

ENVIRONMENTAL CRIMES-AN ANALYSIS OF LEGAL PROVISIONS WITH REFERENCE TO INDIA

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I. Introduction

The environment provides the very foundation of sustainable development, our health, food security as well as our economies. Clean water supply is provided by our ecosystems as well as clean air and secure food and finally physical as well as mental well-being. A natural resource provides livelihoods, jobs and revenues to the government which would be used for education, medical facilities, and development and helps to prepare sustainable business models. In 2015, environment role has been recognised across internationally agreed sustainable development goals. In today's date, environmental crime is rapidly increasing day by day which is endangering not only wildlife populations but the entire ecosystems, sustainable livelihoods and revenue streams to governments. Environmental crime also includes corporate crime in the forestry sector, illegal exploitation and sale of gold and minerals, illegal fisheries/fishing, trafficking in

hazardous waste and chemicals.⁷⁹

Environmental crimes can be broadly defined as “*illegal acts that directly harm the environment. It is often perceived as victimless and incidental crimes, environmental crimes frequently rank low on the law enforcement priority list, and are commonly punished with administrative sanctions which are themselves often unclear and minor.*”⁸⁰

Environmental crimes are on the increase transversely the globe and, as a result, the world is being scoured of its rich natural resource base. Unfortunately, until recently, most countries did not accord any priority to environmental crimes. This created a dearth in appropriate and proportionate

⁷⁹ Christian Nellemann, Rune Henriksen, et. al. (eds.) *The Rise of Environmental Crime – A Growing Threat To Natural Resources Peace, Development And Security*, 8 (A UNEP/INTERPOL Rapid Response Assessment. United Nations Environment Programme and RHIPTO Rapid Response–Norwegian Center for Global Analyses, 2016)

⁸⁰ Axel Luttenberger, Lidija Runko Luttenberger, *Challenges in Regulating Environmental Crimes*, 213, available at https://bib.irb.hr/datoteka/871672.IMSC2017_Luttenberger_and_Runko_Luttenberger.pdf (last visited on August 05, 2020)

governmental response to fight such crimes. One United Nations (“UN”) study identified certain gaps in tackling environmental crimes due to reasons like lack of data, knowledge and awareness, inadequate use of legislation, lack of institutional will and governance, lack of capacity in the enforcement chain, lack of national and international cooperation and information sharing among authorities, and lack of engagement with private actors and local communities.⁸¹ The UN General Assembly adopted a resolution which recognised environmental crime as a part of other transnational organised crimes. The adoption signified a major step forward for UN Environment and its partners’ hard work in raising awareness of the rising danger that environmental crime poses to peace and security, sustainable development and environmental rule of law.

Environmental criminals pose a serious risk to our everyday lives, our planet and to future generations. Borders do not confine environmental crimes, which variety from ivory trafficking and overfishing of protected species, to illegal logging and the dumping of hazardous waste. The identical directions used to traffic wildlife across countries and continents are often used to smuggle

⁸¹ C. Yamuna Menon, Sregurupriya Ayappan, Trends in Environmental Crimes in Asia, 2019 *available at* <https://www.lawasia.asn.au/sites/default/files/20199/Trends%20in%20Environmental%20Crimes%20in%20Asia%20-%20Final.pdf> (last visited on August 05, 2020)

weapons, drugs and people. Environmental crime often occurs simultaneously with other offences such as passport fraud, corruption, money laundering and even murder. Contrasting the illegal trade in drugs and other illicit goods, natural resources are determinate and cannot be replaced in a lab. As such, there is a sense of urgency to combat environmental crime.⁸² In this paper the author’s focus shall be on the concept of environmental crime, the nature of environmental crimes, the position of environmental crimes vis-à-vis India, the drawbacks in the existing system as to why environmental crimes are on rise, followed by suggestion and conclusion.

II. Concept of Environmental Crime

The concept of environmental crime is comparatively of recent origin. But that does not minimise the importance of accurate definition and prompt detection of environmental crimes for the effective enforcement of environmental laws and preservation of healthy environment for the humanity. Only when man's interference into the natural environment reaches a dangerous level causing ecological imbalance, endangering all living things on earth and posing serious threat to the health of human

⁸² Full Article *available at* <https://www.interpol.int/en/Crimes/Environmental-crime> (last visited on August 05, 2020)

beings that law interferes in turn for countervailing this threat.⁸³

*“At the beginning of the twenty-first century environmentalists, government agencies, and environmental attorneys were still struggling to define exactly what was an environmental crime, what actions should be prosecuted, and what penalties were considered appropriate.”*⁸⁴ *“Through the 1980s and 1990s the public usually linked environmental crime with the following actions: contaminating water by dumping chemicals into a stream or river; releasing pollutants into the air; and, improper disposal, storage, or transportation of hazardous wastes such as pesticides, chemicals, and radioactive materials.”*⁸⁵ *“Legal proceedings focused on actions by corporations or businesses that violated environmental laws.”*⁸⁶ *“For this reason, early environmental crimes were considered white-collar crime or illegal activity carried on within normally legal businesses.”*⁸⁷ *“Yet many environmental crimes did not fit under the white-collar mould. A truck driver who*

*illegally stores gallons of hazardous waste rather than taking them to a proper disposal site could not be considered part of white-collar crime.”*⁸⁸ *“Likewise, a farmer who dumps pesticides into a stream, a hunter who shoots a protected bald eagle or someone who smuggles exotic birds or animals have all committed environmental crime but are not part of the white-collar world.”*⁸⁹ *“Rather than calling all environmental crime white-collar crime, law professionals tried to develop a better definition. Factors generally considered are: (1) the harm done, whether the action caused harm immediately or was only potentially harmful; (2) the action itself, ranging from littering to major dumping of hazardous wastes; and, (3) the offender, whether individual or corporation.”*⁹⁰

*“Although the definition of “environmental crime” is not universally agreed, it is often understood as a collective term to describe illegal activities harming the environment and aimed at benefitting individuals or groups or companies from the exploitation of, damage to, trade or theft of natural resources, including serious crimes and transnational organized crime.”*⁹¹ *“Unlike*

⁸³ G. Sadasivan Nair, Environmental Offences—Crimes against Humanity and the Environment, Cochin University Law Review, 66, available at <http://dSPACE.cusat.ac.in/jspui/bitstream/123456789/10932/1/Environmental%20Offences%E2%80%9494Crimes%20against%20Humanity%20and%20the%20Environment.PDF> (last visited on August 05, 2020)

⁸⁴ Read full article available at <https://law.jrank.org/pages/11964/Environmental-Crime-Defining-environmental-crime.html> (last visited on August 05, 2020)

⁸⁵ Ibid.

⁸⁶ Ibid.

⁸⁷ Ibid.

⁸⁸ Ibid.

⁸⁹ Ibid.

⁹⁰ Ibid.

⁹¹ Read full article available at: https://wedocs.unep.org/bitstream/handle/20.500.11822/7662/-The_rise_of_environmental_crime_A_growing_threat_to_natural_resources_peace%2C_development_and_

any other known crime, environmental crimes are aggravated through their additional cost and impact on the environment and cost to future generations.”⁹² “Deforestation, dumping of chemicals and illegal fisheries causes loss of ecosystem services such as clean air and clean water, extreme weather mitigation, food security and even health and wellbeing.”⁹³ “They also deprive governments of much-needed revenues and undermine legal businesses.”⁹⁴

Mary Clifford proposed a definition of environmental crime in her 1998 book *Environmental Crime*, as “an act committed with intent to harm or with a potential to cause harm to ecological and/or biological systems” as well as with the purpose to increase business or personal gain. According to Clifford, an environmental crime “is any act that violates an environmental protection statute [law].”⁹⁵

For Y. Situ and D. Emmons, an environmental crime is an unauthorised act or omission that violates the law and is therefore subject to criminal prosecution and

criminal sanction. This offence harms or endangers people’s physical safety or health as well as the environment itself. It serves the interests of either organizations – typically corporations – or individuals.⁹⁶

According to Europol, Environmental crime encompasses the wide range of activities that breach environmental legislation and result in significant harm or risk to the environment, human health or both. These crimes include broadly, though not limited to the

- improper collection, transport, recovery or disposal of waste;
- illegal operation of a plant in which a dangerous activity is carried out or in which dangerous substances or preparations are stored;⁹⁷
- killing, destruction, possession or trade of protected wild animal or plant species;⁹⁸
- production, importation, exportation, marketing or use of ozone-depleting substances.⁹⁹

“Environmental crime is characterised by its impact on the natural environment. This impact manifests itself in increasing levels of pollution; degradation of wildlife; reduction

security-2016environmental_crimes.pdf.pdf?sequence=3&isAllowed=y (last visited on August 05, 2020).

⁹² Read full article, available at: http://www.ewra.net/ew/pdf/EW_2017_60_51.pdf. (last visited on August 05, 2020).

⁹³ Ibid

⁹⁴ Ibid

⁹⁵ Supra note 84.

⁹⁶ Dr. Virender Sindhu, “Environmental crimes: An analysis”, 3 *International Journal of Advanced Educational Research*, 274 (2018)

⁹⁷ Full Article available at <https://www.europol.europa.eu/crime-areas-and-trends/crime-areas/environmental-crime> (last visited on August 05, 2020)

⁹⁸ Ibid.

⁹⁹ Ibid.

in biodiversity and the disturbance of ecological balance. Environmental crimes are not victimless.”¹⁰⁰ “The damage they cause to ecosystems and the environment poses

- the risk of disease
- environmental disaster
- irreversible climate change
- the contamination of the food chain
- reduced life expectancy
- the death of human beings.”¹⁰¹

“However, five broad areas of offences have been recognized by bodies such as the G8, Interpol, EU, UN Environment Programme and the UN Interregional Crime and Justice Research Institute. These are:

- Illegal trade in wildlife in contravention to the 1973 Washington Convention on International Trade in Endangered Species of Fauna and Flora;
- Illegal trade in ozone-depleting substances (ODS) in contravention to the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer;
- Dumping and illegal transport of various kinds of hazardous waste in contravention to the 1989 Basel Convention on the Control of Transboundary Movement of

Hazardous Wastes and Other Wastes and their Disposal;

- Illegal, unregulated and unreported (IUU) fishing in contravention to controls imposed by various regional fisheries management organizations (RFMOs);
- Illegal logging and trade in timber when timber is harvested, transported, bought or sold in violation of national laws.”¹⁰²

III. Nature of Environmental Crime

“More than 250 international and regional environmental agreements have been developed in the thirty years since the first landmark United Nations Conference on the Human Environment in Stockholm in 1972. As these treaties have moved beyond simple pledges of mutual scientific cooperation to incorporate substantive control measures such as trade restrictions, so attempts at evasion have increased.”¹⁰³ This broad framework reflects the international community’s recognition of the interdependence between development and the environment by integrating environmental protection in regulatory regimes. This is reflected by a crucial

¹⁰⁰ Ibid.

¹⁰¹ Ibid.

¹⁰² Gavin Hayman and Duncan Brack, *International Environmental Crime- The Nature and Control of Environmental Black Markets*, (Royal Institute of International Affairs, London, 2002), p. 5

¹⁰³ Ibid

concept of environmental law: sustainable development. Its most common and generally accepted definition is found in the Brundtland report of 1987: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”¹⁰⁴

“Environmental crime is as serious as any other crime affecting society today. In contravention of numerous international treaties, the principal motive for environmental crime is, with rare exception, financial gain and its characteristics are all too familiar: organised networks, porous borders, irregular migration, money laundering, corruption and the exploitation of disadvantaged communities. Wildlife felons are just as ruthless as any other, with intimidation, human rights abuses, impunity, murder and violence the tools of their trade. The indicators of environmental crime are evident in many areas of international development activities. Significant global threats, including the challenges addressed through the Millennium Development Goals (MDGs) are connected to, and exacerbated by, environmental crime, “affecting development, peace, security and human rights”. These issues, some of which have

¹⁰⁴ Eileen Skinnider, *Victims of Environmental Crime – Mapping the Issues*, 6 (The International Centre for Criminal Law Reform and Criminal Justice Policy, 2011)

been on the table for many years, are slowly starting to be addressed and only now are enforcement agencies worldwide beginning to recognise the role of organised criminal networks in environmental crime. Increasingly, illegal logging and wildlife trafficking are driven by organised groups who exploit natural resources and destroy habitats: robbing communities of their livelihoods, compromising the wider economy and further endangering threatened species and ecosystems.”¹⁰⁵

“Scholars have attempted to capture the various dimensions of environmental crimes. For instance, White and Heckenberg bring out ‘brown’, ‘green’ and ‘white’ environmental concerns where ‘brown’ relates to the urban life and pollution, ‘green’ refers to the wilderness areas and conservation issues and ‘white’ include impact of new technologies like genetically modified organisms.”¹⁰⁶

These environmental offences may be committed by individuals, groups, governments or businesses. Currently, there is no international treaty on tackling environmental damage. The only guiding instrument in this regard is the UN

¹⁰⁵ Debbie Banks, Charlotte Davies et. al. *Environmental Crime-A Threat to our Future*, 2 (Emmerson Press, U.K. 2008)

¹⁰⁶ Read Full Article, available at: <https://www.lawasia.asn.au/sites/default/files/2019-09/Trends%20in%20Environmental%20Crimes%20in%20Asia%20-%20Final.pdf> (last visited on August 05, 2020).

Environment Programme (UNEP) Guidelines for the Development of Domestic Legislation on Liability, Response Action and Compensation for Damage Caused by Activities Dangerous to the Environment adopted in 2010. Under this, such environmental damage can be a product of “not complying with applicable statutory or regulatory requirements or through wrongful intentional, reckless or negligent acts or omissions”.¹⁰⁷

*“In contrast to traditional predatory crime, which involves the involuntary redistribution of existing wealth through theft and robbery, etc., environmental crime involves the production and/or distribution of goods and services that are illegal by their classification. Such enterprise crime is more effectively conceptualized as a market than a form of social deviance: criminal activities are structured around multilateral exchanges involving producers, processors, retailers and final consumers where supply and demand for services interact in a free-market relationship. The traditional headhunting approach adopted by law enforcement agencies to tackle predatory crime does nothing to address the supply and demand pressures that shape profit-making opportunities.”*¹⁰⁸ *“Unlike any other known crime, environmental crimes are aggravated*

*through their additional cost and impact on the environment and cost to future generations. Deforestation, dumping of chemicals and illegal fisheries causes loss of ecosystem services such as clean air and clean water, extreme weather mitigation, food security and even health and wellbeing. They also deprive governments of much-needed revenues and undermine legal businesses.”*¹⁰⁹ *“Environmental crimes by their very nature are trans-boundary and involve cross-border criminal syndicates. In this age of globalization and free trade, the easy mode of communication and flow of goods and money facilitate the illegal business group involved in environmental crimes.”*¹¹⁰

IV. Status of Environmental Crime in India

From the above lines, “environmental crimes can be broadly defined as illegal acts which directly harm the environment. They include: illegal trade in wildlife; smuggling of ozone depleting substances (ODS); illicit trade in hazardous waste; illegal, unregulated, and unreported fishing; and illegal logging and the associated trade in stolen timber.”¹¹¹

India is a large country with a lot of diversity in natural relief forms. It also has one of the largest populations in the world which puts significant pressure on the natural

¹⁰⁷ *Supra* note 81.

¹⁰⁸ *See* note 102.

¹⁰⁹ *Supra* note 79.

¹¹⁰ *Supra* note 96.

¹¹¹ *Supra* note 105.

environment and the need for resources. The Constitution under Part IVA casts a duty on every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living creatures.¹¹² Further, the Constitution of India under Part IV stipulates that the State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country.¹¹³ India has a lot of pieces of legislation which govern specific environmental issues, the six major ones being the Air (Prevention and Control of Pollution) Act, 1981, the Water (Prevention and Control of Pollution) Act, 1974, the Environment Protection Act, 1986, the Hazardous Waste Management Regulations, The Wildlife Protection Act, 1976 and the Indian Forest Rights Act 2006. Each of these creates multiple environmental offences with heavy penalties including imprisonment and fines which can be very harsh.¹¹⁴ Now we shall analyse the five major kind of environmental crimes vis-à-vis their position in India.

a. **Illegal trade in wildlife:**

The Illegal trade in wildlife is no longer an emerging issue. The scale and nature of the challenge has been recognized in decisions of the Convention on

International Trade in Endangered Species of Wild Fauna and Flora (CITES), the UN Commission on Crime Prevention and Criminal Justice, the Economic and Social Council (ECOSOC), the UN Security Council, UN General Assembly, INTERPOL, the World Customs Organisation (WCO) and others, including at national levels. However, the responses in terms of impact on the ground are still behind the scale and development of the threat to wildlife, including forests, as well as increasingly also development goals.¹¹⁵

Over the years illegal wildlife trade has emerged as a form of Organised Transnational Crime that has threatened the existence of many wild species across the globe. In India, it includes diverse products including mongoose hair; snake skins; Rhino horn; Tiger and Leopard claws, bones, skins, whiskers; Elephant tusks; deer antlers; shahtoosh shawl; turtle shells; musk pods; bear bile; medicinal plants; timber and caged birds such as parakeets, mynas, munias etc. A large part of this trade is meant for the international market and has no direct

¹¹² *Constitution of India* (1950), Art 51A (g).

¹¹³ *Constitution of India* (1950), art 48A.

¹¹⁴ *Supra* note 81.

¹¹⁵ Nellemann, C., Henriksen, et.al. (eds). *The Environmental Crime Crisis – Threats to Sustainable Development from Illegal Exploitation and Trade in Wildlife and Forest Resources*.7 (UNEP Rapid Response Assessment. United Nations Environment Programme and GRID-Arendal, Nairobi, 2014)

demand in India.¹¹⁶ India is also a member of the CITES (Convention on International Trade in Endangered Species of Fauna and Flora) since 1976. CITES is an international agreement between governments that aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival. CITES works by subjecting international trade in specimens of selected species listed on Appendices to certain controls. India has a strong legal and policy framework to regulate and restrict wildlife trade. Trade in over 1800 species of wild animals, plants and their derivative is prohibited under the Wildlife (Protection) Act, 1972.¹¹⁷

In India, while the term wildlife trade is not specifically defined under the Wild Life (Protection) Act, 1972, Chapter V of the Act specifically deals with Trade or Commerce in Wild animals, animal articles and trophies. Illegal wildlife trade in simple terms refers to sale or exchange of wild animals or plant resources, trade of which is prohibited under the law. This may involve live or dead animals or

plants and their derivatives. The trade may be for pet or horticultural trades, or trade in wild animal and plant products such as skins, medicinal ingredients, tourist curios, timber, wild meat and other food products sought after by humans. Apart from this Act, the other two relevant legislations worth mentioning are *Prevention of Cruelty to Animals Act, 1960* and *Biological Diversity Act, 2002*. Before the passing of the above-mentioned Acts, there were other laws in existence to protect wildlife. The Indian Penal Code, 1860, though has no specific provision relating to wildlife, but it defines the term animal under Section 47 and declares maiming, killing of animals as an offence and punishable under Sections 428 and 429. The other relevant legislations were Elephant Preservation Act, 1879 and The Forest Act, 1927.¹¹⁸

b. Illegal trade in ozone-depleting substances (ODS)

“The Ozone Layer describes the protective layer of naturally occurring gas, comprised of three atoms of oxygen found about 10-50 km above the earth’s surface that protects us from the harmful ultraviolet radiation or UV-B rays of sun. Scientist in the 1970’s

¹¹⁶ Illegal wildlife trade in India, available at https://www.wwfindia.org/about_wwf/enablers/traffic/illegal_wildlife_trade_in_india/#:~:text=Trade%20in%20over%201800%20species,Fauna%20and%20Flora%20since%201976 (last visited on August 05, 2020).

¹¹⁷ *Ibid*

¹¹⁸ Full article available at http://epgp.inflibnet.ac.in/epgpdata/uploads/epgp_content/S001608/P001741/M022107/ET/1504181167et.pdf (last visited on August 05, 2020)

discovered that the layer was thinning as a result of the release of chlorofluorocarbons (CFC's), consequently, the Ozone Hole developed. In 1985, nations around the world convened at Vienna in an attempt to develop a framework for co-operative activities to protect the Ozone layer. This signed agreement became known as the Vienna Convention for the Protection of the Ozone Layer."¹¹⁹ "Based on scientific findings on the causes of ozone layer depletion, international community has catalysed global action to protect the ozone layer resulting in the adoption of the Vienna Convention in 1985 and the Montreal Protocol in 1987. To date, 191 countries have ratified, accessed or approved the Montreal Protocol. The Montreal Protocol's primary goal is the phase-out of both production and consumption of ODS through a step-by-step reduction schedule. The Protocol includes provisions enabling its revisions on the basis of periodic scientific and technological assessments. The Montreal Protocol allows a grace period for developing countries (referred to as "Article 5 countries" in the Montreal Protocol) in implementing the control measures. It recognises the fact that more time is required

to obtain and introduce alternative ODS-free technologies."¹²⁰

Ozone Depleting Substances are chemicals which destruct the earth's protective ozone layer. They include chlorofluorocarbons, halon, carbon tetrachloride, Methyl chloroform. Hydrobromofluorocarbons, hydro chlorofluorocarbons, methyl bromide and bromochloromethane. Protection and import of these chemicals is controlled by the Montreal Protocol on Substances that Deplete the Ozone Layer. There are some other depleting substances also but their Ozone depleting effects are very small, so they are not controlled by the Montreal Protocol. The main uses of Ozone Depleting Substances are: CFCs and HCFCs in refrigerators and air conditioners; HCFCs and halons in fire extinguishers; CFCs and HCFCs in foam; CFCs and HCFCs as aerosol propellants; and methyl bromide for fumigation of soil, structures and goods to be imported or exported.

"India, being a Party to the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer, have been sharing the global concern for protecting the ozone layer and phase out of ODSs like CFCs, halons, CTC,

¹¹⁹ Kalpana Palkhiwala, Ozone Day, available at <https://pib.gov.in/newsite/feacontent.aspx?relid=76014> (last visited on August 05, 2020)

¹²⁰ United Nations Environment Programme, "Illegal Trade in Ozone Depleting Substances Asia And Pacific Region" 2 (, Kenya Nairobi2007)

methylchloroform, methylbromide and HCFCs. These chemicals are used in industrial and pharmaceutical aerosols, refrigeration and air-conditioning equipments, foam manufacturing, fire extinguishing equipment, metal-cleaning, garment cleaning, soil fumigation and quarantine and pre-shipment applications etc. Since 1993 with the continued efforts made by stakeholders responsible for implementation of the Montreal Protocol activities, India has successfully phased-out completely the production and consumption of CFCs, CTC and halons except the use of pharmaceutical grade CFCs in manufacturing of Metered Dose Inhalers (MDIs) for treatment of Asthma, Chronic Obstructive Pulmonary Disease (COPD) and other respiratory ailments under the Essential Use Nomination (EUN) provisions of the Montreal Protocol.”¹²¹

“In India, The Environment Protection Act, 1986 empowers the Central Government to protect and improve the environment and prevent, control and abate environmental pollution. The Ozone Depleting Substance (Regulation and Control) Rules, 2000 and its amendments have been published by the Central Government in the Gazette of India, under Environment (Protection) Act, 1986. India introduced the licensing system in 1996, based on recommendation of the

Meeting of Parties at Geneva in 1995. Trade in ODS with non-party countries has been banned. Enterprises receiving ODS phaseout grant are obliged to provide information on ODS consumption and achievement of ODS phaseout. Harmonized classification of commodity codes consistent with international system has been introduced. India has implemented regulations relating to licensing of import and export of ODSs. All exports of CFCs for non-Article 5 countries shall be labelled “New Product CFCs”. The objectives of the licensing system are to regulate the import and export of ODS in accordance with the Montreal Protocol. The design and implementation of the licensing system relates to regulation of production, trade and consumption of controlled substances for implementation of provisions of the Montreal Protocol. The Ozone Cell and Directorate General for Foreign Trade (DGFT) are involved in the export/import licensing process. A license to export a specified quantity of CFC-11/CFC-12 is issued to each producer on request with reference to the limits set by the Protocol. The license is on a calendar-year basis. All ODS under Annex A, Annex B and Group I of Annex C of the Montreal Protocol are covered by the import licensing system. Import is permitted only against an import license. In addition, to the controls on production of ODS, certain controls have been imposed on the export and import of

¹²¹ *Supra* note 119.

products that contain Ozone Depleting Substances. Hydrocarbons including isobutane and cyclopentane are available as non-ODS alternatives for use in aerosols, foam-blowing and refrigeration sectors. Safe use of hydrocarbons is regulated by petroleum laws in India. The Petroleum Act, 1934 and Petroleum Rules, 1976 relate to handling of a variety of petroleum products. The latter also specifies licensing requirements for handling hydrocarbons. The Gas Cylinder Rules, 1981, addresses filling, possession, import and transport of cylinders. Manufacture, Storage and import of Hazardous Chemicals Rules, 1989, specify responsibilities and reporting requirement of industrial activity using them. These rules are applicable to activities covered by the Liquefied Petroleum Gas (Regulation and Supply and Distribution) Order, 1993.”¹²²

“India has made considerable steps towards control of ODS. Nevertheless since it is still manufacturing HCFC and reports indicate smuggling of ODS through its porous borders. For some years India has suffered with ODS being smuggled across its long land borders. CFCs are frequently imported into neighbouring countries in excess of requirements and are then smuggled into India. More than 300 tonnes of CFCs and

HCFCs have been seized in recent years. According to UNEP, illegal trade in CFCs and other ODS is expected to grow as a complete ban is enforced. It is believed that trade in illegal ODS can be up to 20 per cent of all trade in ODS. The regulations are not enough as by nature they are not penal. The need is to draft a strong law with stringent punishment for violators to combat the situation.”¹²³

c. Dumping and illegal transport of various kinds of hazardous waste

“Illegal waste dumping has increased as regulations governing the safe and proper disposal of hazardous waste tighten, increasing handling charges and decreasing safe disposal capacity. As illegal dumpers do not have to connect buyers and sellers in a clandestine market, but simply lose the material somewhere, waste dumping is the least specialist environmental crime and, perhaps, the most common. The increased cost of safe disposal has driven an export trade to many of the world’s least developed countries, where regulations are negligible. As most developing countries lack sufficient technical knowledge to identify hazardous materials, it may be tempting to avoid disposal charges altogether and pass off hazardous chemicals as innocuous materials like fertiliser or raw materials for recycling. At its peak, highly toxic materials from

¹²² Full article available at <http://ozonecell.in/home-page/montreal-protocol-implementation-in-india/regulatory-framework/> (last visited on August 05, 2020)

¹²³ *Supra* note 118.

Northern industrial areas have ended up being dumped on unsuspecting villagers in remote developing countries."¹²⁴

*"During the 1970s and 1980s, an increased awareness on the negative effects of hazardous waste on human health and the environment led to an update in legislation related to the issues of waste disposal in domestic legal regimes in developed countries. The result is a reduction in the availability of landfills and an increase in costs of waste disposal, which led to an upsurge in the export of hazardous waste in developing countries which did not have strict controls for the disposal of this type of waste. Convention on the Control of Transboundary Movements of Hazardous Wastes, known as the Basel Convention, signed in 1989 and entered into force in 1992, greatly improved the picture of the condition of hazardous waste. Currently, 172 countries have adopted it. The Convention sets three key objectives: reduction in the amount of hazardous waste, reduction of amounts in the transboundary movements of hazardous waste and the promotion of undertaking all practical steps to ensure handling of hazardous or any other type of waste in the manner which protects human health and the environment."*¹²⁵

¹²⁴ *Supra* note 102.

¹²⁵ M. Obradovi} et al.: Hazardous Waste, Danger of Modern Society,38 *Coll. Antropol.* 797 (2014)

The *Hazardous Wastes (Management, Handling and Transboundary Movement) Rules, 2016* (the "Hazardous Wastes Rules") are the primary regulations addressing the management of hazardous waste in India. These rules were established under the Environment (Protection) Act, 1986, which gives the Central Government the power to "take all such measures as it deems necessary or expedient for the purpose of protection and improving the quality of the environment and preventing, controlling and abating environmental pollution." This includes making rules related to hazardous wastes. The first set of hazardous wastes rules was released in 1989. These rules were amended extensively over the years and, in 2008, were replaced by the Hazardous Wastes Rules. These rules were further amended in 2016 and 2019. Under the 2019 Rules solid plastic waste has been prohibited from import into the country including in Special economic Zones and by Export Oriented Units.

Waste management generally encourages recycling, reusing and reducing waste before the disposal stage. Hazardous waste also in a few scenarios can be reused or used as a material for generating energy by using it to recover a component or act as a raw material for some recycling plants. Moreover, there have been numerous factors in the last decades of chemical and hazardous waste

being dumped in water bodies or in large quantities in landfills which degrades the land as well as leads to emission of toxins into water bodies. This is harmful to environment in the form of air, water and land as well as living creatures that consume them.¹²⁶

The Hazardous Waste Rules 2016 encourage the reduction of hazardous waste generation and encourage its recycling and reusing. They also specify strict guidelines related to the import and export or even storage and transportation of hazardous waste in order to ensure optimum waste management with regard to transportation, storage and disposal of waste. The Rules have clearly laid down the procedure for the management of hazardous and other wastes. An important point relating to the import and export of hazardous waste between countries is that as per rules of 2016, no country can export to India hazardous waste for final disposal. This implies that India only imports hazardous wastes in order to recycle, reuse or for other utilisation. The 2016 rules give a clear direction of how the facility for treatment, storage and disposal is to be established.¹²⁷

In addition to the Hazardous Wastes Rules, there are other rules and plans that address the management of hazardous waste. These include: (1) Manufacture, Storage and Import of Hazardous Chemical Rules, 1989; (2) Batteries (Management and Handling) Rules, 2001; (3) Chemical Accidents (Emergency Planning, Preparedness and Response Rules); (4) E-Waste Management and Handling) Rules, 2010; (5) Bio-Medical Waste (Management and Handling) Rules, 1998; and (6) National Implementation Plan for Stockholm Convention on Persistent Organic Pollutants.

“There is a fairly comprehensive legal and regulatory framework in place in India to address its hazardous waste management. Indeed, it has been remarked that if the number of laws were any measure of their effectiveness India would have one of the cleanest environments in the world. India nonetheless is facing several challenges in ensuring compliance and effectively enforcing hazardous waste laws. Some of the challenges include lack of financial resources, shortage of staff, lack of standardized protocols and lack of legal authority. In light of the various human health and environmental issues associated with improper hazardous waste disposal, it is critical that India overcome these challenges

¹²⁶ Sharanya Ghosh, Hazardous Waste Management Rules 2016, *available at* <https://blog.ipleaders.in> (last visited on August 05, 2020)

¹²⁷ *Ibid*

and ensures its hazardous waste properly managed.”¹²⁸

d. Illegal, unregulated and unreported (IUU) fishing

“Nowadays, the world’s fish stocks are not only under threat from intensive legal fishing activities; they are also at risk from illegal, unreported and unregulated (IUU) fishing. It is difficult to estimate precisely the total catch from pirate fishing.”¹²⁹ “**ILLEGAL FISHING** refers to fishing activities conducted by foreign vessels without permission in waters under the jurisdiction of another state, or which contravene its fisheries law and regulations in some other manner – for example, by disregarding fishing times or the existence of the state’s protected areas. **UNREPORTED FISHING** refers to fishing activities which have not been reported, or have been misreported, by the vessels to the relevant national authority. For example, some vessels harvest more tonnage than they are entitled to catch under official fishing quotas. **UNREGULATED FISHING** refers to fishing activities in areas where there are no applicable management measures to

regulate the catch.”¹³⁰ “The term also applies to fishing for highly migratory species and certain species of shark, which is not regulated by a Regional Fisheries Management Organization (RFMO). And finally, the term applies to fishing activities in international waters in violation of regulations established by the relevant RFMO. Although unregulated fishing is not in fact illegal under the law of nations applicable to the high seas, it is nonetheless problematical. It results in additional fish being caught over and above the maximum catches agreed by RFMO member states for their respective regions. As a result, fully exploited stocks can easily become over-exploited. Furthermore, IUU fishermen often ignore the existence of marine protected areas established by the Regional Fisheries Management Organizations to support the recovery of overexploited stocks.”¹³¹

“From the fishermen’s perspective, IUU fishing is highly attractive as they pay no taxes or duties on these catches. A further reason why IUU fishing takes place on such a large scale is that it can often be practised with impunity. This is mainly the case in the territorial waters or exclusive economic zones of countries which cannot afford to set up costly and complex fisheries control

¹²⁸Read full article, available at: <https://www.eli.org/sites/default/files/eli-pubs/eli-nsiu-enforcing-hazardous-wastes-rules-india-handbook.pdf> (last visited on August 05,2020).

¹²⁹ Full Article available at <https://worldoceanreview.com/en/wor-2/fisheries/illegal-fishing/> (last visited on August 05,2020)

¹³⁰ Read full article, available at: <https://worldoceanreview.com/en/wor-2/fisheries/illegal-fishing/> (last visited on August 05,2020).

¹³¹ Supra note 129.

structures. The situation is especially difficult in the developing countries. In a comprehensive analysis of IUU fishing worldwide, researchers conclude that IUU fishing is mainly practised in countries which exhibit typical symptoms of weak governance: large-scale corruption, ambivalent legislation, and a lack of will or capacity to enforce existing national legislation.”¹³²

In India, the need for fisheries legislation was emphasised as long back as 1873 when the attention of the then Government of India was drawn towards widespread slaughter of fish and the urgency to adopt legislative measures to conserve fisheries resources. At that the then Government of India enacted the Indian Fisheries Act which was enacted in 1897. “Fisheries in the maritime states of India, within the territorial limits of 12 miles, are dealt with under the Marine Fishing Regulation Act (MFRA). These acts are formulated on the guidelines provided by the modal piece of legislation prepared by the Ministry of Agriculture, Government of India, in 1979, which was encouraged by the fishers operating unpowered fishing vessels to safeguard their fishing space and equipment from bottom trawlers. Currently, these legislations are not just restricted to the maritime states of the country but are quite widespread in other states as well, for

¹³² *Ibid*

regulating fisheries in inland waters.¹³³ “The Maritime Zones of India (Regulations of fishing by foreign vessels) Act, 1981, was introduced to control activities of foreign fishing vessels within Indian Maritime Zone. The Act provides basis for joint ventures and chartered vessels and also for bilateral / multilateral fishing access agreements. If any foreign vessel is used in contravention of the provision of section 3 of the Act in any area within the territorial waters of India are punishable with imprisonment for a term not exceeding three years or with fine not exceeding rupees fifteen lakhs or with both. If such contravention takes place in any area within the exclusive economic zone of India be punishable with fine not exceeding rupees ten lakhs. The penalty for contravention of license is not exceeding rupees ten lakhs. The penalty for contravention of permit related to area of operation or method of fishing specified in such permit will be not exceeding rupees five lakhs and rupees fifty thousand in other cases. If any person intentionally obstructs any authorized officer in the exercise of any powers conferred under this Act or fails to afford reasonable facilities to the authorized officer or fails to stop the vessel or produce the license permit, log book or other document or any fish, fishing gear or other equipment on board the

¹³³ Sukanya Thapliyal, Fisheries Law in India – An Overview, available at <https://fishlaw.org/fisheries-law-in-india-a-brief-overview/> (last visited on August 05, 2020)

vessel when required to do so by the authorized officer, shall be punishable with imprisonment for a term which may extend to one year or with fine not exceeding rupees fifty thousand or with both.”¹³⁴ “The Coastal Regulation Zone (CRZ) 1991 notification was issued under the provisions of Environment (Protection) Act, 1986. It outlines a zoning scheme to regulate development in a defined coastal belt. It declares the coastal stretch influenced by tidal action in the landward side up to 500 m from the high tide line (HTL) and the land between the low-tide line (LTL) and the HTL as the CRZ. It imposes restrictions on setting up and expansion of industries, operations or processes etc., in the said CRZ.”¹³⁵

“The rise in IUU in India can be attributed to limited scope for expansion due to overcapacities in territorial waters, weak regulation, inefficient management and prevalence of traditional fishing practices. Inadequate infrastructure especially fishing harbours, landing centres, cold chain and distribution systems, poor processing and value addition, wastage, traceability and certification, non-availability of skilled manpower, etc. are some of the other factors constraining the growth of the capture fisheries. In inland capture fisheries,

seasonal nature of fishing operations, depleted stocks in natural waters, issues related with tenure and lease rights, use of obsolete technology for harvesting coupled with low capital infusion are some of the significant limiting factors.”¹³⁶

e. Illegal logging and trade in timber:

“Most countries charge a stumpage tax on forestry operations, based on the volume of timber extracted; these charges are often intended to reflect the value of log at the stump, i.e. its price on the market less the costs of extraction and a reasonable profit margin. There is a strong incentive to alter these charges by under-reporting harvests and under-grading the size and the quality of the timber harvested. Companies may attempt to maximize their profits by extracting timber outside their agreed harvesting areas.”¹³⁷ “Illegal logging is creating havoc in some of the remaining pristine natural forests in the world. It is a leading cause of deforestation, loss of biodiversity, collapse of community forestry and conflicts. In simple terms, illegal logging occurs when timber is harvested, transported, processed, bought or sold in violation of national or sub-national laws. The complexity of illegal logging is compounded

¹³⁴ Rajesh K.M., Fisheries Legislation in India, available at http://eprints.cmfri.org.in/9871/1/Rajesh_8.pdf (last visited on August 05, 2020).

¹³⁵ *Ibid*

¹³⁶ Read full article, available at: http://nfdp.gov.in/PDF/National_Fisheries_Policy_2020.pdf (last visited on August 05, 2020).

¹³⁷ *Supra* note 102.

when countries trade in illegally sourced timber in the international market. Economic data associated with illegal timber trade confirms that it is one of the most lucrative business for individuals and countries to profit from their rich natural resource base. The trade in illegal timber is estimated to be worth between USD 30 and USD 100 billion annually. Like any other business of commodities, in the case of illegal logging there are producers, processors and consumers. Illegal logging has adverse social and economic implications for the majority of the timber producing countries, particularly the developing countries. There is loss of revenue to the exchequer as well as loss of livelihoods of forest dependent people, illegal logging also fuels crime and promotes corruption at all levels including at government levels.”¹³⁸

V. Drawbacks in the existing framework to deal with environmental crimes in India

“The root causes of environmental crimes vary greatly, and subsequently the design, identification and implementation of appropriate responses must be carefully planned. Root causes are primarily the low risks and high profits in a permissive

environment as a result of poor governance and widespread corruption, minimal budgets to police, prosecution and courts, inadequate institutional support, political interference and low employee morale, minimal benefits to local communities and rising demand in particular in Asia.” The situation is especially critical on support to prosecution and courts/the judiciary in many developing countries. Poverty also facilitates recruitments of low-level perpetrators at the frontlines. This means that the issue requires a full range of responses, also beyond enforcement. The international community is still far behind in combating the rising role of environment-associated crimes for threat finance in conflict and for development and environmental security. Resources allocated to international enforcement efforts against environmental crimes are completely underdimensioned for containing the growth in environmental crimes. Current global resources specifically allocated to international organisations such as INTERPOL, UNEP, WCO, UNODC and relevant conventions specifically for combating these transnational environmental crimes are likely combined no more than 20–30 million USD globally (dependent on calculation), resulting in continued rising involvement of organized criminal networks due to a permissive environment unless more

¹³⁸ Stephanie Lee, *Illegal Logging Imports in India*, available at https://cases.open.ubc.ca/illegal-logging-imports-india/#cite_note-illegal_logging-1 (last visited on August 05,2020)

resources are allocated and capacities shared across agencies.¹³⁹

While it can be seen that illegal trade in wildlife has been adequately dealt with in a number of legislations. But the “terms ‘exotic species’ or ‘exotic pets’ are not defined in Indian law”. The Prevention of Cruelty to Animals (Pet Shop) Rules 2016 define ‘pet animals’, but the scope of this term is limited to “dog, cat, rabbit, guinea pig, hamster, rodents of the rat or mice category and captive birds”. As such, this definition “excludes many exotic species like turtles, snakes, iguanas, monkeys, etc., which are all commonly imported into India. The Wildlife (Protection) Act 1972 curbs the smuggling and illegal trade in wildlife and its derivatives as one of its primary objectives. The major drawback of this law is that it only extends protection to animals listed under its Schedule, which are mostly animals native to the Indian subcontinent, and doesn’t have exotic species within its purview. This has allowed unrestricted trade to continue, and even those penalties that usually apply to people trading or smuggling scheduled species also don’t apply in these cases.”¹⁴⁰

¹³⁹ *Supra* note 79.

¹⁴⁰ COVID-19: India Must Act Quickly to Open the Eyes of Its Laws to Exotic Species, *available at*, <https://science.thewire.in/environment/covid-19-india-exotic-animals-wildlife-trade-environment-ministry-advisory/> (last visited on August 05, 2020)

India has made considerable steps towards control of Ozone Depleting Substances. But the legislative measures in the form of rules are not stringent enough to deal with the enormous effect it has on the environment. Thus, a statute to control the situation would be a more apt solution.

“In February 2017, the Supreme Court pulled up the Union Government for intake of waste from other countries for re-processing and recycling and allowing it to be dumped in India’s landfills, compromising citizens’ health and the environment. Earlier, following the revamped Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016, India had banned the import of solid plastic waste, edible fats, animal oils and household waste so that these items are not imported and add to India’s already existing waste woes. The revamped laws of 2016 clearly state that owners of hazardous waste disposal facilities are liable to pay financial penalties if the rules of transportation, storage and recycling of such waste are not complied with, and may even be imprisoned due to negligence. The rules also specifically direct the state governments to identify spots for construction of waste treatment plants specifically to treat hazardous waste. But till now, no new waste treatment plant with regard to hazardous waste treatment has

*been built since the new rules came into effect. Only 17 disposal facilities with both secured landfills and scientific incinerators exist in India. Many states like Karnataka, Kerala, Punjab and Orissa don't have such a disposal mechanism for hazardous waste. The absence of proper infrastructure for scientific disposal and recycling of hazardous waste has resulted in poor handling of such waste in India. Burning of hazardous waste at landfills is still one of the most common and primitive methods of disposing, resulting in immense harm for health and environment. Collection and transportation of hazardous waste is often akin to dry or wet waste, resulting in further problems in segregating and recycling hazardous waste. Absence of incineration infrastructure in India is also a contributing problem, as most waste collectors are habituated to burning waste in uncontrollable temperature. Waste collectors collecting hazardous waste are mostly ill-equipped, untrained and poorly paid. Workers who collect hazardous waste are often exposed to its poisonous chemical nature, resulting in them contracting severe diseases. They are seldom supplied with necessary equipment to collect hazardous waste safely.*¹⁴¹

¹⁴¹ India's Deadliest Waste Pile Up: The Rising Rate Of Hazardous Wastes, available at, <https://swachhindia.ndtv.com/indias-deadliest-waste-pile-up-the-rising-rate-of-hazardous-wastes->

So far as illegal, unregulated and unreported fishing is concerned the Government policies and laws are inadequate. Poverty of the fishermen also adds to the menace. The Fisheries Policy of 2020 also does not adequately address the issue of IUU in India. Along with, Letter of permit policy must be scrapped immediately to check IUU fishing in India.¹⁴²

VI. Recommendations

To deal with the issue of Environmental Crime domestic measures have to be in consonance with international control mechanisms as they are transnational crimes. Some of the measures could improve the “effectiveness of domestic enforcement programmes”. These include:

- a wide national control regime;
- effectiveness in national capacity building strategies;
- targeting blatant violators;
- increase in sanctions and introduction of the probation penalties;
- improvement in case processing;
- motivating agreement through effective incentives;
- including supply chains and processing chains in the enforcement strategies.

7856/#:~:text=The%20study%20estimates%20that%20nearly,per%20(last visited on August 05, 2020).

¹⁴² *Supra* note 79.

- Proper resources must be lent to ensure productive enforcement. In the cases of tax evasion improvement of enforcement may construct an immediate increase in revenues.
 - Lack of knowledge and training must be addressed by organising training programmes using a “cascade approach of training-the-trainer”, organising refresher courses, and a collaboration of the specialised prosecutors and investigating officers.
 - Criminal profiling is important for “focused enforcement efforts”.
 - *“Clear processes can be set up to allow field observation and intelligence from industry informants, the public and NGOs, to be relayed through appropriate government and enforcement agencies”.*
 - Special enforcement units have a huge impact in collecting intelligence, conducting market surveillance, “pursuing allegations of corruption and prosecuting complex corporate investigations”.
 - Proper funding is vital for long-term planning strategies.
- So far as the Indian scenario is concerned comprising of the five kinds of environmental crime the following suggestions may be considered:
- Wildlife Protection Act, 1972 be adequately amended to include exotic species and exotic animals to curb illegal trade of wildlife in a better way.
 - A specific legislation be brought into force for dealing with the illegal trade of ozone depleting substances and licensing officials be subject to stringent punishment in case of corruption.
 - Proper infrastructure for disposal and recycling of domestic hazardous waste and complete ban on recycling of any hazardous waste imported.
 - Better facilities to persons handling hazardous wastes including protective gear.
 - Fisheries Policy and Laws to be made more stringent towards illegal fishing, unregulated fishing and unreported fishing. Specific Enforcement Units be formed for the purpose.
 - Illegal logging and trade in timber is still dependent on archaic laws which

do not address the issue adequately. Hence new legislation be drafted for the same.

in general and particular to India is hoped if implemented shall address the issue to a great extent.

VII. Conclusion

Strictly not a white-collar crime, environmental crimes can thus be understood as transnational crimes which affect the environment in a detrimental manner. *“Environmental crime covers acts that breach environmental legislation and cause significant harm or risk to the environment and human health”*¹⁴³. Main areas of environmental crime are the illegal trade in wildlife; trade in ozone depleting substances; illegal, unregulated and unreported fishing, shipment or dumping of waste and illegal logging and trade in timber. *“Environmental crimes are not victimless. The economic, environmental and health impacts of illegal trade can be sufficiently important to disrupt whole economies and ecosystems, undermining legal and environmentally sustainable activities and reducing future options for the use of resources.”*¹⁴⁴ India is one of the most populous and developing countries which has faced environmental crimes. It has dealt with some efficiently in its legislative framework while failed to address some miserably. The drawbacks pointed out and the recommendations made

¹⁴³<https://ec.europa.eu/environment/legal/crime/index.htm>

¹⁴⁴ OECD Trade Policy Studies Illegal Trade in Environmentally Sensitive Goods