<sup>80</sup> environmental impact assessment;<sup>81</sup> the polluter pays principle;<sup>82</sup> and the principle of public participation.”<sup>83</sup>

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<sup>77</sup> Rio Declaration on Environment and Development, principle 1, U.N. Doc. A/CONF.151/5/Rev.1

<sup>78</sup> Principle 4 of the Rio Declaration on Environment and Development.

<sup>79</sup> Principle 5 of the Rio Declaration on Environment and Development-“In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”

<sup>80</sup> Principle 7 of the Rio Declaration on Environment and Development-“States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. The developed countries acknowledge the responsibility that they bear in the international pursuit to sustainable development in view of the pressures their societies place on the global environment and of the technologies and financial resources they command.”

<sup>81</sup> Principle 17 of the Rio Declaration on Environment and Development-“Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.”

<sup>82</sup> Principle 16 of the Rio Declaration on Environment and Development-“National authorities should endeavour to promote the internalisation of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment.”

<sup>83</sup> Principle 10 of the Rio Declaration on Environment and Development-“Environmental issues are best handled with participation of all concerned citizens at the relevant level. At the national level, each

### 3.9.4 The Policy Guidelines

Other principles are more in the nature of policy guidelines, although the line between law and policy is not always clear. The Rio Declaration envisages three groups of policy provisions.

1. The first group expresses concern for development. According to Principle 5 that all States and all people shall co-operate in the essential tasks of eradicating poverty, as an indispensable requirement for sustainable development in order to reduce the disparities in standard of living and to meet the needs of the majority of the people all over the world. Principle 6 states that international actions in the field of environment and development should also address the interest and needs of all countries, specially, of those who are environmentally vulnerable. Principle 9 relates to the strengthening of endogenous capacity-building for sustainable development by improving scientific understanding.
2. A second group of principles addresses the world economic order. In connection with the same Principle 7 proclaims that States shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of the different contributions to global environmental degradation, States have common but differentiated responsibilities. According to Principle 8, to achieve sustainable development and higher quality of life for all people, State should reduce and eliminate unsustainable pattern of production and consumption. In addition, States shall also co-operate to strengthen indigenous capacity building for sustainable development by improving scientific and technological knowledge and by enhancing the development, adaptations, diffusions and transfer of technologies under Principle 9 of the Declaration. Economic aspects are treated in Principle 12 which

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individual shall have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes. States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided.”

advocates a “supportive and open economic system” and international consensus and condemns discriminatory trade measures or disguised restrictions on international trade, as well as unilateral actions. Finally Principle 14 aims to discourage or prevent the relocation and transfer to other states of activities and substances that cause severe environmental degradation or are harmful to human health.

3. A last group of principles was relating to public participation. Principle 10 recognises for individuals rights to information, to participation and to remedies in environmental matters. Principles 20 to 22 stress the importance of the participation of women, youth and indigenous peoples, but the terms used show that these provisions are more guidelines than legal norms.

### **3.10 Agenda 21**

It is the action plan implemented worldwide to cover a complete list of items such as poverty, consumption patterns, demography, human health and settlement, and more conventional environmental issues such as protecting the atmosphere, forests and fragile ecosystems, seas, freshwaters and biodiversity . It also provides a comprehensive blueprint as to how the world’s nations can work individually, collectively towards sustainable development; Agenda 21 envisages steps to be taken globally, nationally and locally by the organisation of the United Nations, the governments, and the major groups. It is so named because of its position in the meeting agenda. It consisted of some forty separate sections of concerns and outlines a total of over 2,500 recommendations.

#### **3.10.1 Aims and Objectives**

Agenda 21 emphasises on the following major aims:

1. Reducing the amount of energy and raw materials society consumes and the pollution and waste it produces;
2. Protecting fragile ecosystems and environments;

3. Stress upon fairer distribution of wealth including the needs of poor and disadvantages people; and
4. Identifies program areas and specifies actions, objectives, activities, and means of implementation to concretely promote sustainable development.<sup>84</sup>

### **3.10.2 The Sections**

Agenda 21 is divided into four sections:

1. social and economic dimensions (section I);<sup>85</sup>
2. conservation and management of resources for development (section II);<sup>86</sup>
3. strengthening the role of major groups (section III);<sup>87</sup> and
4. of implementation (section IV).<sup>88</sup>

The issues such as international cooperation to accelerate sustainable development in developing countries and related domestic policies; combating poverty; changing consumption patterns; protecting and promoting human health; promoting sustainable human settlement development; integrating environment and development in decision making etc. have been covered under Section I consisting of seven chapters (Chapter 2-8).

Section II containing of Chapters 9-22 deals with issues such as protection of the atmosphere, integrated approach to the planning and management of land resources, combating deforestation, combating desertification and drought, sustainable mountain development, promoting sustainable agriculture and rural development, conservation of biological diversity, environmental sound management of biotechnology, toxic chemicals, radioactive wastes, and hazardous waste etc. are important among others which deserve special mention.

Section III focuses on strengthening the role of nine major groups in all aspects of Agenda 21 such as women; youth; indigenous peoples; non-governmental

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<sup>84</sup> Preamble 1.6 to Agenda 21.

<sup>85</sup> Chapter 2-8.

<sup>86</sup> Chapter 9-22.

<sup>87</sup> Chapter 23-32.

<sup>88</sup> Chapter 33-40.

organisations; local authorities; trade unions; business and industry; the scientific and technological community; and farmers (Chapters 23-32).

Containing eight chapters (Chapters 33-40) Section IV of Agenda 21 deals with the means of implementation such as financial resources and mechanisms; transfer of environmentally sound technology cooperation and capacity building; science for sustainable development; promoting education, public awareness and training; national and international legal instruments and mechanisms; etc.

The chapter on international legal instruments has implications for international law in general because it designates specific means that should be used to develop international environmental law, both in substance and in procedure. It insists on particular norms such as the legal aspects of sustainable development and on the adoption of environmental standards. It calls for the integration of environment and development policies in international treaties and emphasises the participation in and the contribution of all countries to the further elaboration of international environmental law in the context of sustainable development. It refers to the relationship between existing national instruments and relevant social and economic agreements and call for improvement in the efficacy of international environmental law, in particular by procedures and mechanisms to promote and review the implementation of treaties, such as efficient and practical reporting systems.

Agenda 21 pays particular attention to national legislation. It makes frequent reference to national laws, measures, plans, programmes and standards. Chapter 8, Integrating Environment and Development in Decision-Making, advocates the use of legal and economic instruments for planning and management, seeking incorporation of efficiency criteria in decisions. It recognises the importance of laws and regulations suited to country-specific conditions for transforming environment and development policies into action, adding that not only command-and-control methods should be used, but also a normative framework for economic planning and market instruments. Such methods can also be useful for the implementation of obligations resulting from international treaties. Governments should regularly assess the laws and regulations enacted and the related institutional or administrative machinery with a view to rendering them effective; integrated strategies should be developed to maximise

compliance with law and regulations relating to sustainable development. Finally, Governments and legislators.....should establish judicial and administrative procedures for legal redress and remedy of actions affecting environment and development that may be unlawful or infringe on rights under the law and should provide access to individuals, groups and organisation with a recognised legal interest.

The Rio Conference is largely<sup>89</sup> considered a success.<sup>90</sup> Environment and development played an equal role, reflecting a fair compromise consensus between developed and developing countries' needs and priorities. The international sustainable development agenda recognized that development and the environment were inextricably connected and mutually supportive. Environmental measures had to go hand in hand with development and poverty eradication efforts. By the same token, development had to be sustainable and fully integrate environmental considerations. Agenda 21, an ambitious and concrete plan of action, identified measures to deal effectively with the most pressing environmental problems of modern times and to promote sustainable development. Legally binding treaties addressed two major global environmental issues: climate change and biodiversity.

In sum, the Rio documents join environmental protection and economic development in the concept of sustainable development. All components of society are called to participate towards the achievement of this goal. Although at first some contested the importance of the Rio Conference legal texts, the two Conventions and the Declaration represent milestones in international environmental law. Several principles of the Declaration, such as public participation, the prior assessment of environmental impacts, precaution, notification of emergencies and prior information and consultation on projects potentially affecting the environment of other states, have been included in numerous binding and non-binding international instruments since Rio and constitute emerging customary law rules.

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<sup>89</sup> Marc Pallemarts, "International Environmental Law in the Age of Sustainable Development: A Critical Assessment of the UNCED Process" Vol. 15 *Journal of Law and Commerce* pg. 623 (1996).

<sup>90</sup> Raneie Khooshie Lal Panjabi, "From Stockholm to Rio: A Comparison of the Declaratory Principles of International Environmental Law" Vol. 21 *Denver Journal of International Law and Policy* pgs. 275-276 (1993).

### 3.11 Convention on Bio-Diversity

The Convention on Biological Diversity (CBD) was inspired by the world community's growing commitment to sustainable development the seed of which can be found in the Agenda 21. Even prior to the Agenda 21 the negotiations for the Convention on Biological Diversity took place for the first time in the Governing Council decision of the UNEP by convening an Ad Hoc Working Group of Experts for the same. It was adopted on May 22, 1992 and entered into force on December 29, 1993 consisting of 188 parties. The preamble of the Convention is premised upon "the intrinsic value of biological diversity and of the ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components . . . (and) also of the importance of biological diversity for evolution and for maintaining life sustaining systems in the biosphere."<sup>91</sup> The CBD further affirms "that the conservation of biological diversity is a common concern of humankind."<sup>92</sup> The Convention is also concerned that biological diversity is being significantly reduced by certain human activities, there is a need to conserve and sustainable use biological diversity for the benefit of present and future generations. The fact that biological diversity is unevenly distributed around the world is also the focus point in the Convention.

#### 3.11.1 Objectives

Article 1 set out the broad objectives of the Conventions which are as follows:

1. The conservation of biodiversity (Articles 6-9);
2. The sustainable use of its components (Articles 6, 10 and 14); and
3. The fair and equitable sharing of benefits arising from the use of genetic resources (Articles 15, 19, 20 and 21).

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<sup>91</sup> Convention on Biological Diversity, United Nations pg. 1 (1992), *Available at*: <https://www.cbd.int/doc/legal/cbd-en.pdf> (Last visited on Sept. 13, 2015).

<sup>92</sup> *Ibid.*

Article 1 made an attempt to ensure that balance decisions can be reached if divergent interpretations and conflicts of interest arise and the ways to settle such conflicts.

Based on these broad objectives the Convention can be considered as an important landmark from several points of view. It is for the first time that biological diversity has been dealt with along with the commitment that the conservation of biodiversity is the common concern of humankind. It demonstrates the will to focus on all aspects of biodiversity. It also prescribed a mechanism for the creation of funds to be provided to developing countries to help them implement the Convention. The term “biodiversity” has been defined in Article 2 as “Biological diversity” means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

It covers a wide spectrum of issues, ranging from protected areas and traditional knowledge on biodiversity, to incentives for the sustainable use of natural resources and the transfer of biotechnology. Thus, conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits, together form the heart or basic agreement of the Convention. The central concept of “sustainable use,” which also governs much of the U.S. public land system, is defined under the CBD as “the use of components of biological diversity in a way and at a rate that does not lead to the long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations.”<sup>93</sup> The CBD seeks to have parties integrate conservation and sustainable use into its decision-making, to avoid and minimize adverse impacts to biological diversity, and utilize customary and local efforts as appropriate.<sup>94</sup>

### **3.11.2 The Genetic Resources**

The Convention, for the first time included the genetic diversity and issues relating to the same such as access and use of genetic resources, technology transfer

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<sup>93</sup> Article 2 of the Convention on Biological Diversity.

<sup>94</sup> Article 10 of the Convention on Biological Diversity.

and biosafety etc. Genetic resources are defined as “material of plant, animal, microbial, or other origin that contains units of heredity.”<sup>95</sup> Genetic material includes seeds, cuttings, individual organisms or sperm. Under Article 15 provisions have been made to maintain a balance of vast genetic resources of developing countries against the enormous economic resources of developed countries by regulating access to genetic resources. It also addressed the developed countries to compensate of developing countries for the utilization of their resources. In the Convention the Conference of the Parties (COP) put stress on the importance of national legislation or agreements among parties to regulate the transfer the genetic resources.

### **3.12 Recent Developments**

The adoption of Basel Convention in 1989 which served as an instrument to legitimise hazardous waste trade rather than to prohibit the same necessitated the amendment of the same. The condemnation which was made by the African countries, some developing countries and Greenpeace led to the amendment of the Basel Convention, 1994 which finally came up with a unique coalition including some Eastern and Western Europe managed to pass by consensus what has come to be known as Basel Ban.

#### **3.12.1 Basel Ban Amendment**

Since the adoption of the Basel Convention, the majority of the State parties continue negotiations on the introduction of a total or partial ban on transboundary movements of hazardous wastes under the framework of the third Conference of Parties (COP). Unfortunately, due to the refusal to accept a suggestion by most of the developing countries it could not be materialised. But due to the constant effort of the Contracting Parties of the Basel Convention to fulfill the promise for the full ban on the exports of hazardous wastes from OECD countries to non-OECD countries, the overarching priority of the Conventions work has resulted in the significant accomplishment through the Basel Ban Amendment in 1995. The Ban Amendment provides for the prohibition of exports of all hazardous wastes covered by the Convention that are intended for final disposal, reuse, recycling and recovery from

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<sup>95</sup> Article 2 of the Convention on Biological Diversity.

countries listed in annex VII to the Convention to all other countries. The list of Parties which have not ratified the Ban includes major producers of hazardous waste such as the US and Japan as well as developing countries such as India and Pakistan who are major importers of hazardous waste. The issue of the non-ratification of the Ban has become 'emotional and over politicised' to the extent that it is doubtful that it will ever be resolved.<sup>96</sup>

Still the Basel Ban is considered as vital for two primary reasons:

1. To prevent damage to the environment and human health caused by the disproportionate export and disposal of hazardous wastes to countries that did not create them and where there was less infrastructure and resources to mitigate the great risks associated with such wastes.
2. To prevent waste generators from avoiding taking responsibility to minimise the generation of hazardous wastes through clean production technologies and methods, by externalisation of their costs to countries where disposal is less costly than at home.

### **3.12.2 Basel Protocol**

The Basel Protocol on Liability and Compensation for Damage resulting from Transboundary Movements of Hazardous Wastes and their Disposal<sup>97</sup> was adopted in 1999. It was in 1992 when the Basel Convention entered into force, the COP had thought of adopting a mechanism to assign liability and provide compensation for any damages resulting from such activities and after more than six years of negotiations the COP endorsed the Protocol on Liability and Compensation on December 10, 1999. As is the case of the majority of treaties on civil liability for environmental damage adopted over the past two decades, it has not yet entered into force. Guidelines for two types of liability such as strict and fault-based have been provided under Articles 4 and 5 of the Protocol.

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<sup>96</sup> E. Rachmawaty and F. Perrez, "Presentation of the Context and the Concept of the CLI (Presentation made at the First Meeting of the Indonesian-Swiss Country-led Initiative on an informal process to improve the effectiveness of the Basel Convention, Bali)", (June 15-17, 2009) Available at: [www.basel.int/convention/cli/balimeeting/Bali\\_Presentation%201%20%20Intro%20CLI%20\(Expanded%20Bureau\)7918.ppt](http://www.basel.int/convention/cli/balimeeting/Bali_Presentation%201%20%20Intro%20CLI%20(Expanded%20Bureau)7918.ppt). (Last visited on Sept. 16, 2015).

<sup>97</sup> Hereinafter referred to as "the Basel Protocol."

Article 4 provided the concept of strict liability that is applicable in two situations:

1. When both the importing and exporting nations are Parties, the Protocol imposes strict liability on the notifying entity such as the nations, waste generating company or exporting shipping company that notifies the importing nation of the pending waste shipment until the disposer takes control of the wastes; and
2. When only one of the contractors is a Party to the Convention, the Protocol applies strict liability for damages that occur while the Party possesses control of the wastes.

As per Article 5, the fault-based liability is imposed for failure to comply with the Basel Provisions or wrongful intentional, reckless or negligent acts or omissions.

The Protocol under Article 14 requires notifiers, exporters and importers to carry insurance, bonds or other financial guarantee to cover the liability. Each phase of a transboundary movement, from the point at which the wastes are loaded to their export, international transit, import and final disposal has been covered under the insurance.

### **3.12.3 The Stockholm Convention on Persistent Organic Pollutants (POPs)**

The Stockholm Convention on Persistent Organic Pollutants was adopted at a Conference of Plenipotentiaries on 22 May 2001 in Stockholm, Sweden. The Convention entered into force on 17 May 2004, ninety (90) days after submission of the fiftieth instrument of ratification, acceptance, approval or accession in respect of the Convention. As of December 2010 the Convention had 172 Parties.<sup>98</sup>

Persistent Organic Pollutants (POPs) are chemicals that are highly toxic, persistent and bioaccumulate in the environment. The Stockholm Convention establishes a strong international framework for promoting global action on POPs available in fatty tissue in the food chain and is prone to moving long distances once

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<sup>98</sup> Draft Revised Guidance on the Global Monitoring Plan for Persistent Organic Pollutants, UNEP, 2011, Available at: [http://www.pops-gmp.org/res/file/UNEP-POPS-COP\\_5-INF-27.pdf](http://www.pops-gmp.org/res/file/UNEP-POPS-COP_5-INF-27.pdf)

released into the environment.<sup>99</sup> Exposure to POPs can lead to serious human health effects including certain cancers and reproductive disorders, damage to the nervous and immune systems and adverse impacts to normal infant and child development. POPs can also be transported across international boundaries far from their sources, even to regions where they have never been either used or produced. Extensive scientific studies have shown that POPs are some of the most dangerous and data proves that POPs can damage endocrine systems and can result in reproductive disorders, birth defects, and immune-system deficiencies.<sup>100</sup> Article I of the Stockholm Convention on persistent organic pollutants states that the Convention was developed “to protect human health and the environment from persistent organic pollutants (POPs).”<sup>101</sup> The Stockholm Convention creates a legal regime to phase out or eliminate twelve pollutants, including aldrin, chlordane, DDT, polychlorinated biphenyls (PCBs), and hexachlorobenzene (HCBs). Ten of these are intentionally produced.<sup>102</sup>

Chemicals that are controlled by the Convention are listed in one or more of three annexes to the Convention: Annexes A (elimination), B (restriction) and C (unintentional production). Annex A is a list of nine intentionally produced POPs that are subject to elimination. Seven of these have been produced for use as pesticides. They are: aldrin, chlordane, dieldrin, endrin, heptachlor, mirex and toxaphene. Two of these have been produced primarily for use as industrial chemicals. They are hexachlorobenzene (HCB) and polychlorinated biphenyls (PCBs). Under Annex B, Parties must take measures to restrict the production and use of the chemicals listed under Annex B in light of any applicable acceptable purposes and/or specific exemptions listed in the Annex. Specific exemption with respect to DDT has been provided to India for its use under acceptable purposes. For Annex C chemicals, Parties must take measures to reduce the unintentional releases of chemicals listed

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<sup>99</sup> Peter L. Lallas, “The Stockholm Convention on Persistent Organic Pollutants” Vol. 95 American Journal of International Law pg. 692 (2001).

<sup>100</sup> World Resource Institute (WRI) and Others, World Resources, 1998-99 reported that studies on persons living in the Great Lakes area indicate that exposure to POPs while in the womb and through breast milk can cause deficits in growth, neurological anomalies, and reduced short-term memories in small children at 55.

<sup>101</sup> Stockholm Convention on Persistent Organic Pollutants, May 22, 2001, 40I.L.M. 532 (2001)

<sup>102</sup> Annexes A-B of the Stockholm Convention on Persistent Organic Pollutants-providing a list of chemicals to be reduced, eliminated, or restricted with indications of whether the chemical is intentionally produced or merely used.

under Annex C with the goal of continuing minimization and, where feasible, ultimate elimination. In 2009, list of these 12 chemicals was extended to include 9 more chemicals; in April 2011, Endosulfan was added to the group of POPs. Thus, the jurisdiction of the Stockholm Convention now covers 22 substances that have properties and characteristic of POPs. Some of the candidate POPs, such as, Hexabromocyclododecane, Short-chained chlorinated paraffins, Chlorinated naphthalenes, Hexachlorobutadiene, and Pentachlorophenol are currently under review for their inclusion in various Annexes of the Convention.<sup>103</sup>

The Convention also provides for the development of action plans at the regional or sub-regional level to identify, characterise, and address the release of the unwanted products.<sup>104</sup> These include evaluation of releases, strategies to meet the obligations, and a schedule for implementation. Taking into account the Annex's guidance on prevention and release reduction measures, as well as guidelines to be developed by the Conference of Parties, the Convention encourages the promotion and development of substitute or modified materials, products and processes that prevent the formation and release of substances in Annex C.<sup>105</sup> It also establishes the processes and criteria for adding new POPs for regulation.<sup>106</sup> Further, the Convention provides for funding and technical assistance to build capacity for its implementation by developing countries.<sup>107</sup>

Among different types of POPs, dioxins, furans and co-planar PCBs are toxic substances produced as by-products of various industrial processes, including the combustion of wastes containing polyvinyl chloride (e.g., some plastics, some blood bags and fluid bags). This happens particularly when wastes are incinerated at temperatures lower than 800 degrees celsius or when the wastes are not completely incinerated. Such PCBs and other toxic air pollutants may then be produced as

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<sup>103</sup> Ashwani Sharma, "Stockholm Convention on persistent organic pollutants: Challenges towards its implementation in India" Vol. 3(4) International Journal of Research in Environmental Science and Technology pgs. 117-121 (2013).

<sup>104</sup> Article 5(a), Annex C of the Stockholm Convention on Persistent Organic Pollutants - indicating that parties to the Stockholm Convention have two years to implement an action plan to reduce releases from anthropogenic sources of all chemicals listed in Annex C.

<sup>105</sup> Article 5(c), of the Stockholm Convention on Persistent Organic Pollutants.

<sup>106</sup> Article 8, Annex D, of the Stockholm Convention on Persistent Organic Pollutants-specifying that, based on the information noted in Annex D of the Stockholm Convention, a country nominates a new substance for review by the POPs Review Committee, which then determines whether a proposed substance meets the criteria for persistence, bioaccumulation and the potential for long-range transport.

<sup>107</sup> Articles 12-13, of the Stockholm Convention on Persistent Organic Pollutants.

emissions and/or in bottom or fly ash. In some circumstances dioxins and furan can be produced under natural conditions (e.g. volcanic activity and forests fires).

Amongst the different dioxins and furans, not all have the same toxicity; some are even harmless. They are persistent substances that do not readily break down in the environment and that bio-accumulate in the food chain. Most human exposure to dioxins, furans and co-planar PCBs is through the intake of food.

Under the Stockholm Convention, Parties are required to endeavor and develop a National Implementation Plan (NIP) to demonstrate the implementation of its obligations under the Convention. The Parties are also required to transmit its implementation plan to the Conference of Parties (COP) within two years of the date on which the Convention enters into force for it.<sup>108</sup> Article 7 sets out the requirement for production of Implementation Plans. The Implementation Plan is to explain how all of the requirements of the Convention will be implemented in each respective country. The Implementation Plan includes incorporation of two action plans, an obligatory action plan for unintentionally produced substances (Annex C substances) and a second action plan for Annex B substances (DDT) which "shall be encouraged" by the Conference of the Parties. The timetable for production of these plans is two years within entry into force of the Convention, given that they are required/proposed for implementation as part of the overarching implementation plan.

Taken as a whole, the Stockholm Convention provides a framework agreement that lays the groundwork for a basic program for the Parties to manage and control persistent organic pollutants, and, ultimately, toxic substances. Its specific requirements, taken in operational sequence, constitute the development of the major components of a complete environmental protection program. These components include the following:<sup>109</sup>

- creation and maintenance of inventories of POPs sources;

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<sup>108</sup> Article 20, Paragraph 1 of the Stockholm Convention on Persistent Organic Pollutants states that the Convention enters into force on the 90th day after the deposit of the 50th instrument of ratification, acceptance, approval or accession. Paragraph 2 of Article 20 adds that the Convention enters into force on the 90th day following deposit of instrument of ratification from Parties subsequently ratifying.

<sup>109</sup> *Persistent Organic Pollutants and the Stockholm Convention: A Resource Guide*, Resource Futures International for the World Bank and CIDA pg. 20 (September 2001), Available at: <http://siteresources.worldbank.org/INTPOPS/2145741115813449181/20486510/PersistentOrganicPollutantsAResourceGuide2001.pdf> (Last visited on Sept. 27, 2015).

- monitoring emissions and releases;
- tracking imports and exports of dangerous chemicals; hazard assessment;
- risk management;
- development of controls (via legislation/voluntary initiatives);
- compliance promotion, training, inspection and enforcement;
- reporting and evaluation;
- supporting research; and
- public communications, participation and education.

#### **3.12.4 The Minamata Convention on Mercury**

The Minamata Convention is an international treaty designed to protect human health and the environment from anthropogenic releases and emissions of mercury and mercury compounds. The Convention is an outcome of the initiatives undertaken by the UNEP for the global assessment of mercury and compounds including the information relating to health effects, sources, long-range transport and prevention and control technologies. Considering its serious impact on the environment the Intergovernmental Negotiating Committee of UNEP prepare a global legally binding instrument and in January 2013 the committee in its fifth session agreed on the text of the Minamata convention on Mercury. Subsequently it was adopted by the Conference of Plenipotentiaries on October 10, 2013 in Japan. It sets out the goals of phasing out of mercury added products, including mercury medical instruments by 2020.

The objective of the Convention is provided in Article 1 to protect human health and the environment from anthropogenic emissions and releases of mercury and its compounds and various other measures such as to control the supply and trade of mercury, imposition of limitations on certain specific sources of mercury and also to control mercury related products etc. to meet such objective. Under Article 4, action taken by the health sector will focus in particular on phasing out the

manufacture, import and export of mercury-containing skin lightening products and antiseptics as well as mercury sphygmomanometers and thermometers used in health care. The health sector will also be strongly involved in activities related to the exchange of information about health, public awareness-raising, research regarding health and monitoring, as reflected in Articles 17, 18 and 19 of the Convention. It also envisages provisions for emissions and releases of mercury under Articles 8 and 9 with controls directed at reducing levels of mercury. In addition to this, Articles 10 and 11 provides measures on the environmentally sound interim storage of mercury and on mercury wastes, as well as contaminated sites. With regard to financial and technical assistance Articles 13 and 14 included provisions for financial and technical support to developing countries and countries with economies in transition, and a financial mechanism for the provision of adequate, predictable and timely financial resources.

With the above measures in view it is predicted that coordinated implementation of the obligations of the Convention will lead to an overall reduction in mercury levels in the environment to protect human health and the environment from anthropogenic emissions and releases of mercury and its compounds.

### **3.12.5 The Paris Agreement**

Adopted on December 12, 2015 by 195 Parties, the Paris Agreement provided with a legally binding framework for an internationally coordinated effort to tackle climate change. Under the framework Convention on Climate Change (UNFCCC) agreed in December on how to deal with the challenges of post-2020 climate policy. It requires all parties to develop plans on how to contribute to climate change mitigation. The agreement signals the end of the fossil fuel era as the world rapidly replaces coal, oil and gas with clean energy sources<sup>110</sup>. The agreement discussed and focuses on three top issues:

1. It has targeted a goal of reducing global warming below two degree centigrade to mitigate the greenhouse gases emission. To achieve the goal, the agreement

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<sup>110</sup> Paris COP (Conference of Parties) 21: Key Issues for the New Climate Agreement, Briefing Paper, Climate Council, *Available at*: <https://www.climatecouncil.org.au/uploads/de494149f16b3b235d8fa74fb8a9c52d.pdf> (Last visited on Mar. 21, 2017).

defines a universal, legal framework to strengthen the global response to the threat of climate change under Article 2. It has also sets out provision for meeting the goal under Article 4<sup>111</sup>.

2. The Paris agreement incorporates a “ratchet mechanism” so these targets can continually be reviewed and strengthened. The formal review and updating of targets will be every five years starting in 2023, with a facilitative dialogue in 2018. This is critical to the integrity of the agreement and governments will have to dial up their ambition over time<sup>112</sup>.
3. The agreement states that developed countries are to provide financial resources to help developing countries move away from fossil fuels and adapt to the impacts of climate change. US\$ 100 billion per year is to be provided and developed countries are urged to scale up their financial support over the next few years, with a clear plan to collectively meet the target<sup>113</sup>.

### **3.13 An Overview**

In the context of the management of biomedical waste there is no such reference made specifically in any of the conventions or conferences held so far. Although, references of hazardous waste, radio-active waste and toxic substances, mercury etc. do find places in different Conventions and have connection with the bio-medical wastes. Prior to the Stockholm Conference no such specific Conventions had any connection with the subject, perhaps due to the fact that the pollution causes from such waste is of recent origin and the awakening steps by the world communities with regard to the same is also of recent development. In this context it is to be noted that the Conventions on radioactive substances are although for the banning of the use of nuclear weapon by the different countries, it has some connection with bio-medical waste which has been discussed in the subsequent chapter.

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<sup>111</sup> “In order to achieve the long-term temperature goal set out in Article 2, Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognizing that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century...”

<sup>112</sup> Paris COP (Conference of Parties) 21: Key Issues for the New Climate Agreement, Briefing Paper, Climate Council, *Available at*: <https://www.climatecouncil.org.au/uploads/de494149f16b3b235d8fa74fb8a9c52d.pdf> (Last visited on Mar. 21, 2017).

<sup>113</sup> *Ibid.*

The much awaited global Conference, the Stockholm Conference, which is considered as the milestone in the history of the protection and safeguarding the natural environment, was also silent on the subject. Although, the chapter ‘environmental management’ in the Stockholm Declaration contains most of the provisions relating to environmental pollution, both human establishments and natural resources but the provisions relating to the pollution from bio-medical waste had not specifically addressed. However, the Action Plan addresses the problem of dumping toxic or dangerous substances, elaboration of norms to limit noise, control of contaminants in food and measures for controlling pollution etc. In fact, the principles contained in the Declaration sets out provisions for the enactment of necessary laws by the Governments of all the participating nations to protect and improve the flora and fauna, non-renewable resources, wild life and human health. It has also proclaimed that defending and improving the human environment for present and future generation is an imperative goal for the mankind and it is to be pursued together with and in harmony with the established and fundamental goals of peace and worldwide economic and social development.

The Nairobi Declaration emphasises on the adoption of renewed international efforts and measures to identify the prevailing deficiencies in international environmental law during post Stockholm period and proposal for more stringent and just international rules, regulations and guidelines to combat newly emergent environmental problems but did not specified matters relating to the bio-medical waste.

However, the Basel Conventions which is on the control of transboundary movement of hazardous wastes and their disposal is particularly important for the management of the bio-medical waste. The Convention specifically addressed the clinical wastes from medical care in hospitals, medical centres and clinics and also wastes relating to pharmaceuticals, drugs and medicines. The technical guideline on the environmentally sound management of bio-medical and health care waste which was published in 2003 is an important document and a step towards the management of the same<sup>114</sup>. The major points of these guidelines are the practical aspects of waste

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<sup>114</sup> Technical guidelines on the environmentally sound management of biomedical and healthcare wastes, Secretariat of the Basel Convention, UNEP, *Available at:*

management pertaining to the handling and environmentally sound management of biomedical and health-care wastes.<sup>115</sup>

Likewise, the Stockholm Convention on Persistent Organic Pollutants under Article 5 and Annex C sets out different types of POPs, polychlorinated dibenzo-p-dioxins and dibenzofurans which are toxic substances produced as by-products of various industrial processes, including the combustion of wastes containing polyvinyl chloride (e.g., some plastics, some blood bags and fluid bags). These chemicals are formed and released to the environment by medical waste incinerators and other combustion processes. The Convention imposes obligations on the Governments to use best available techniques and to promote best environmental practices for new incinerators within four year after the Convention comes into force for the country<sup>116</sup>. The guideline on best available techniques and for best environment practices, published in 2006 by the UNEP also deals specifically with the bio-medical waste. This includes reduction, segregation, resource recovery and recycling, training and proper collection and transport of such wastes.

Similarly, in the Minamata Convention, the health sectors have been considered as an important sector which has a vital role in the implementation of different Articles of the Convention. Some of such Articles are 4,7 and 16. It lays down the obligation on such health sectors on phasing out the manufacture, import and export of mercury-containing skin lightening products and antiseptics as well as mercury sphygmomanometers and thermometers used in health care. The health sector will also be strongly involved in activities related to the exchange of information about health, public awareness-raising research regarding health and monitoring, as reflected in Articles 17, 18 and 19 of the Convention<sup>117</sup>.

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<http://www.basel.int/Portals/4/Basel%20Convention/docs/pub/techguid/tech-biomedical.pdf> (Last visited on Mar. 19, 2017).

<sup>115</sup> *Ibid* at i.

<sup>116</sup> *Ibid* at 43.

<sup>117</sup> Health sector involvement in the implementation of the Minamata Convention: assessment and prevention of mercury exposure, pg. 2 Report of a Meeting, World Health Organisation, Europe, (June 24-25, 2015).