

A LEGAL DISCOURSE ON THE RELATIONSHIP BETWEEN CRIMINALITY AND ENVIRONMENT

¹DR. BAHADAR ALI, ²DR. MUHAMMAD ASIF KHAN & ³MR. ARSHAD NAWAZ KHAN

¹Lecturer Department of Law University of Malakand, Khyber Pakhtunkhwa (Email: babakhail@uom.edu.pk).

²Associate Professor, Department of Law School of Social Sciences and Humanities Islamabad email: asif.khan@s3h.nust.edu.pk

³Assistant Professor School of Law Quaid I Azam University Islamabad, (Corresponding author Email: ankhan@qau.edu.pk)

Abstract

There is no doubt that crime is one of the most serious challenges ever mankind faced with, it is the general feeling that the curse of crime is increasing and the situation is deteriorating. Though attempts have been made to reduce the ratio of crime from many angles like through policy implementation and punishments, but this paper tries to highlight the relationship between crime and environment. The paper commence with a brief overview of environment; how human being interacts and changes the environment, and goes further providing a brief discussion about the interaction between crime and both natural as well as physical environmental factors. The paper is focused on the concept of environmental justice and examines the complex relation between crime and environment and leads to control crime through environmental design. It is hoped that this information should help in developing the new and innovative ways to better serve our community.

Key Words: *Crime, Environment, Physical Environment and Environmental Design.*

Objectives of the Paper

The paper is designed to get the following Objectives:

- To reach at the meeting point of relationship between crime and environment;
- To consider that how can this relationship be used for overcoming social as well as environmental crimes in the community;

Methodology

The Topic “Interaction between Crime and Environment” is basically a qualitative study. Here an exploratory method of research is adopted for the purpose of thorough analysis of relationship between the crime and criminal attitude on environment. For the purpose of this paper secondary data in the form of books, articles, news, civil society reports, journals and other government’s annual publication were collected and analyzed to explore the issue in hand.

Introduction

If you are an animal lover or a tree hugger or neither of both; no matter your opinion of the environment, the fact is, there are still crimes being committed against the environment. The Environmental crime is, by definition, a crime that effects the environment negatively. This includes illegal poaching, wildlife trade, trade of hazardous waste, unregulated fishing, illegal logging and timber trade.¹ Environmental crime holds forth position at in terms of largest crime enterprise over the globe, and the unlawful trade in wildlife products is cost between 7 billion and 22 billion per year. More than 4,000 Rhino horns have been illegally exported for Africa since 2012, the prohibited logging profession is costing 46 billion to 173 billion per year, and illegal logging is threatening endangered species with extinction.² The transferring of dangerous waste generate 10 billion to 12 billion annually, 43 million tone of dangerous electric waste is discarded unlawfully annually includes old mobile phones, computers and televisions. The global funding available to fight environmental crime is just 18 to 26 million dollars per year.

¹ Clarke R, *Situational Crime Prevention: Successful Case Studies* (2nd Edn Harrow and Heston 1997).

² Arthur john and Marenin, ‘*Explaining crime in developing countries: The need for a case study approach*’ *Crime, Law & Social Change*, 23 (1995) 191–214.



Trafficking wildlife and timber often occurs in developing countries, where government can't regulate the crimes. This, along with the fact that a lot of money is made from trafficking, is why these crimes are still happening. Losing timber is not only a problem for the environment as a whole, but for the animals that lives in the habitat and depends on the trees. Black rhinos are critically endangered, mostly because of poaching. About 96 per cent of African Black rhinos were killed backed in 1970 to 1992.

Environmental crimes are not just trading and poaching endangered species. Another crime is the trade and dumping of hazardous waste. Hazardous waste is a huge problem for both human and animals.

It can go into soil, and make crops toxic; waste can also make water un-drinkable which would be a problem for everyone. In 2013 the Walmart plead guilty to illegally handing and disposing of hazardous waste. They had to pay 110 million dollars in total for violating environmental laws. In a garden section Walmart, a young boy played in some fertilizer, which contained ammonium sulphate which causes irritation to skin, eyes and respiratory tract.

Walmart employees are now trained to properly dispose of fertilizer and other hazardous materials. Another common environmental crime is illegal logging. 80% of forests are already destroyed or decayed in Indonesia, and 90% of the logging is illegal. 1.6 billion People depend of forests for their livelihood; the animals that depend on timber are usually endangered. Illegal logging is occurring because of the poor control and corruption in the countries that produce it, there is also a high demand for timber products.

1. Environmental Factors on Crime and Criminal Behavior

it has been observed that there multiple factors leading to a criminal, anti-social and violent behavior among which social factor is on the top such as poor educational background, instable family, un-employment, isolation, and poverty. Though, in this regard the role of environmental factors cannot be ignored as well, but still it has captured little attention in exposing the reasons behind violent and criminal behavior.³ There is a serious need to understand the relationship among Environmental Pollutant, developmental neurotoxicities, neurocognitive and behavioral outcome. Some of the environmental factors are enlisted and documented which are resulting in a similar way of neurobehavioral effect which includes lowering down the Intelligence Quotient, shortening attention spans, and also increasing frequency of the anti-social behaviour.⁴

Here geographical location also influences the criminal behaviour as ratio and profile of a crime varies from place to place and localities at macro as well as at micro levels. It can be attributed to regional as well as on high level in terms of demographic, social and economic conditions. For the purpose to managing and preventing the crime, understanding the linkage between the two is very important.⁵

1.1. Environmental contaminant versus Intelligence Quotient

Researches has shown that clear exposure to lead at the early stages is responsible for lowering down the Intelligence Quotient and teeth of the children and this was same in almost all countries of the world.⁶ It has resulted in negative and adversely affecting the cognitive functions in the adults also. According to a research in India people faced with arsenic in water were faced with the problems of object assemblies, vocabulary developments and cognitive functions. In the same way

³ Needleman Gunnoe C, Leviton A, Reed R, Peresie H, Maher C, et al, *Deficits in psychological and classroom performance on children with elevated dentine lead levels* (N Engl J Med 1979;300) 689–95.

⁴ Weuve J, Korrick SA, Weisskopf MA, Ryan LM, Schwartz J, Nie H, et al, *Cumulative exposure to lead in relation to cognitive function in older women*(Environ Health Perspect 2009;117) 574–80.

⁵ Rodriguez VM, Jimenez-Capdeville ME, Giordano M, *The effects of arsenic exposure on the nervous system* (Toxicol Lett 2003;145)1–18.

⁶ Debes F, Budtz-Jørgensen E, Weihe P, White RF, Grandjean P, *Impact of prenatal methylmercury exposure on neurobehavioral function at age 14 years* (Neurotoxicol Teratol 2006;28) 536–47.



it is quite interesting that the cognitive functions of the smokers are comparatively lower to the non-smokers.⁷

1.2. Lead Disclosure and mental retardations

It has also been noticed that the children exposed to lead are comparatively lower in terms of Intelligence, in particular in the areas of high gas emission areas.⁸

1.3. Effects of environmental contaminants on behavior

Ultimately a reduced Intelligence Quotient results in shortens the attention spans, promotions of Hyperactivities, increasing the impulsive and violent behaviour and reduction in overall performance. People having short attention are experienced with the high problems in their behaviour, while the ignorant people are more rough and anti-social as compare to the educated people.⁹ Still there is a great need for conducting a behavioral study as to come out with solid findings that how these environmental pollutants bring a change in human behaviour.

1.4. Possible Association between IQ and Violence

A low intelligence is responsible for a variety of risks in life; similarly, an increased intelligence lower downs the risk of general anxiety and disorder. Furthermore, the research shows that an increased Intelligence Quotient works as protector against involving in serious crimes and criminal behaviour.¹⁰ Data available analysis the relationship of lead with people behaviour, here there is a need to conduct research on other Environmental Contaminants as it is hypothesized that it might have the same effect on shortening attention spans and decreasing the abilities to handle the frustration.¹¹

a. Family

Family is the most influential element of children growing up, before school, family is the one concept that is experienced daily by children. Children learnt from their parents, this is same about single and multi-parent families. One of the biggest influence on parents and their children is the economic struggle. Economic hardship lead to pressure and that pressure can lead to distress behavior. Children pick up this behavior and develop emotional and behavioral problems. Extended families also influence the family environment overall. Children who have brothers or sisters can commit criminal activities also has a higher likelihood of wanting been just like them. The family environment can be a toxic place and a breeding ground for crime if adults in the family so not set proper standards.¹² It starts with economic hardship which results in pressure; this pressure leads to emotional and behavioral problems which disrupts the family relationships. The overall impact of this is the development of behavioral and emotional issues in the children.

b. Unstable Neighbourhoods

Neighborhood that are disorganized can also lead to environmental disorder, where the family environment is more localized and can be isolated, disorganized neighborhood can have a wide-spread effects. Residential location close to the high crime areas is more likely to have individual fall victim into lives of crime.¹³ These environments have two major effects relating to violent

⁷ Axelrad DA, Bellinger DC, Louise MR, *Dose–response relationship of prenatal mercury exposure and IQ: an integrative analysis of epidemiologic date* (Environ Health Perspect 2007) 609–15.

⁸ Nevin R, *Trends in preschool lead exposure, mental retardation, and scholastic achievement: association or causation?* (Environ Res 2009; 109) 301–10.

⁹ Grandjean P, Weihe P, White RF, Debes F, *Cognitive performance of children prenatally exposed to “safe” levels of methyl mercury* (Environ Res 1998;77) 165–72.

¹⁰ Martin LT, Kubzansky LD, LeWinn KZ, Lipsitt LP, Satz P, Buka SL *Childhood cognitive performance and risk of generalized anxiety disorder*(Int J Epidemiol 2007;36) 769–75.

¹¹ Kandel E, Mednick SA, Kirkegaard-Sorensen L, Hutchings B, Knop J, Rosenberg R, et al, *IQ as a protective factor for subjects at high risk for antisocial behavior* (J Consult Clin Psychol 1988;56) 224–6.

¹² Branting Ham P, *Environmental Criminology* (4th edn, Waveband Press 1991).

¹³ Mistry Brown, ‘Falling crime, rising Fear – 2003 National Victims of Crime Survey’ (Institute for Security Studies SA *Crime Quarterly* No 8. Pretoria, 2004) paras 3.12–3.17.



behavior on adolescents who grow up in poor and disorganized neighborhoods; the chance of their marriage is reduced when it is about making a transaction at second point. It is also proved from the research that growth in a disorganized and poor neighborhood does affect the lifestyles and behavior of adolescent. A major thing in a disorganized neighborhood is the house-hold income, absent students and vacant properties are there with the terrifying statistics at the bottom that 23 violent crimes for every one thousand people in the community.

c. Media and Technology

One influence that affects both adolescent and adult is media. Media and technology are integrated parts of our society. At young and younger age now, children are learning the use of different kinds of technologies, on average about 8 to 18 years old people use media for 6 hours and 25 minutes every day, often using multiple media at the same time. That lack of in-person social interaction can lead to any social behavior. The people did not know how to interact with one another; conflict is bound to happen then. With the rise of social media platform and on-demand services actual human interaction is becoming less and less mandatory. Media in the form of News also create environment that is more susceptible and fearful of crime. Take the Columbine mass murder in 1999 for example, yes there were mass murders before that shooting and yes there were mass shooting afterwards. This was the first instance of a shooting in an era when the internet started to come into every household and 27 news stations were in abundance.¹⁴ It means that the media outlets also alert motivated individuals to the fact that crimes can absolutely be committed in the right circumstances. The coverage that the shooting guns lead other has similar ideas and plans to know that the shooting of the skills were possible with the right plans and conditions.

d. Weather

It's long been known that temperature directly relates to increasing violent behavior in jail and prisons, but how does that relate to the real world? The several years studies in Dallas aimed to track those violence crimes such as homicide assaults and sexual assaults, the result clearly shows the relationship between the increase of temperature and the number of daily violent crimes. It's important to note that the temperature change doesn't just drive normal people to the point of crime. Individual who fit into different criminal behavior theories, who already thought about committing the crimes, might have committed through many ways but that does point out the relationship between the increases in the temperature and increase the violent crimes.

Human Environmental Interaction; How do People and the Environment Shape One Another

People adapt to the environment, means they changed something about themselves to fit the environment. You wear clothes to fit to the weather, the architecture and the shelter you built to protect yourselves from the weather you living in, the transportation, you need the job, the food and you need the types of recreations means the activities you do at free times. If you live by the ocean, your recreation will be much different than the people living in the mountains.

a. People Use the Environment

The next step that the people use the environment they have, the resource means the oil, wood and water. Similarly human beings eat foods like various animals, eat the crops and the fishes etc. The shelter the caves and houses and the clothing includes cotton, wool animal skins. Same is the case with transportation, jobs recreation and medicines and fragrances that exists there in the environment they use.¹⁵

b. Resources

Resources are of two kinds; the renewable resource which is called a natural resource that can be replaced or even used again like the solar power and the wind and can be replaced with wood or timber, and the non-renewable resource which is again a natural resource that has limited supply and cannot be replaced. Once it's gone, it cannot be renewed.

¹⁴ Cornish and Clarke, 'Opportunities, precipitators and criminal decisions: a reply to Wortley's critique of situational crime prevention' (*Crime Prevention Studies*, 16, 2003) 41–96.

¹⁵ Dixon Brose, *Development, crime prevention and social policy in post-apartheid South Africa. Critical Social Policy*(2nd edn Oxford 2006) 169–191.



c. People change their Environment

People often change their environment to suit their needs. You change the Environment when you hunt or fishing, for which you have to move from place to place and make different species displaced from their natural heritages, and you, are taking animals from the environment that they are naturally there.¹⁶ War has a very huge effect on the environment in the shape of pollution; a canal is a very narrow man-made passage way through a very thin strip of land so boats can get through that definitely changes the environment. Building cities has a huge effect on the environment. It changes a lot that use to be alike, ultimately trees are cut down in order to make a land vacant for the purpose to construct a building.

Crime and Environmental Overview

The relationship between crime and environment has attracted the interest of leading criminologist and scholars focusing on the point from two different angles; one is the legal procedural addressing the harm with reference to the rules and provisions provided by the law and the other is that privilege which constitutes a social damage.¹⁷ Now taken in a broad since the former angle covers the laws concerned with water contaminations, air pollution, deforestation, natural resources, soil and protecting the biodiversity which come under the umbrella of Environmental Crimes, while the later deals with other harmful practices which might or might not summarized in prevailing criminal laws, but does come under the preview of white collar crime and other hurdles in the human rights which the state considers as a legitimate base for taking actions against them.¹⁸ This approach covers a verity of action which though might be permissible but are not environmental friendly, like putting various animals for testing experiments, vivisections, sprawling and selling or trafficking pesticide, pharmaceutical prohibited in the under developed states having no regulations and the conflicts of wars and the like practice, activity or offence might also be covered under the theme of Environmental Crimes.

The conceptual division remains the same but some Scholar take different approach about crime and environmental relationship. For instance Lynch and Stretsky hold the view of Green crimes and corporate perspectives, which is very similar to procedural and legal approach. Similarly they have an environmental justice approach, akin to social legal tactic. In their view point the prohibited action by the corporations that they commit in the furtherance of their business must be subjected to criminal prosecution and penalties. On the other hand the concept of environmental justice might not cover those actions which does not violate the prevailing law in itself but that might result in human as well as in environmental harms. This concept of socio legal has helped in inquiring the relations between environment and the crimes, harm focused investigation does not completely explore the relation between the two. Just like the Environmental criminology which is concerned with the spatial aspect of the crime only. Different kinds of environmental designs are oriented about criminals slightly of crime --- about the feature of social and natural environment which affects the psycho social condition somewhat of opportunity. The CPTED (Crime Prevention through Environmental Design), nor Environmental Criminology and the work of HERL (Human Environment Research Laboratory) contemplates damage to environment and does these actions are statutorily prohibited. Yet all of them constitute the examples of crime and environmental relationships.

Types of relationship between Crime and the Environment (The Legal Procedural Method)

A. Major Environmental Enactments

Without giving it a proper or new name, like environmental crimes or green crime the relation between environment and the crime is not a new one, as per South statement the matters of

¹⁶ Shaw M & Louw A, *Environmental design for safer communities: preventing crime in South Africa's cities and towns. ISS Monograph No. 24*, Institute for Security Studies (1998).

¹⁷ Clarke R V, *Situational Crime Prevention: Successful Case Studies*, (2nd edn, Harrow and Heston 1997).

¹⁸ Anna Alvazzi del Frate & Jennifer Norberry, 'Rounding Up: Themes and Issues, In Environmental Crime, Sanctioning Strategies And Sustainable Development', (Anna Alvazzi del Frate & Jennifer Norberry eds., U.N. Interregional Crime & Justice Research Inst., Publication No. 50, 1993).



environment dealt in the early stages were on the base of resources statute, through civil code and through public health matters or even in some cases by criminal laws. Even now if we refer to any book written on the matter of protection on the natural resources, water, air and soil it shall contain the provisions providing for sanction in case of failure provided in the statutes, provides the penalty in civil as well as in criminal both fine and imprisonments.

There are verity of statutes¹⁹ and means through which environmental harm is controlled. The basic purpose of these enactments is to control the polluters and impose some liability on the polluter in case of releasing hazardous substance. To make him pay for the cleaning up, redresses and cost of his wrongful act.²⁰

B. Lesser- Known Environmental Laws

Some mostly neglected laws are those which though primarily enacted to protect other rights not environment in particular (law for soil, air, land and water pollution control) but indirectly beneficial to environmental protection, for instance laws enacted for illegal drug trafficking, cutting timber and forbidden crops etc. Since these acts does not fall in pure environmental protection, it is therefore called the lesser known environmental laws rather than pure environmental protection laws. There are many examples of lesser known environmental laws.²¹

a. Criminal Laws with Unintended Environmental Impacts

In addition to the laws expressly protecting environment and other lesser known environmental protection laws there are some laws which protect environmental degradation indirectly. Though these laws and policies were primarily enacted to regulate the conduct of the society and not the environment, yet it has a strong impact on the environmental protection; for instance the use of illicit drugs, as firstly the productions of methamphetamine might cause fatal environmental harms. Secondly the cocaine has four basic negative impacts on the environment. (1) Before starting it cultivation deforestations with the basic method of burning the land to clear it, (2) the erosion process at the high rain areas (3) water contamination as to the use of pesticide, fertilizer and high chemical use in this process and (4) by destructing valuable genetics fauna and flora resources.²² This illicit drugs production is resulting in great environmental issues, like it is resulting in crops destruction which is the basic means of human survival it is resulting in human health problems. It is clear from the examples that the relation between the two is very basic and interrelated as the violation of the laws is directly related to the environmental harm and should be considered as a legitimate base for punishment.

b. Regulatory Regime Produces Unintended Criminogenic Effects

¹⁹ The Toxic Substances Control Act, which deals with the manufacture and use of toxic substances; the Clean Air Act, the Federal Water Pollution Control Act (commonly referred to as the Clean Water Act), and the Solid Waste Disposal Act (as amended by the Resource Conservation and Recovery Act), all of which address waste discharge; the Endangered Species Act; and the Federal Land Policy and Management Act and the Marine Protection, Research, and Sanctuaries Act, which attempt to protect natural resources and/or biodiversity; the Emergency Planning and Community Right-to Know Act; the Noise Control Act; and the Occupational Safety and Health Act. In addition, Section 202 of the National Environmental Policy Act, also known as the Pollution Prosecution Act of 1990.

²⁰ Note that CERCLA regulates unintentional emissions and releases of hazardous substances, rather than just planned or permitted emissions. Unlike RCRA, which pertains to the *prospective* handling and management of hazardous waste and solid waste stream, CERCLA is *retrospective*, regulating the remediation of spills or releases of hazardous substances. The distinction between “waste” and “substance” is key— CERCLA deals with hazardous *substances*, which may not be wastes *per se*.

²¹ Federal Meat Inspection Act (1958); the Humane Methods of Livestock Slaughter Act (1958) (also known as the Humane Slaughter Act); the Horse Protection Act (1970); Wild Horses and Burros Act (1971); the Food Security Act (1985); the Health Research Extension Act (1985); and the Pet Protection Act (1990), among others. While the Animal Welfare Act (1966, as amended in 1970, 1976, 1985, and 1990).

²² Rosa Del Olmo, ‘*The Ecological Impact of Illicit Drug Cultivation and Crop Eradication Programs in Latin America*’ (1998) 2 *Theoretical Criminology* 269, 270–72.



As per Brak point of view environmental crime is the name of a deliberate action of an individual when he willfully violates environmental law for the purpose to get his personal profit, and if same is done at the international level then according to him amounts to an International Environmental Crime. The definition becomes fit on the companies manipulates their interest resulting in environmental degradation as it is used in a very broad sense to protect environment. Improper disposal of waste material, production of unlawful product, endangers species, poaching, timber cutting and Ozone depletion can be legitimately covered under the umbrella of environmental crimes. This is basically a mutually profitable interdependence, organized crime and lawful business exists in expand symbiotic relationship, at the highly commercial areas of unlawful waste disposal and transfer,²³ it suggest a complicated linkage between crime and the environment.

c. Regulatory Regime Blocks Certain Environmental Benefits from Occurring

The rules and regulations enacted for the protection of environment might come out with some criminogenic side effect, might result in the very reverse processes. The legal regime mentioned in the start varies in term of success concerning environmental protection and from the reduction of environmental degradation view point. Similarly the ability to achieve the aim must not be linked with the warning effects of criminals or other penalties provided under the civil procedures by the state administrators. The section is aimed to point out the possible areas and the emerging and operating means of environmental black market.

d. “Ecocide” Under the Socio-Legal Approach to Harm

Ecocide is the name of a process in which the ecosystem is destroyed by the intentional or unintentional actions of an organism. However this term is used to for biological process as well as for eco-war describing the environmental destructive actions and practices of human being and the state actions in broad terms causing adverse impact on the environment due to industrializations, pollutions and technical processes as well as military conflict or wars.²⁴ Military conflicts or war bring irreparable loss to the environment, resulting in mass stand events, whale death and killing the marine life.²⁵ The case is revealed in the socio-legal approach; in fact the ranking system is challenged in the socio-legal system. As per Stretsky and Lynch point of view there is a need of redirect attention about the serious widespread environmental issues instead of normal crimes, as environmental crimes are direct threat to mankind and the communities.²⁶

e. Ecological Factors

The interaction between man and his activity is sometimes influenced by the ecological factor as well. Physical environment and the surroundings like, topography, geography, crowding, recreational opportunity and pollution which plays a key role in developing fear, hostility or well-being. It helps in determining the opportunities of crimes as they provide options like a dark and lonely parking, crowded subways etc.

²³ For additional perspectives on why organized crime expanded its solid waste operations into other aspects of the waste-handling industry and how they succeeded in protecting their illicit affairs, see, for example, Alan A. Block & William J. Chambliss, *Organizing Crime* (1981).

²⁴ Falk, ‘*Environmental Warfare and Ecocide—Facts, Appraisal, and Proposals*’ 4 *Security Dialogue* 80, 80–96 (1973) (describing how targeting the environment was a specific military strategy during the Vietnam War).

²⁵ Editorial, ‘*Whales in the Navy’s Way*, N.Y. Times, Jan. 22, 2008, at A20; Carolyn Marshall, *Judge Imposes Stricter Rules On Navy to Protect Marine Life*, N.Y. Times, Jan. 5, 2008, at A8; Jesse McKinley, *White House Exempts Navy from Sonar Ban, Angering Environmental Groups*, N.Y. Times, Jan. 17, 2008, at A18; Jesse McKinley, *Judge Reinstates Rules on Sonar, Criticizing Bush’s Waiver for Navy*, N.Y. Times, Feb. 5, 2008, at A20; Natural Resources Defense Council, *Issues, Wildlife: Protecting Whales from Dangerous Sonar*, <http://www.nrdc.org/wildlife/marine/sonar.asp> (last visited Mar. 28, 2008). See generally Michael Janofsky, *Pentagon Is Asking Congress to Loosen Environmental Laws*, N.Y. Times, May 11, 2005, at A14.

²⁶ Lynch & Stretsky, *supra* note 5, at 231.



Crime Prevention through Environmental Design, and the Impact of the Environment on Crime

The above sections of the paper deals with the relationship of crime with natural environment, contemplating the harms to water, air and soil etc. Here environment denotes the meaning of surrounding conditions though it may include natural environment but here focus is given on built and physical environment. Spatial aspect of the crime is the central point of discussion here, which is, as to how and whether the absence and presence of various opportunities makes the deference in the commission and occurrence of a crime. This concept is not a uniform concept as the surroundings plays a vital role in the commission of the crime. According to Micheal, Hull and Zahm's case studies the environmental factor influences the opportunity of auto burglary, like the patrolling of the park, surroundings, access and the criminal behaviors. According to them information and knowledge about a place allows the offenders to decide about an offence.²⁷ On the other hand Crime Prevention through Environmental Design provides about the strategy to influence and creating hurdles for the offenders about the commission of a particular crimes. Such as hardening the efforts by installing bars, by improving physical stricter of the built spaces, increased detection steps like the security cameras, TV monitors, security guards and police etc. So environment and crime has related here, hence the loss of green space can reduce the site qualities and some other negatively crime consequence.²⁸

CONCLUSION

Kenney argue that still the Environmental Justice Movement is far behind to combat with social inequalities and environmental degradation. Many suggestions are given on environmental justice by Brulle and further go for the investigations of wide-ranging as well as multi-disciplinary and inter-connectedness approach of ecological phenomenon. The criminology should identify the limited nature of global resources and its fitness with overall socio economic trend having the profound implication for communal sciences. For the purpose to embracing environmental, animal and human rights problem related projects there is a need of intellectual extensiveness as well as constitutional interplanetary in the criminology of the century. Environmental problems has a variety of issues open for multidiscipline both for social as well as for natural sciences and requires uniform collaboration from every field whether it is the field of criminology, geography, biology, health, human rights, law or any other professional field.

There is a very complex and diverse relation between crime and environment; it needs further investigations and analysis for the purpose to highlight it. It might be helpful in pointing out the central point and to make the enjoyment of health and save environment easier. There is an instant need of participation by the people and sharing their ideas and energy to bring about the environmental justice. This will open new doors of co-operation understanding the relationship between environment and crime and overcoming this curse.

BIBLIOGRAPHY CONSULTED MATERIALS

- [1] Anna Alvazzi del Frate & Jennifer Norberry, 'Rounding Up: Themes and Issues, In Environmental Crime, Sanctioning Strategies And Sustainable Development', (Anna Alvazzi del Frate & Jennifer Norberry eds., U.N. Interregional Crime & Justice Research Inst., Publication No. 50, 1993).
- [2] Arthur J, 'Explaining crime in developing countries: The need for a case study approach' *Crime, Law & Social Change*, 23 (1995).
- [3] Branting P, *Environmental Criminology* (4th edn, Waveband Press 1991).
- [4] Clarke R V, *Situational Crime Prevention: Successful Case Studies*, (2nd edn, Harrow and Heston 1997).
- [5] Clarke R, *Situational Crime Prevention: Successful Case Studies* (2nd Edn Harrow and Heston (1997).
- [6] Clarke R, *Situational Crime Prevention: Successful Case Studies* (2nd Edn Harrow and Heston (1997).
- [7] Dixon B, *Development, crime prevention and social policy in post-apartheid South Africa. Critical Social Policy* (2nd edn Oxford 2006).

²⁷ *Id.* at 370, 382, 385.

²⁸ Michael, Hull & Zahm note that almost 5 percent of all violent crimes reported in the United States take place in parks and other outdoor places [v]egetation removal . . . may not disrupt the offender's routine.



- [8] Mistry Brown, *'Falling crime, rising Fear - 2003 National Victims of Crime Survey'* (Institute for Security Studies SA Crime Quarterly No 8. Pretoria, 2004).
- [9] Shaw M & Louw A, *Environmental design for safer communities: preventing crime in South Africa's cities and towns. ISS Monograph No. 24, Institute for Security Studies (1998).*
- [10] *The Clean Air Act, 1990.*
- [11] *The Emergency Planning and Community Right-to Know Act, 1986.*
- [12] *The Federal Water Pollution Control Act, 2011 (commonly referred to as the Clean Water Act).*
- [13] *The National Environmental Policy Act, also known as the Pollution Prosecution Act of 1990.*
- [14] *The Solid Waste Disposal Act, 1965 (as amended by the Resource Conservation and Recovery Act).*
- [15] *The Toxic Substances Control Act, 1976.*