

HAZARDOUS SUBSTANCE AND WASTE LAW: LESSONS FOR INDIA

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Abstract

It has been globally and nationally accepted that hazardous substances and waste have impact on the environment. Efforts are made at the international level and in countries across the world including India to contain the serious adverse consequences resulting from them. In fact, India has moved faster than other countries. The present paper examines givings and misgivings of the international, comparative and finally the Indian hazardous substances and waste laws. The journey of Indian law from 1860 down to 2008 shows concern shown by the legislature and the executive. The Indian judiciary has also contributed in its own way to bring effective legal control of these hazardous substances and waste. However, the present piecemeal legal control needs a comprehensive law for one window clearance. Furthermore, the judicial difficulty in handling the techno-science issues and the executive inaction make it necessary to have a separate system of administration of environmental justice and supervisory system so as to give some solace to the *Bharatiya* environment.

I Prologue

IT IS said that the *Silent Spring*¹ was the first study which attracted the attention of the international community towards the adverse use of hazardous substances. The concern received more attention when the scientists came out with the findings that some of the HSs and HWs were so dangerous that they were carcinogenic (causing cancer), metagenic (genetic mutation), teratogenic (birth defect), neurotoxic (nerve damage) including, in some cases, even instant death.² The Bhopal mass disaster

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1. Rachel Carson, *Silent Spring* (1962). E-mail: cmjariwala_kmc@yahoo.in

2. See McGraw-Hill, 8 *Encyclopedia of Science & Technology* 396 (2007).

and Chernobyl and some other incidents are eye openers in this regard. Further, it is reported that in the USA alone, out of 3.8 million of manufacturing workers, 1.7 million are exposed each year to carcinogen,³ resulting in thousands of people dying every day.⁴ 40 billion per annum is spent on health care and there is also loss of productivity.⁵

World over, the governments are concentrating more on the development of trade which has resulted in increase in the HSs and HWs. If one looks to only one developed sector, the European scenario, the situation is alarming. It is reported that in England and Wales alone, 400 million tons of wastes are generated every day; whereas France, Germany and Italy generate 85 per cent of wastes of the whole of European Union.⁶ On the top of this, the hazardous wastes have attracted a good market response.⁷ An Italian corporation gave Guinea, Bissau \$ 40 per ton for 50,000 tons of disposal of toxic waste for a period of five years.⁸ In this race, India is not lagging behind where 4.4 million tonnes of hazardous wastes are generated annually by 13011 units in 373 districts in India.⁹ In this data, Chandigarh was lowest with 0.0069%; whereas Maharashtra and Gujarat were in the top rank with 30.38% and 22.93%, respectively, reason being Maharashtra had 3953 and Gujarat 2984 industrial establishments.

In this freighting scenario, it becomes necessary for the students of law to know what the HSW laws have done to remedy the situation and what is to be done now. For such a study, an audit becomes necessary

3. C. Marshall, *An Excuse for Work Place Hazard The Nation*, 25, 532 (1987); see also Clay Brook J. (ed.), *Retreat From Safety : Regan's Attack on America's Health* (1984).

4. Vingyi Situ and David Emmon, *Environmental Crime : The Criminal Justice System in Protecting the Environment* (2000); see also S. Hills (ed.), *Corporate Violence and Death for Profit* 111, 120 (1987).

5. See J.S. Cannon, *The Health Cost of Air Pollution* (1985).

6. Susan Wolf and Neil Stanley, *Environmental Law* 185 (4th edn., 2003).

7. C.H. Karlson, "Waste Streams to Value Streams in International Handbook on Environmental Technology Management" in Dora Marinova *et al.* (eds.) 505 (2006); see also Gerry Gillespie, *Waste Management or Soil Management* 15 (2002).

8. See, for a detailed discussion, K.A. Gourlay, *World of Waste : Dilemmas of Industrial Development* (1992).

9. See the unpublished Report of the Hazardous Substances Management Division, Ministry of Environment and Forests - *Management of Hazardous Wastes (HW) in India*, Nov. 12, 2005. Dowie & Mother Jones, "The Dumping of Hazardous Wastes on Foreign Markets" in S. Hills (ed.), *Corporate Violence : Injury and Death for Profit* 111, 120 (1987).

for the successes and failures of different international and comparative HSW laws. This will allow not only to know their successes and failures but also build an Indianized law suitable to its own environment. Unfortunately, in India, this field of study remains almost unexploited,¹⁰ a fertile field for the law academics. A modest attempt is made in this paper to find out *firstly* what are the salient contributions of the international and comparative laws and in this journey where India stands. And *secondly*, what India has provided and what has to be done to adopt a sustainable approach in handling the HSW. These are the main questions for the present study. At the outset, it may be pointed out that the present paper confines its study only the HSW laws and rules made thereunder; the role of judiciary¹¹ in this regard is not examined.

The first question that has to be answered is: what is meant by HSW? There has been no unanimously accepted meaning of HS and HW. Some define it on the basis of its characteristics;¹² some look to its consequences¹³ while the rest look to how it is handled.¹⁴ A substance may not be initially hazardous but over the period of time because of its exposure to energy, coming in contact with water or air, or mixture with other material, may make the substance hazardous. Further more, a substance may be hazardous but with its appropriate use it may not result in hazardous waste. Still further as the scientific investigations are not certain, a scientist may consider a substance at first as non-hazardous but over the years' research he may declare it hazardous. Further, a substance or waste may be hazardous to one or more components of environment but there is a possibility that it may not prove hazardous to others. Moreover, the lists of HS and HW prepared under different conventions

10. Furqan Ahmad gets credit to sail in this emerging law in India, *Legal Regulation of Hazardous Substances* (2009). The bibliography section hardly finds any serious contributions in this field by the law academics in India. See the review of Furqan's *Legal Regulation of Hazardous Substances* (2009) by C.M. Jariwala, 2 *RMLNLUJ* 178 (2010). This book review has encouraged the author to write the present paper. See for a skelton effort, Rajiv Khare, "Select Legal Control of Hazards Waste Management", 1 *RMLNLUJ*, 66 (2008).

11. The judiciary, in particular, the Supreme Court, has evolved a new environmental industrial jurisprudence in India.

12. See art. 2(2), International Convention for the Prevention of Pollution from Ships, 1973.

13. See McGraw - Hill, 8 *Encyclopedia of Science and Technology* 370 (2007).

14. See s. 1004(5), the Resource Conservation and Recovery Act, 1976. See, particularly the last *two lines* of the section. (*Emphasis supplied*)

and protocols, laws of different countries, including India, have certain disparities and deficiencies. Such a confused and complex state of affairs raises a challenge before the law to give an appropriate meaning to hazardous substance. It is suggested that the definition must contain: the characteristics, interrelationship, handling and management and consequences of HSW.

II The International HSW law

The development of International environmental law¹⁵ relating to HSW may broadly be categorized into two: One, before the Stockholm; and two, the Stockholm and beyond. Prior to 1972, the main identified hazards were either the marine pollution or the resultant of the nuclear test.¹⁶ At the initial stage, only eight kinds of HSs and HWs were included in the prohibited zone and twelve HSs and HWs were placed in a special care system, a scientific bankruptcy of that era. Then, the attention was given to the use of toxic and other substances which caused serious and irreversible damage and, therefore, it was resolved that their discharge must be halted.¹⁷ Though, in these documents, the member parties are saddled with certain responsibilities but they have been neutralized by the 'sovereign right' of the States.¹⁸

Coming to the another milestone, the Rio Declaration, the Declaration on Environment and Development, 1992 requires the member states to 'reduce and eliminate unsustainable patter of production'¹⁹ and cooperate in discouraging and preventing any activities and substances that cause environmental degradation or are harmful to human health²⁰ and, finally, access to 'information on hazardous materials'.²¹ The journey further continues and the hazardous substances and wastes are categorized under

15. The information is based on Philippe Sands and Paolo Galizzi (eds.), *Documents in International Environmental Law* (2nd edn., 2004).

16. See, for example, the Convention for the Prevention of Pollution of the Sea by Oil, 1958; the Convention on Civil Liability for Oil Pollution by Dumping of Waste and other Materials, 1972; the Convention on Prevention of Marine Pollution by Dumping from Ship and Aircraft, 1972; the Dumping of Waste and Other Materials Convention, 1972.

17. Stockholm Declaration, 1972, Principle 6.

18. See Principle 21; see also Principle 2 of the Earth Summit, 1992.

19. See Principle 8

20. See Principle 14

21. See Principle 10.

three heads: first, the hazardous substances,²² second, the hazardous activities,²³ and third, the hazardous wastes.²⁴ In the first category come the international regulations of hazardous substances which include, for example, the Convention for the Protection of the Ozone Layer, 1985, known as Vienna Convention. It was the first convention to protect the ozone layer. The convention in annex 1, para 4, enlists certain substances which 'are *thought to have potential*²⁵ to modify the chemical and physical properties of the ozone layer'. It indicates that by 1985 the world community was not sure about the substances which were hazardous. In the year 1987, the Protocol on Substances that Deplete the Ozone Layer, 1987, in annex. A to D, provided a list of 59 broad heads of 'controlled substance' which were later on increased to 62.²⁶ Unfortunate part was that they were not declared as banned substances. Further, the convention touches upon the vital point of international trade and the multilateral fund but it is doubtful how far both the provisions will find easy acceptance by the international community in view of the existing international environmental politics.²⁷

There are conventions and protocol²⁸ which specifically deal with

22. Vienna Convention, 1985 'Alternative Substances'; Montreal Protocol, 1987 - 'Controlled Substance'. International Convention on Liabilities and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 1996; the Convention of the Prior Informed Consent Procedure for certain Hazardous Chemicals and Pesticides in International Trade, 1998, *etc.*

23. See the Convention on Civil Liability for Damage Resulting from Activities Dangerous to the Environment, 1993; Draft Articles on Prevention of Transboundary Harm from Hazardous Activities, 2001.

24. The Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal, 1989. The Protocol on Liability and Compensation for Damage Resulting from Transboundary Movement of Hazardous Wastes and their Disposal, 1999.

25. *Emphasis supplied.* Cooperation as envisaged under the Convention.

26. The Copenhagen (Adjustment and Amendment) 1987 added 3 new 'Controlled Substances'.

27. Katharina Kummar, *International Management of Hazardous Wastes* 47-48 (1995). The author points out that the provisions of the protocol have been 'weakened and modified'. This is mainly due to the politics played by the developed countries and, in particular, USA.

28. See also Protocol on Pollutant Release and Transfer Register, 2003 which includes nine activities/industries which are of hazardous nature; the Convention on the Transboundary Effects of Industrial Accidents 1992 which talks about 13 dangerous substances and 8 hazardous activities of the prescribed quantity which may cause industrial accidents.

hazardous substances. These conventions have identified 32 hazards substances. Further, the internal governmental programme for chemical supply have blacklisted specifically 12 worst chemicals known as 'dirty dozen'. A distinction was now made between substances to be eliminated in production and use and those to be continued with restricted production and use. Further, the use of substitute, adoption of best available techniques and best environmental practices, also found a place in the Conventions. The conventions also brought in an important requirement of 'prior informed consent' of the importing state. This will allow the importing state to know beforehand the nature of such substances and their accommodability and adjustability in the importing state.

In the next category come the convention and draft articles.²⁹ Though the convention creates liability but, at the same time, it clearly demarcates the areas when the operator shall not be liable, a double standard game. The large area of exceptions and exemptions liberalize the liability provisions, allowing the operators to find sidelanes and bylanes to bypass their liabilities. The convention provides for the financial security scheme and financial guarantee which will be in accordance with the internal law of the State. But such arrangement will differ from developed to developing and under-developed nations, providing a differential treatment. The draft articles impose two important responsibilities on the member parties: one, the emergency preparedness and two, dissemination of information. But the increasing international hazard accidents show that the responsibilities have remained only on paper.

Coming to the hazardous waste, an important attempt was made by the Basel Convention on the Control of Transboundary Movement of Hazardous Wastes and their Disposal, 1989, where out of 116 countries, 105 signed the Final Act, a record acceptance by the members of the family of nations. In this convention, illegal trafficking of hazardous waste is declared as a crime and action could be taken as per the domestic laws. But the problem is that there may be many developing and under-developed nations, some of which may not have such law and in such a case, the crime will remain unpunished. The convention further provides that the HW shall be disposed of only in the country of origin unless the country of origin has no technical capacity and suitable site for disposal and the importing state wants it for recycling or recovery industry. Further,

29. See the Convention on Civil Liability for Damage Resulting from Activities Dangerous to Environment, 1993 and Draft Articles on Prevention of Transboundary Harm' from Hazardous Activities, 2001.

the HWs are divided into two categories: controlled HWs, consisting of 45 substances and only two HWs require special consideration. The amendment to the Basel Convention, 1995, known as the 'Basel Ban', for the first time, clearly imposed a ban on transboundary movement of HW from the industrialized to developing countries. Finally, the salient points of the Protocol on Liability and Compensation for Damages Resulting from Transboundary Movements of Hazardous Waste and their Disposal, 1999,³⁰ are: the concept of strict liability, the right to judicial recourse and its enforcement, financial limit for damage is prescribed. In case of strict liability, but for the fault-based liability, no financial limit is prescribed. Further damages may be claimed for the loss of life, personal injury and property, loss of income, cost of regeneration of impaired environment and cost of preventive measures. It is a well known fact the Union Carbide Corporation hardly compensated in true sense the victims and the damages to the Indian environment for the Bhopal zenocide.

The above are some of the provisions which are welcome in the international HSW law but their enforceability remains the main question, making them weak laws. Further, the member parties and the United Nations cannot make tall claims in this region of regulations because the developed nations have their own stories to tell for not being signatories to many of the conventions and protocols. The leading example is of USA. The developing and under-developed nations, even though opted to sign them, have presently no capability and capacity and, in many cases even will, to implement them in real vigour and spirit. The journey, on the whole, is at snail's speed and in many cases the important exercises have yet to reach to the grass root levels. It is time that these problems before the international HSW law are sorted out so that the laws operate with the desired vigour and strength and the world environment is saved from further degradation.

III The comparative law experiences

In the USA, where more concern for HSW is shown, the fact is that the wastes are treated as resaleable goods and could be put in the international market as a profitable venture.³¹ Over and above this, politics

30. See also IAEA Code of Practice on the International Transboundary Movement of Radioactive Waste, 1990.

31. A Leonard, "The Plastic Industry Polluters The Third World Countries" in C. Cozia (ed.), *Pollution* 441 (1994); see also for the position in Italy, K.A. Gourlay, "World of Waste : Dilemmas of Industrial Development (1992)" in Dore Marinova

is also played on trade, international trade and development against the regulation of the hazardous substances and wastes.³² There are large number of environmental legislations³³ including the Toxic Substance Control Act, which provides control on chemicals not otherwise regulated so as to remove 'unreasonable risk'. But this expression has not been defined, leaving soft decisions which will allow hazardous chemical to join the market stream. Further, the grant of permit will be within 90 days and if the EPA remains in hibernation, the manufacturers may go ahead and even market the goods under the deemed permission. This will allow a large number of toxic substances to flood in the market.³⁴

The most important legislation is the Resource Conservation and Recovery Act, 1976 which deals with treatment, storage and disposal of hazardous wastes. The Act provides a comprehensive definition of hazardous waste which takes into consideration quality, concentration, characteristics, mode of handling and its effect.³⁵ The Act imposes responsibilities on all the role players: the generators are required to minimize their production; the transporters³⁶ have to take proper precaution and keep proper records and labeling of the HW; the store keepers and depositors are required to take permission from the EPA before they commence their activities. But these responsibilities are based on 'the good faith' of the role players. Can the profit grabbers have 'good faith'? Further, these responsibilities are not subject to severe accountability, resulting in every day increase in the volume of hazardous wastes in the USA.

Another important legislation is the Comprehensive Environmental Response, Compensation and Liability Act, 1980, passed in view of illegal dumping of HW in Love Canal, which deals with the clean up of, and

et al. (eds.) *International Handbook on Environmental Technology Management* 506 (2006); see also S.N. Amirkhanian & D.M. Manugian, *A Feasibility of Study of the Use of Waste Materials in Highway Construction* (1994).

32. See J. Claybrook (ed.), *Retreat From Safety : Regan's attack on America's Health* (1984).

33. See, for example, the initial legislation on the pesticides, right to know, clean water, clean air, *etc.*

34. Mintz Agencies, "Congress and Regulatory Enforcement : A Review of EPA's Hazardous Waste Enforcement Efforts, 1970-1987" 18 *Environmental Law* 684 (1988).

35. S. 1004

36. They are saddled with responsibility under the Hazardous Materials Transport Act, 1990, which imposes a duty to safeguard human health and environment while transporting hazardous wastes.

liability for, the released and spilled hazards substances. It confers four main responsibilities: collect information; respond to emergencies; establish hazardous substance response trust fund, the super fund; and imposes liability on those who release hazardous waste. The liability imposed is without fault and strict which could be joint or severable, a welcome approach in HSW law. Later on, in 1986, environmental taxes on corporation and taxes on chemical industries were also made a part of the superfund. The fact, however, remains that such financial mechanisms have yet to achieve the object of protecting the environment from the adverse effects of HW in the USA.

The European Community waste law has its special and dominant place in the waste laws of the European Member States as their laws have to be in conformity with the EC Regulations and Directives. In this regard, article 10 requires the members states to fulfil their obligations as the members of EC and they are required to take appropriate steps to fulfil them.³⁷ The EC Waste Framework Directives have three objectives: prevention of waste; recovery of waste produced; and disposal of waste. The directive enjoins upon the member states to see, firstly, that the hazard waste managements are in consonance with the EC Directives; and secondly, to establish a centralized national waste strategy. The EEC Directive of 1991 on Waste Framework in Annexe 1 provides 16 'directive wastes' which identify wastes surprisingly on the source of production, whereas it is not the only source. Does it not show technological backwardness in this area? The Landfill Directives provides, *inter alia*, reduction targets. By the year 2006, the reduction has to be 25 per cent, 50 per cent by 2009 and 65 per cent by 2016. But the question remains: Is the landfill a safe disposal mechanism? Even the Royal Commission has suggested to switch over to the new technologies.³⁸

Under the Hazardous Waste Directive of 1978, as amended by Directive, 1991, each member state is required to prepare and make available to public the hazardous management plans. They are also required to furnish to the European Commission with information as to its

37. See *Van Gend en Loos v. Nederlandse Administratie der Belastingen*, case 26/62 1962; where the ECJ treated EC HSW law as an umbrella legislation for all the member states; see also, *Costa v. ENCL*, Case 6/64 (1964) in Wolf and Stanley, *Environmental Law* 89 (4th edn., 2003). For a detailed discussion, see D. Laurance, *Waste Regulation Law* (2000); J. Garbutt, *Waste Management Law : A Practical Guide* (2nd edn.,1995).

38. See *supra* note 37.

implementation and also the facilities available for recovery or disposal of HW. By the year 2000, the incinerators attracted the attention and stringent operating conditions for new incinerators were imposed.³⁹ The principle 'cradle to grave' requires certain member states to: store the wastes properly; pack the waste carefully, hand over the waste to authorized person, all the formalities be completed before transportation of waste; and finally, to check that the waste is properly disposed of. In case of liability, all persons involved in the waste chain from the producer down to the disposer, were accountable.

Coming to the United Kingdom, the waste law has travelled from the control of pollution (1974) down to the protection of environment (1990) and the specific waste regulations. But inspite of all these, the result is a 'careless', 'ad hoc' 'lip service' approach.⁴⁰ This has led to a demand to establish an environmental ombudsman⁴¹ to supervise the activities of the role players and report the matter to Parliament. The salient points of waste laws are: the national strategy for waste management is done in full consultation with the public. The Special Waste Regulations, 1996⁴² enhances the list of HWs and further provides 14 criterion to determine whether a waste is hazardous or not. It is the responsibility of the environment agency to remove illegal waste, monitor movement and special wastes, and compliance of licensed sites. Regulation 18 imposes heavy penalty of upto £ 20,000 and/or imprisonment upto 5 years - a stringet sanction. Apart from EA, there are two other authorities: first, the waste collection authority to collect the waste; and second, the waste disposal authority for the disposed of waste. Thus, separate authorities will look after separate functions better than a single entity handling all the matters. The interesting part, inspite of the stringent control, remains that in the UK, the waste has become important commodity for business. It is reported that there are 8070 private organizations handling waste

39. The Hazardous Waste Incineration Directive, 2000.

40. The House of Commons Environment, Transport and Regional Affairs Committee, *Sixth Report on Sustainable Waste Management*, 17 (1998); see also Stuart Bell and Donald Mc Gillivray, *Environmental Law* 465 (2000).

41. See C.M. Yardley, "Environmental Law in the U.K.", in S. Ercman (ed.), *European Environmental Law Legal and Economic Appraisal* 477 (1977); see, for detailed discussions, Stuart Bell and Donald Mc Gillivray, *Environmental Law* 460-522 (5th edn., 2001); Susan Wolf and Neil Stanley, *Environmental Law* 185-246 (4th edn., 2003).

42. Ss. 13-17

and 79000 carriers of waste.⁴³ A question, therefore, is raised: Is the waste management for the societal benefit or commercial need?⁴⁴

Coming next to a bird's eye view of HSW laws of other European countries,⁴⁵ the word 'waste' and the expression 'hazardous waste' are defined by all countries in their own way. For example, France,⁴⁶ Federal Republic of Germany⁴⁷ and other countries mainly concentrate on the effect of a substance on human health. On the contrary, the Federal Republic of Germany law includes 'human, animals, plants water, soil, air', 'nature, landscape and town planning', and 'public safety and order is not endangered or disturbed'. The French definition looks to the nature of enterprises. But these definitions lack three things in defining hazardous substance: origin, characteristics and the way a substance is handled.

The control mechanisms differ from country to country whereas some have adopted a hard and others soft law. Some of the countries have come down heavily by prohibiting handling of certain HWs and made it a crime.⁴⁸ The GDR law⁴⁹ is most hard in that, firstly, it continues the liability of the original occupier even when the HW is transferred to the third party and second, it imposes a maximum imprisonment of upto ten years. The Italian law is also harder wherein a fine to the extent of 50 million lire is prescribed.⁵⁰ The Swedish law⁵¹ shifts the burden of proof, whether a substance is hazardous or not, on the person handling it. The Federal Republic of Germany,⁵² surprisingly, exempts the government from the liability, a soft approach. The law provides for the 'closed substance cycle' where the occupier is responsible: firstly, to generate

43. See J. Holmes, *Waste Management Industry* (1995); Duncan Laurance, *Waste Regulation Law* (1999).

44. Duncan Laurance *id* at 26.

45. See, for detailed discussion, S. Ercman (ed.), *European Environmental Law Legal and Economic Appraisal* (1977). Hereinafter referred to as *Ercman*.

46. See A. Ch. Kiss and C. Lambrechts, "Legal Protection of the Environment in France" in *Ercman*, 333-335.

47. See Environmental Law in the Federal Republic of Germany, in *Ercman*, 358-359.

48. See the Swiss, Polish, Federal Republic of Germany's HW Law, in *Ercman*.

49. See R. Lummert, Environmental Law in GDR in *Ercman* 381.

50. Stefano Grassi, *et al.*, *The International Encyclopedia of Law : Environmental Law* 130-49 (2000).

51. See S. Westerlund, The Legal Control of Land Use and Environmental Quality, in *Ercman*, 398.

52. See V. Thiem Environmental Law in F.R.G., *Ercman*, 359.

minimum waste; secondly, it is not possible then it is to be recovered; and thirdly, if it is still not possible, then the disposal must serve common good. Further, the production should be multipurpose, to minimize HW. The Polish waste law⁵³ imposes a ban on importation of HW provided no such substance is available in Poland. The Netherland law⁵⁴ makes it optional for the occupier to make his own provision or opt for the governmental facility for treatment. Coming to storage, the Spanish law provides that no HWs shall be stored for more than six months; however, it must be a well equipped store house.

Apart from the above provisions, the laws also make some interesting provisions, for example, the Spanish HW law⁵⁵ provides for state of emergency to be declared by Civil Governor and specific regulation may be passed for the affected zone. It further requires a nation-wide network to be established for surveillance and monitoring for the HW. The Italian law⁵⁶ provides for the 'peoples awareness programme', 'filling up of yearly environmental return' and a 'national observatory' for an uniform supervision.

IV The journey of Indian law

The seeds of Indian hazardous substance and waste law were sown as early as 1860 when the Indian Penal Code (IPC) covered various categories of offences: fouling water, vitiating atmosphere and others⁵⁷ but the vision of IPC was only anthropocentric.⁵⁸ Moreover, the punishments were very liberal. Later on, the explosive and poisonous substances and industrial hazard also⁵⁹ attracted legal control. In these legislations, property also got a place and a company was also brought in the liability zone and the punishments were slightly enhanced, realizing the value of human life and also the property. In all these exercises, no specific mention of HSW was made.

53. See *Ercman* at 92, 160.

54. See *Ercman* at 157.

55. See *Ercman* at 165

56. See Stefano Grassi, *supra* note 50.

57. See ss. 268 and 290 (Public Nuisance); 277 (corruption or fouling water), 278 (vitiating of atmosphere); 284 (act relating to poisonous substance); 286 (act relating to explosive substance).

58. Even in anthropocentric law, the legal control was taken help to fight out the caste politics; see the case law on s. 277.

59. See, for example, the Explosive Substance Act, 1884-1908; the Poisons Act, 1919; the Petroleum Act, 1934; the Factories Act, 1948

In the second stage of development, starting from the commencement of the Constitution of India down to the Stockholm Conference, 1972, the following changes were brought by Parliament which added nearly 151 substances in the list of hazardous or dangerous substances for further specific legal controls.⁶⁰ The animals also found a place in the emerging HSW law. The Act of 1968 imposes absolute liability⁶¹ on the role players, but the hard stand is diluted by the exceptions prescribed therein and those which may be provided by the central government. Over and above this, the 1962 and 1968 Acts, surprisingly, exempt the main culprit, a company including government⁶² from the liability provided that they can prove that the offence was committed without their knowledge or they exercised due diligence.⁶³ This allowed the culprits to go scot free or allow the environmental litigation to linger on and to further continue with the offence.⁶⁴ In this period, the main concern was for the workers and people living in the neighbourhood of the industrial establishments.

The third stage covers the legal controls of HSW from the Stockholm to Rio Declaration (1992) and thereafter. In this period, the Indian HSW law was greatly enriched and strengthened with many legislations, making India a leading country which gave due recognition to its international commitments. The journey starts with general hazards to water⁶⁵ but the 1974 Act nowhere talks about as to what are the hazards to water, but the cess rules, 1978⁶⁶ enlist certain industries which are hazards to water. The Act came down heavily on polluting industries including even the closure of the industry and industrial process,⁶⁷ blacklisting of such persons/industry,⁶⁸ and enhancing imprisonment upto seven years or/

60. See, for example, the Inflammable Substances Act, 1952; the Atomic Energy Act, 1962; the Insecticides Act, 1968, *etc.*

61. See the Insecticides Act, 1968, s. 38.

62. See the Act of 1962, s. 31.

63. See the Inflammable Substances Act, 1952, s. 25; and the Insecticides Act, 1968, s. 38; see for similar provision in the Water, Air and Environmental Acts.

64. See, for such pleas which were taken in, *M.C. Mehta v. Union of India*, AIR 1987 SC 965; *Union Carbide Corpn. v. Union of India*, AIR 1990 SC 273.

65. The Water (Prevention and Control of Pollution) Act, 1974.

66. The Water (Prevention and Control of Pollution) Cess Rules, 1978 and rule 6.

67.s. 33A inserted by the 1988 Amendment Act.

68. s. 46.

and fine of Rs. 5000/- per day till the offensive act continued.⁶⁹ A similar pattern was continued under the 1981 Air Act.⁷⁰

Till 1984, India had hardly developed a specific HSW law and the result was the Bhopal mass disaster which finally resulted in the enactment of the Environment (Protection) Act, 1986. It makes provisions, *inter alia*, for the regulation of hazardous substances which are injurious to environment and authorises the central government to make rules in that regard. The legislation for the first time defines the term 'hazardous substance'⁷¹ which concentrates on three things: its properties; management and consequences but it does not provide a comprehensive meaning. For example, it does not take into account the 'quantity'⁷² and 'likely to cause harm'⁷³ effect in the present definition. The area of consequences were not only extended from the human beings, other living creatures and property but also plant, micro-organisms and the environment. Later on,⁷⁴ the environmental pollutants, including hazardous substances were identified and their handling and management were permitted only to the extent of the prescribed standards.

The year 1989 has been the most fertile period for the development of the HSW law. The increasing use of hazardous substances and wastes, the experiences in their mishandling and mismanagement and their consequences in the Bhopal mass disaster and oleum gas leak cases and, of all these, the international commitment at the Convention on Hazardous Wastes, 1989, brought the central government out of hibernation and it became so active that in one year it came out with three different sets of rules on hazardous substances and waste.⁷⁵ The specific journey starts with the HWMH, 1989 but the rules were superseded by the Hazardous

69. Ss. 41-45A.

70. The Air (Prevention and Control of Pollution) Act, 1981

71. S. 2(e). Though s. 2(b) defines 'environmental pollutant', but the former section, it may be pointed out, confines substances only to hazardous chemicals.

72. See the definition given in the USA the Resource Conservation and Recovery Act, 1976, s. 1004 (5); Art. 8 of the Federal Republic of Germany Law, 1972 as amended in 1976.

73. See the definition provided in the French Law, 1975.

74. See schedule 1 to the Environment (Protection) Rules, 1986 over the years the list has been increased to 89 substances.

75. The Hazardous Wastes (Management and Handling) Rules, 1989 (HWMH); the Manufacture, Storage and Import of Hazardous Chemical Rules, 1989 (MSIHC); the Rules for the Manufacture, Use, Export and Storage of Hazardous Micro-organism /Genetically Engineered Organisms or Cells, 1989 (MUESHM GEOC).

Wastes (Management Handling and Transboundary Movement) Rules, 2008 (HWMHTM), which are subject of a detailed examination in the following pages. The major improvements over the 1989 Rules are: rule (3)(L) provides the meaning of 'hazardous waste', giving five characteristics:⁷⁶ 'reactive, toxic, flammable, explosive or corrosive'; secondly, the present and future dangers are taken care of; thirdly, it takes care of not only hazardous waste but also mixture of substance or waste, resulting in HS. The 2008 rules make detailed provisions for the storage of hazardous waste.⁷⁷ The scattered provisions under the 1989 rules are now arranged head-wise. However, there are not only repetitions⁷⁸ but some provisions of 1989 are missing;⁷⁹ in some cases they have no close harmony with different provisions. The salient provisions of rules 2008 may be discussed under the following heads:

Handling of wastes

The occupier or the person who has control over the industry or industrial process or who is in the possession of HW is required to handle HW in a safe and environmentally sound manner. For all these, it is necessary that persons working in the process have to be trained and are informed in this regard. But the question remains: How many existing industrial establishments have training and transparency system? Every person, in order to handle the HWs, is required to obtain an authorisation from the state pollution control board (SPCB) provided that the applicant is fully competent to handle HW. However, rules 5(4) requires the board to issue the letter within 120 days from the date of the application, avoiding unnecessary delay in the usual bureaucratic set up. The authorization is for a period of five year, a reasonable period, and it could be terminated or renewed by the SPCB. It is submitted that the rules should have specifically mentioned the period of renewal, instead of leaving it totally to the unwritten discretion of the SPCB.

For the storage of HW, a total period of ninety days is given from the time of deposition of HWs. This provision is not clear about the applicability of the time period in a case where HWs are shifted from storage to storage to further delay their handling. The concern for delay

76. Schedule III - Part C which enlists 13 hazardous characteristics.

77. Rule 7.

78. See, for example, the provisions of liability of occupier, operator, transporter and importer. See rules 4, 5(8), 18(3,4,5) and rule 25, *etc.*

79. Rule 21 of 1989 - Technology for refining or recycling; 8A - Design and setting up of disposal facility; 8B - Operation and closure of land fill site, *etc.*

is further enhanced when the central pollution control board (CPCB) may permit storage for a longer period.. This will bring an indefinite period of storage of HWs which would be a threat to environment.

The labelling and packaging of HWs has to be in accordance with the guidelines issued by the CPCB from time to time. But the fact remains that the detailed guidelines have yet to come out.⁸⁰ The labelling shall be easily visible and the packaging and labelling must be in such a manner that they withstand physical conditions and climatic factors. The transportation of hazardous waste shall be in accordance with 2008 rules and also the rules made under the Motor Vehicle Act, 1988. It also talks about compliance with guidelines issued without mentioning the name of authority who will issue the guidelines. It is suggested that in consonance with the labelling and packaging provisions, the guidelines may be that of the CPCB.

Before the HWs are put into interstate transported, a no objection certificate is necessary from the states of origin, intermediary and also of the state of final destination. The occupier has to provide the relevant information to the transporter so that he is well aware of the nature of HWs and, in case of emergency, he may take suitable measures. The occupier has to follow 'manifest system' a system through which the HW may be located in transit. The movement documents shall be in six copies in different colours to be given to the prescribed persons/authority. The transporter shall accept the consignment of HWs only when he receives the appropriate documents. If one conducts the survey, he will find that neither many transport vehicles, moving interstate with HWs, follow the above laws nor the authority seriously supervises their activities. Further, even if the authority is active, it is active after corrupt practices are adopted. Few are brought to the day light but rest remain in secret world. The question remains: Who has to be blamed and punished for such affairs?

Coming to the role players of disposal facilities, they shall be individually, jointly or severally responsible for the site identification and

80. See, for example, *The Hazardous Waste Management Guidelines*, the Ministry of Environment and Forests, Central Govt. (1991) which provides guidelines for: occupier/generator of hazardous waste; transportation of hazardous waste; owner/operator of hazardous waste storage; and treatment and disposal facility (1991) which instead of detailed treatment repeat the provisions of the rules. See also *A Guide to Manufacture, Storage and Import of Hazardous Chemical Rules*, Ministry and Env. and Forests, Govt. of India, (1989).

disposal of HWs. They shall design and set up the facilities in accordance with the guidelines issued by the SPCB with the approval of the CPCB. It is pity that hardly detailed guidelines are issued. The players shall be responsible for safe and environmentally sound operation. It is interesting to note that the responsibility is further extended even at the closure and also the post-closure phases of the facilities. A lesson must be learnt from the Bhopal mass disaster where the HWs are still lying on the premises of the establishment with hardly any responsibility on the then occupier. In regard to disposal facility, the question is: Is it not an appropriate time to specify in the rules the modern technology to be used for the treatment of HWs? This will avoid adopting manipulations or window dressing instead of the well equipped treatment facility.

In case any accident takes place, the person concerned is required to report immediately to the SPCB but the rules are silent as to what shall be the role of the SPCB.⁸¹ However, the person concerned shall be liable for all damages caused to the environment or third party provided that there was an improper handling of HWs.⁸² This means that if an accident takes place in course of proper handling, there will be no liability. How such a provision can survive in the age of 'polluters pay principle' and 'absolute liability principle', a part of the Indian environmental law.⁸³ Further, a person shall be liable to pay financial penalty for the violation of any rule which will be imposed by the SPCB with the approval of CPCB.

Import and export of HWs

The rules take care of the proper and environmentally sound import and export processes of HWs. Rule 13 imposes total⁸⁴ and partial ban⁸⁵ on import and export of the prescribed HWs. The arrangements of sub-rules (1) and (4) of rule 13 are confusing, and therefore, it is submitted that it be read thus: The HWs enumerated in schedule VI shall not be permitted to be imported or exported and that importation of HWs

81. See Rule 24.

82. See Rule 25. (*Emphasis Supplied*)

83. See, for example, the Public Liability Insurance Act, 1991, s. 3(2); the National Environment Tribunal Act, 1995, s. 3(2). See also *M.C. Mehta v. Union of India*, AIR 1987 SC 1086; *A.P. Pollution Control Board v. M.V. Nayudu*, AIR 1999 SC 812.

84. Schedule VI specifies total ban on 30 HWs.

85. Schedule III - Part A includes 42 broad areas of HWs where 'prior informed consent' is necessary and schedule III - part B provides 46 broad areas of HWs where such consent is not necessary.

shall not be permitted for the purpose of disposal in India, except for recycling, recovery or reuse. However, the export of HWs may be allowed for reuse or disposal facility provided that 'prior informed consent' of the importing state is obtained. These provisions restrict, on one hand, the developed countries to minimize their increasing volume of HWs in export; and, the greed of developing and underdeveloped nations to accelerate the developmental growth through import of HWs, on the other. Rules 15 and 16 impose detailed procedural requirements for import and export of HWs so that they are environmentally sound. It may be pointed out that the above restrictions and ban have resulted in illegal trafficking in HWs, a lucrative business in India. Though rule 17 takes care of illegal dumping of HWs in import and export and makes provision that the importer of illegal HWs in India shall see to it that within a period of ninety days of illegal import, the HWs shall be exported back at his own cost. In how many case the illegal dumping is identified and exported back, is a matter of detailed investigation. But the result will not be encouraging. Unfortunately a casual drafting of the rules by the central government can be seen in the use of the expression 'reexport the waste' but, in the present case, there is no question of reexport; as such, the mistake, it is suggested, needs to be rectified.

Treatment of HWs

Chapter III of the rules provides in detail the control mechanisms for recycling, reprocessing or reuse of HWs. Every person, handling above processes, is required to get registration from the CPCB.⁸⁶ The board may grant the same provided it is satisfied that the applicant has provided requisite documents, is utilizing environmentally sound technologies and has technical capability and equipments for such processes. The registration shall be valid for a period of five years but the rules do not specifically provide for the renewal of registration and the period of renewal. It is suggested that similar provisions for renewal required in case of authorization⁸⁷ must also find a place under chapter III.

Over and above all the above provisions, there is an unusual setting of the provisions. The list of authorities and their duties are described in schedule VII to the 2008 rules. These are important provisions in the control mechanism of HWs. Further, rule 23 uses the word 'shall', making

86. Schedule IV which requires registration for recycling/reprocessing in case of 20 HWs.

87. See rule 5(7)

the duties mandatory resulting in a powerful statutory right. The question remains: how such an important provision can be given a step-motherly treatment? Moreover, the rule does not provide as to what shall be the follow-up action in case of its non-compliance. It is nothing but making a mockery of the mandatory duties that need a serious attention.

There are in all six authorities which shall regulate the handling of HWs: the ministry of environment and forests, CPCB and SPCBs, the state government, the director-general of foreign trade and lastly, the port authority. The pollution control boards are entrusted with seven duties, each followed by the central ministry, the state government and the port authority with five duties each and the director-general with two duties. If one takes a detailed stock of the total thirty-one duties, it would be noticed that in reality the duties have not been taken so seriously as to mitigate every day increasing problems.⁸⁸ The question for further investigation is: What is the status of hazardous wastes with so many authorities and duties? The answer cannot be in positive in view of the fact that every year India generates millions of tons of HWs and is allowing numerous hazardous industries⁸⁹ to be established.

The pre- and post-Rio era saw a large number of regulations on hazardous substances.⁹⁰ The salient points of the MSIC 1989 and CA, 1996 are: both the rules identify accident prone chemicals with the disparity: the first, 684 chemicals are listed; whereas, the other one comes down to 431. This shows a sign of scientific uncertainty that needs serious scientific attention. The occupier's industrial activities shall be in an environmentally sound manner. Secondly, both the above rules talk about the chemical accident providing for responsibility on the occupier and the concerned authority including off-site emergency plan

88. The data, as on March 2000, shows that 13011 industries are generating 4415954 tons per annum; See B.V. Babu & V. Ram Krishna, *Hazardous Waste Management in India* (2005); see also the Recommendation of HPC which draws a poor picture in this regard.

89. See, for details, S. Babu and J.P. Gupta, "Waste Characterization and Treatment" *Chemical Business* 39-42 (Oct. 1997); S.C. Maudgal, "Waste Management in India" 22 *Jour IAEM*, 203-208 (1995); P. Leelakrishnan and H.J. Leonar, "Hazardous Waste, the Crisis Spread" *Asian National Development* (1985).

90. The Manufacture, Storage and Import of Chemical Rules, 1989 (MSIC); the Rules for Manufacture, Use, Import, Export and Storage of Hazardous Micro-organisms /Genetically Engineered Organisms or Cell, 1989 (HMG); the Chemical Accidents (Emergency Planning, Preparedness and Response) Rules, 1996 (CA); and the Ozone Depleting Substances (Regulation and Control) Rules, 2000 (ODS).

and information to the victims who would be affected. The CA, 1996 further contains detailed provisions for the management part of emergency planning, preparedness and response not only in case of a chemical accident but also if there was a likelihood of such accident. It provides four crisis groups: the central, state, district and local, with their constitutions and functions. The district and local crisis groups are conferred with a large number of functions.⁹¹ It is doubtful whether all such authorities will be constituted at different districts and local levels. Further, even if they are constituted, will they be in a position to successfully perform their duties. A serious ground work and also fixing of accountability for their non-performance of duties require reform in the rules. Moreover, the rules require major accident hazard installations to assist the crisis groups but how far the 'rouge' industries⁹² will give cooperation is a doubtful proposition.

Coming to the two remaining rules: the HMG, 1989, in view of the adverse effect of hazardous micro-organisms and genetically engineered organisms on human health and environment, make provisions for their handling and management and, particularly, on the management side. Six different committees with their constitution and functions are provided for. Such an approach will bring confusion and complexities and, therefore, it is suggested that there should be a one window clearance in the matter. On the penalty side, rule 15 provides for recovery of expenses incurred by the concerned authority for the damage caused - a liberal approach. Furthermore, the central government is given power to exempt a person from the liabilities provided under rules 7 to 11. No guidelines are provided for such exemption and an arbitrary exercise of power will attract Article 14 of the Constitution of India. It is suggested that the rules must provide certain clear guidelines in this regard.

The Ozone Depleting Substances Rules, 2000 as amended upto 2007, in schedule I, provides 96 ozone depleting substances⁹³ which requires a special treatment for their handling, including ban on import or export to countries not specified in Schedule VI. However, for the specified

91. See rules 9 & 10, respectively.

92. See cases where the Supreme Court has passed stricture against the chemical industries, *Indian Council for Enviro-Legal Action v. Union of India*, AIR 1996 SC 1446; *M.C. Mehta v. Union of India*, AIR 1987 SC 965; *Union Carbide Corpn. v. Union of India*, AIR 1990 SC 1480

93. See *Montreal Protocol*, 1987 which provides much more substance than schedule 1.

countries,⁹⁴ a license can be issued by the appropriate authority. Further, only a person, who is registered by the concerned authority, shall be allowed to handle the ozone depleting substances provided that the other provisions of the rules are complied with including the prescribed maximum allowable production and consumption limit in a year. To control the increasing depleting substances, rule 9 prohibits from July 19, 2000, new investments in such substances. Further, the Protocol, under article 8, provides accountability for non-compliance of the Protocol but the Indian rules are silent on this aspect. This shows that India has yet to fully adopt the commitment to the Protocol and Climate change. It is true that the developed nations, in particular the USA, have yet to take the issue of climate change so seriously but that does not mean India, having its commitment of the ages to save the Mother Earth, may remain in hibernation.

V Epilogue

In the entire journey of international, comparative and Indian HSW laws, though one finds that some important contributions are made, yet the effective output is depressing. A pendulum like situation exists between advances in trade and legal controls of HSW and, even in this competition, final winner is the trade. The need of the hour is to reconcile and integrate the two in the larger interest of the country and the world in general. The rigid approach has been diluted by scientific uncertainty, exceptions and exemptions, bye lanes and side lanes and the increasing encouragement for transfer of industrial processes to the soft law countries and regions. All these have allowed unabated large flow of HSs and HWs through out the world. The role players, authorities and even the citizens-silent spectators, are responsible for the present state of affairs. In this situation, the prime need is to shun the traditional profit oriented approach and replace the same by the corporate social environmental responsibility which has to be internalised in the conduct of all the role players. Further, effective implementation and accountability is the other basic need of the

94. Schedule VI lists countries which were parties to the Montreal Protocol, 1987 (Part I) and those temporarily categorized as operating under the Protocol. (Part II) (45) whereas, the Protocol's contracting parties are much more. See Sands and Galizzi, *Documents in International Environmental Law* 87-88 (2nd edn., 2004). For example asbestos, having carcinogenic property and banned in many countries, is yet to see a ban on its handling in India.

present time. The study further shows that the HSW laws have certain loopholes, short comings and also short cut ways to evade responsibility. It is time that they are plugged or corrected before the disease corrodes and paralyses the entire HSW legal system.

Starting with the international front, the Conventions and Protocols have no doubt good intentions to minimize quantum of HSs and HWs but it is a pity that, leaving a few developing countries, the rest of the member parties have yet to show a serious concern. The main reasons are the North-south politics and the lack of effective responsibility, enforceability and accountability. It is high time that UN must make all out efforts to make improvements over the above failures. At the same time the international efforts also deserves appreciation. It envisages regulation at all three phases: production, handling and all other activities. It also takes into account dumping of HSW and liability for compensation and damages. It has identified large number of substances which are HSs and HWs. Moreover, it has taken care of non-permitted and illegal dumping of HSW.

The comparative study shows that each country has dealt with the HS and HW in its own way, giving rise to differential treatment, inviting transboundary movement of HS and HW. Further, they had also the problem of effective implementation of the statutory responsibilities. Starting with the USA, though there has comparatively been a larger net work of HSW laws but the fact remains that negative role USA in international HSW law is also reflected in its domestic HSW laws. The statutory exemptions, exceptions, permission and the diversive and evasive provisions have not allowed the intended results to be achieved. However, the US provisions for the super fund - a consolidated financial consortium; the cradle to grave concern which also finds a place in some of the countries, control on chemicals to resource conservation and recovery and HSW tax deserve appreciation.

The European HSW law has uniqueness in that there is an umbrella legislation, a lesson for the other regional zones of the international community to follow. In the entire study of different European HSW laws, the following experiences deserve a place in the Indian HSW law: The establishment of an HSW ombudsman, enhancement in lists of HSs and HWs; care for the landscape, town planning, public order, shifting of burden of proof on the occupier and the HSW awareness and right to know.

The journey of Indian HSW law shows that in 2008, a comprehensive control system emerged. A large number of HSs and HWs including even



micro-organisms and genetically engineered organisms were identified. The rules control handling and management of HSs and HWs down to treatment of HWs to bring in a sound environmental concern. A special attention was paid to the chemical accident. The rules in order to expedite action provide for the processes with time schedule.

Apart from the above advances, there are many agenda which remain unattended. The scattered HS and HW rules need to be brought under one umbrella legislation. This will allow a larger peoples' participation instead of bureaucracy deciding the fate of the control measures. The traditional corporate concept of concentrating on capital building needs to be replaced by the corporate environmental social responsibility. A financial contribution must be prescribed for all the hazardous industries, irrespective of small or giant to be deposited in a national HSW fund, as a social cost for carrying on hazardous or inherently dangerous activities. Modern technology and scientific inputs must find a place in the rules. The establishment of the National Green Tribunal in India during 2010 is a welcome step in the right direction. In the diffused authorities system, a single window clearance may be brought in. Community right, peoples' participation, right to information and HSW education and awareness, being now a part of fundamental right to environment, must get HSW law recognition. An ombudsman-like watch dog and a special HSW surveillance squad are still left out in the present Indian legal control regime.

So what is the final *mantra*, lesson, for the HSW generating industries? Environmental *ahimsa* (non-violence) must now be the *paramo dharma* (duty of every one).