



MAJOR ENVIRONMENTAL CHALLENGES IN INDIA

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Abstract

The Environmental issues in India are enormous. Environmental issues can be discussed at different level despite of having similar causes and effects. Environmental pollution has become serious trouble in the country. We are facing many environmental problems that could affect the development of our country at national level. Now days, India experience rapid and wide spread environmental degradation at alarming rates. In this paper, I analyse the main issues, causes and consequences of the main environmental problems in India related to air pollution, water pollution, land pollution, deforestation etc. pure air is essential for our health. Air pollution is the presence of harmful foreign substances in the atmosphere, emitted by both natural and human activity sources. Water pollution is the contamination of water bodies. This form of environmental degradation occurs when pollutants are directly or indirectly discharged into water bodies without sufficient treatment to remove harmful compounds. Land is an important resource. Land pollution means the misuse of land by human beings. Deforestation means the cutting down of trees without realizing its manifold evils and destructive effects.

Key Words: *Environment, Air, Water, Land, Deforestation, Agriculture, Forest and Pollution.*

Introduction

India is considered as a country which is uniquely rich in all aspects of biodiversity, species and genetics. India is one of the world's extra-large diversity centers. But, all the ecosystems are under pressure. The Environmental issues in India are enormous. In the last two decades, environmental problems have attracted the attention of a wide cross section of people all over the world. Conserving the biodiversity of India from the on slaughters of human activities is another challenge before us. Environmental pollution has become serious trouble in the country.

Today, our country is questioned with a number of environmental concerns which have only worsened in the last few decades. The main environmental problems in India related to air pollution, water pollution, land pollution, deforestation etc. particularly in metropolitan cities and industrial zones (Carson 2002). In India, efforts are being made on for the environmental management in a sustainable manner. At all levels of education provisions have been made for the knowledge of environment and its conservation (Bryant 1995). Air Pollution, water pollution, land pollution, deforestation and the disposal of plastics and other waste materials are some of the major environmental concerns India grapples today.

I. Air pollution

Fresh air is essential for our health. Air pollution is one of the most horrible scourges to that affect India. It is now a serious problem for those living in big, congested, industrialized cities with heavy traffic. It is the emission of gases such as oxides of carbon, sulphur and nitrogen or any foreign materials in the air beyond imposed limit, which are harmful for man, vegetation, animals or buildings. Air pollution is the presence of harmful foreign substances in the atmosphere, emitted by both natural and human activity sources (Carson 2002). It is the leading cause of numerous diseases. During the past few years, air pollution has emerged as one of the leading causes of death worldwide. It is the presence of unwanted substances in the air which is harmful for both human and animal health. Air Pollution is the condition in which the quality of air deteriorates to an extent that it becomes difficult to breathe. For example, the emissions from industries and motor vehicles pollute the air to an extent that causes spoil to living organisms.

Causes of air pollution

The most significant gaseous pollutants of air are carbon monoxide, oxides of nitrogen and sulphur, hydrogen sulphide, fumes of acids, paints, smoke etc. Major solid pollutants of air are dust particles, un-burnt carbon, lead cement and asbestos. The major causes and sources of air pollution are discussed below:

- The main cause of air pollution in big cities and industrially advanced countries is the automobiles -cars, motor vehicles etc. (Colls 2002).
- The burning of coal or other fossil fuels release significant amount of sulphur dioxides into the air. During rain, sulphur dioxide combines with water to form sulphuric acid. This is known as acid rain. It decays monuments, green plans etc.
- Certain air pollutants such as spore or cells of fungus and lower plants, volcanic gases and marsh gas are produced in nature.
- Agricultural activities as crop spraying and weed control are responsible for the emission of organic phosphates, arsenic, and lead into the air.



The air is polluted in diverse methods; it is polluted through industrialization, urbanization, and motorization (Harris 2004). It is polluted by thermal plants, fitting of chemical and petrochemical plants and speedy increase of motor vehicles, deforestation and use of modern weapons. Greenhouse gases released by large industries are also the causes of air pollution. The main contributor of air pollution in India is the transport system, the asthma rate for children in some of the larger cities is now rising fast (Currie 2012). Major sources of air pollution are both natural sources and man-made sources. Pollutants from natural sources are volcanic pollutants, land surface pollutants, the cosmic particles and rays, comets, etc green plants and vegetation. The man made sources are industrial air pollutants, domestic air pollutants, vehicular pollutants, agricultural activities, pollutants from fossil-fuel based power plants.

Consequences of Air Pollution

The effects of air pollution can be seen in Human Beings, Fauna and Flora and Environment and Atmosphere

- Poor immune system in humans
- It worsens respiratory diseases such as asthma, increases the chances of allergies, causes various cardiac diseases etc (Giles 2011).
- The buildings look dirty.
- Growing hair fall problems and early signs of age and dull skin

Some ways to prevent Air Pollution

The anticipatory measures to control Air Pollution are discussed below:

- Non- renewable energy sources produce air pollution. Burning of fossil fuel, coal and natural gas produce harmful gases that add up to air pollution and keep forests and grow more trees.
- Use of solar energy based equipment.
- It would be wise and beneficial to follow the strategy of 'carpooling' where a group of people travel in a car rather than using individual cars.
- Bicycles do not use or burn any fuel and contribute in avoiding of air pollution.
- People should use electric, hybrid and energy efficient vehicles as they produce zero direct emissions, thus, helping in the prevention of air pollution.
- Proper maintenance and servicing of vehicles helps in limiting excessive harmful releases like carbon monoxide, nitrogen oxides, hydrocarbons, etc., from vehicles (Liu 2000).
- Efficient garbage disposal systems should be arranged at various public places so that the garbage can be disposed in the right way.
- make individual efforts towards prevention of air pollution by replacing plastic bags with paper bags, plastic containers with steel or ceramic containers, plastic crockery with glass or steel crockery and similar other replacements.
- The forest cover should be protected. Sufficient forest cover is essential for maintaining the quality of air.
- Green belts should be produced. Such areas should be developed around densely populated cities.
- Use of railway steam engine should be stopped. Electric engines should be used instead of steam or diesel engines.
- Industrial areas should be located at a safe distance from the residential areas.
- Newly designed smoke free furnaces should be used.
- Forest fires should be checked. Sufficient preventive measures should be adopted to protect the forests.
- Industries should take proper precautions to prevent air pollution.
- Cheap devices for controlling air pollution should be developed.
- Air pollution can be checked only through the joint efforts of the government, non-government organizations and the general public.

II. Water pollution

Water pollution is the contamination of water bodies (e.g. lakes, rivers, oceans, aquifers and groundwater). This form of environmental degradation occurs when pollutants are directly or indirectly discharged into water bodies without sufficient treatment to remove harmful compounds.

Causes of water pollution

Water pollution can occur via numerous mechanisms, but the most common causes are dumping industrial waste and sewage into bodies of water, along with the use of toxic substances in agriculture that runs off into rivers. There are also less common causes of water pollution like accidental oil spills (Rangarajan 2007). Water pollution is caused by chemical and industrial waste, agricultural waste, trash, mining activities, waste and sewage water, accidental oil leakage, marine dumping and



energy use (Shiva 1991). Many kinds of human activities cause water pollution, making it a complex problem, include a factory chimney discharge, an oil leakage from a tanker, a discharge pipe connected to a factory or a person pouring oil from a vehicle down a drain. This contains traffic pollution, acid deposition in the air and pollutants that enter water through rivers and groundwater. This type of pollution is more difficult to control as the sources cannot be traced.

- Industries produce huge amount of waste which contains toxic chemicals .They contain pollutants such as lead, mercury, sulphur, asbestos, nitrates and many other harmful chemicals (Ross 2010).
- The sewage and waste water that is produced by each household is chemically treated and released in to sea with fresh water.
- Mining is the process of crushing the rock and extracting coal and other minerals from underground.
- The garbage produce by each household in the form of paper, aluminum, rubber, glass, plastic, food if collected and deposited into the sea in some countries.
- Oil spill pose a huge concern as large amount of oil enters into the sea and does not dissolve with water; there by opens problem for local marine wildlife such as fish, birds and sea otters.
- Fossil fuels like coal and oil when burnt produce substantial amount of ash in the atmosphere. The particles which contain toxic chemicals when mixed with water vapor result in acid rain. Also, carbon dioxide is released from burning of fossil fuels which result in global warming (Rangarajan 2007).
- Chemical fertilizers and pesticides are used by farmers to protect crops from insects and bacteria. They are useful for the plants growth. But they are harmful for plants and animals when these chemicals are mixed up with water.
- A small leakage from the sewer lines can contaminate the underground water and make it unfit for the people to drink.
- An increase in earth's temperature due to greenhouse effect results in global warming. It increases the water temperature and result in death of aquatic animals and marine species which later results in water pollution.
- The nuclear waste that is produced by radioactive material needs to be disposed off to prevent any nuclear accident.
- As more cities and towns are developed, they have resulted in increased use of fertilizers to produce more food, soil erosion due to deforestation, increase in construction activities, insufficient sewer collection and treatment, landfills as more garbage is produced, increase in chemicals from industries to produce more materials (Carson 2002).
- Landfills are nothing but huge pile of garbage that produces awful smell and can be seen across the city. When it rains, the landfills may leak and the leaking landfills can pollute the underground water with large variety of contaminants.
- The waste produced by animals is washed away into the rivers when it rains. It gets mixed up with other harmful chemicals and causes various water borne diseases like cholera, diarrhea, jaundice, dysentery and typhoid.
- Transportation of coal and other petroleum products through underground pipes is well known. Accidentals leakage may happen anytime and may cause damage to environment and result in soil erosion (Sarkar 2006).

Consequences of Water Pollution

Water pollution refers to the contamination of natural sources of water such as groundwater, streams, rivers, lakes and oceans due to the introduction of contaminants directly or indirectly into these waters. Polluted water can have serious negative effects to the health of any organism that lives in or drinks this water. Organic factors contain volatile organic compounds, fuels, waste from trees, plants etc. Inorganic factors contain ammonia, chemical waste from factories, discarded cosmetics etc. The water that travels via fields is usually contaminated with all forms of waste inclusive of fertilizers that it swept along the way (Carson 2002). As a major global problem, water pollution is known to be the leading cause of diseases and deaths worldwide.

- The sewage water carries harmful bacteria and chemicals that can cause serious health problems (Bryant 1995). Microorganisms in water are known to be causes of some very deadly diseases and become the breeding grounds for other creatures that act like carriers. These carriers inflict these diseases via various forms of contact onto an individual (Cherni 2002). A very common example of this process would be Malaria.
- Mining activities when extracted in the raw form contains harmful chemicals and can increase the amount of toxic elements when mixed up with water which may result in health problems.
- When such item enters the sea, they not only cause water pollution but also harm animals in the sea.
- Ships carrying large quantity of oil may spill oil if they sink and can cause varying damage to species in the ocean depending on the quantity of oil spill, size of ocean, toxicity of pollutant.

Some ways to prevent water pollution

Water Pollution is common, and is an area of high alert. Water needs to be preserved awareness, for the future generation. Industries and factory set-up's are restricted from contaminating the water bodies and are advised to treat their contaminated waste through filtration methods. People are investing in rain water harvesting projects to collect rainwater and conserve it in wells below ground level (Tyagi 2014). Some of the ways to stop pollution contain recycling, better removal of waste,



reforestation, telecommuting, the use of renewable energy, creating awareness and enacting tough laws against pollution (Simon 2006). These are some methods that anyone can do in order to prevent pollution. Below are some of the most significant things to know while seeking to stop different types of pollution.

- Ensure that all plastic bags, glass or paper products are recycled is to conserve the environment and proper disposal of industrial waste.
- Planting more trees ensures enhanced climatic balance because the carbon cycle remains within manageable limits.
- The use of cars, trains and other mechanical vehicles is a major contributor to air pollution.
- The use of solar and wind energy can go a long way toward containing environmental pollution (Simon 2006).

Land pollution

Land is a very significant resource. Because it is the very surface that we live on and it is a factor of production. It is difficult to imagine planet earth without land. Like many things that exist within an ecosystem, it also suffers from pollution. Land pollution is a reality and its negative effects are very serious (Cronon 1983). Land Pollution can simply be defined as the degradation of earth surface. This can be caused by numerous factors. Exploitation of this resource would destroy its value. The natural environment, including land, is affected or polluted by these impurities. Any type of destruction that is done to the surface of the earth is basically land pollution. This can come in different forms and can be caused by various reasons.

Causes of Land Pollution

There are numerous factors that lead to the land pollution. Some occur naturally while others happen due to human activities. The natural factors such as changes in rainfall pattern, earthquakes, topographic changes, wind and glacier movements. Natural factors of soil erosion like rainfall, wind, topography, etc. are further increased by human activities. Here are some of the common causes of land degradation:

- Excessive use of pesticides influences the quality of soil and also demolishes the useful microorganisms found in it, by using a large quantity of the chemicals, they eliminate any possible threat from the destructive organisms and faulty agricultural practices has degraded land to a large scale because the fertile top soil has been washed out.
- Massive deforestation is another factor that causes land pollution. When deforestation occurs, soil is exposed to intense sunlight that causes evaporation of water, death of useful bacteria in the soil and ultimately a reduction in soil fertility.
- The toxic chemicals in the form of solid and liquid wastes that are disposed by industries and factories are the major source for soil pollution. Industrial wastes contain so many harmful chemicals that degrade the quality of the soil (Carson 2002).
- Acid rains increase the acidity of soils that is harmful to plant growth. The major causes of acid rains are human activities such as burning of fossil fuels, and introduction of harmful gases (Simon 2006).
- Poor farming method, lack of crop rotation and use of chemical fertilizers also lead to soil degradation. The excreta of birds, animals and humans are source of soil pollution by biological agents. Sewage used as manure causes soil pollution.
- Even though mining has produced numerous billionaires, it also demolishes land. The chemicals released into the atmosphere due to the machines used also cause land degradation.

Consequences of Land Pollution

Pollution, any type that is, has never been good. The land pollution has many negative effects that impact both plant, animal, and microorganisms lives as well as humans. These are some of the effects of land pollution:

- Land pollution results in substantial decrease in soil fertility and agricultural production.
- Chemical pollutants in the form of chemical fertilizers and pesticides, insecticides and herbicides cause various diseases and numerous deaths.
- The decomposition of various waste materials causes harmful gases and bad smell.
- Clogging of micro-holes of the soil by particles in the sewage demolish the soil micro-organisms.
- Land pollution is one of the main causes of air and water pollution.
- Farming is one thing that greatly depends on land fertility for higher yields. Polluted land, like those with chemical wastes and oil spills, can also not be used for farming unless they are first reclaimed. Most of the foods eaten by humans are produced from the ground (Cronon 1983). The importance of agriculture can therefore not be stressed enough (Rangarajan 2007).
- Land pollution affects the ecosystem negatively by causing loss of biodiversity. An ecosystem with high biodiversity thrives and most of the living organisms within it enjoy good health. When this is lost, several chains are interrupted and continuity is affected.



- Eating crops harvested from polluted farms can cause many health difficulties. Introducing these chemicals into the body system may cause diseases such as cancer.
- Turning a polluted piece of land into a productive one will thus set you back financially. This means that money that would have otherwise been used elsewhere is channelled to this process. There is also no guarantee that it will be as productive as it were before it was affected.
- Due to the continuous use of chemicals, the ground water is rendered unfit for human consumption and the plants that use it are also likely to wither and die.
- Pollution may weaken the growth of food crops and result in the emergence of tough weeds that hamper their growth and affect the overall yield.
- Contaminated dust can lead to air pollution while acidic ground water can result in acidic rain. This happens because numerous parts of the ecosystem are interdependent (Cronon 1983). Pollution in one part, can, therefore, result in pollution of numerous other components.

Some ways to prevent the Land Pollution

Since most of the causes of land pollution are due to human activities, a lot of the solutions should also be geared towards changing the actions of people. Land pollution can be controlled by adopting as follows:

- Soil erosion should be checked, controlled and judicious use of chemical fertilizers and pesticides, insecticides and herbicides, appropriate removal of industrial and urban wastes.
- Proper land use and management, right use of fertilizers and biocides.
- Instead of throwing out waste material (households and industries) that causes land pollution, it would be prudent to recycle them and make new products. This decreases the degradation of land and also the pollution of air and water bodies. It's a practice that is very sustainable and great for the environment (Shiva 1991).
- Organic farming is a great way to increase the fertility of soil and improve crop yield, organic manure such as animal waste and compost.
- Industries should make it their responsibility to treat any waste material. When they take the initiative and treat these wastes, they conserve the environment.
- The government can do its bit by introducing it into the school curriculum and running media ads as well as organizing for grassroots awareness campaigns, but the civil societies and families can also play their parts in creating awareness.
- Policy makers should introduce appropriate legislation that would deter those who pollute the environment. Global policies that deal with the issues of land pollution on a global scale would also help (E Boyle 1996).
- To prevent pollution from chemical spillage, spill-proof containers can be used. These specially designed containers provide a safe way to store chemicals and thus reduce the chances of land pollution.
- The restoration of forests is a significant part of the process of improving soil quality and the value of land.
- Some of the best practices are reducing the usage of paper, plastic etc. One can always reuse some of these materials instead of throwing them away after only using them once.

Land is such a significant part of this planet that we cannot afford to waste or degrade it. We have seen that most of the causes of land pollution are actually human activities. Some of them are deliberate while others happen due to lack of information others as accidents. Sometimes we fall sick from diseases such as cancer and begin to wonder what could have gone wrong. Maybe it's the food we eat or the air we breathe that is contaminated and making us ill. Plants that have been harvested from contaminated land are likely to affect our health because of the chemicals we ingest. The air we breathe also contains dust particles from polluted pieces of land. The issue of land conservation should be part and parcel of our daily activities. It is not an event that happens once but a continuous process.

Deforestation

Deforestation means the cutting down of trees without realizing its manifold evils and destructive effects. It refers to the removal of forest trees, and transformation of natural vegetation and forests into clear land, without making any arrangement for the re-plantation of the forest trees. The purpose of deforestation is primarily done to make more land available for urbanization, crops and cattle ranching. The most common methods of deforestation contain burning trees and clear cutting, which is the practice of removing a complete tract of forest. Deforestation is one of the major causes to the environmental degradation which is affected by the agents like small farmers, ranches, loggers and plantation companies. There is a broad consensus that expansion of cropped areas and pastures are a major source of deforestation. The term 'deforestation' describes the complete long term removal of tree cover. The loss forest cover influences the climate and contributes to a loss



of biodiversity (Harris 2004). The economic activity is adversely affected by siltation, flooding, soil degradation and decreased timber supplies. Thus, in turn, threatens the livelihood of people.

The causes of Deforestation

The most significant causes of deforestation are human ignorance and greed. Greedy people continued to clear forests for their own selfish interest. Besides uncontrollable degradation of environment, forests in India were cleared for-agriculture and farming colonization, for wood, for establishment towns and cities (Rangarajan 2007).

- Conversion of forests to agricultural land to feed growing needs of people. In India, we have this practice in North-east and to some extent in Andhra Pradesh, Bihar and M.P. which contribute to nearly half of the forest clearing annually.
- Cutting of trees for fire wood and building material, the heavy lopping of foliage for fodder and heavy grazing of saplings by domestic animals like goats.
- Mining causes environmental impacts like erosion, formation of sinkholes, loss of biodiversity, and contamination of soil, groundwater and surface water by chemicals from mining processes. In some cases, additional forest logging is done in the vicinity of mines to increase the available room for the storage of the produced debris and soil (Shiva 1991).
- Since Industrialization and Urbanization needs land to grow, so major amount of forest lands are cut in order to promote Industrialization and Urbanization (Harris 2004). This produces harmful effect on environment and forest ecological balance.
- For building big dams, large scale devastation of forests takes place which breaks the natural ecological balance of the region. Floods, droughts and landslides become more prevalent in such areas. The species could be having splendid economic or medicinal value. These storehouses of species which have evolved over millions of years get lost due to deforestation in a single stroke (Singh 2007).
- Forest fires may be natural or manmade, and cause huge forest loss.
- Overgrazing decreases the usefulness, productivity, and biodiversity of the land and is one cause of desertification and erosion.

Consequences of Deforestation

Depending on the needs of the social group concerned, deforestation has made it possible for communities to be built. Forest makes way for residential houses, office buildings and factories. Deforestation can also mean the renovation of forest land to productive land for agricultural uses. Unfortunately, the negative consequences of deforestation for outweigh its positive effects. Here are few of them.

- Most of the area that has undergone deforestation is actually unsuitable for long-term agricultural use such as ranching and farming. Much of the grassy areas are also not as productive compared to more arable soils and are therefore not fit for long-term cattle grazing.
- Heavy rainfall and high sunlight quickly damage the topsoil in clearings of the tropical rain forests. In such circumstance, the forest will take much longer to regenerate and the land will not be suitable for agricultural use for quite some time.
- The fertile top soil is eroded and flooded into the lower regions, many coastal fisheries and coral reefs suffer from the sedimentation brought by the flooding (Carson 2002). This results to negative effects in the economic viability of many business and fatalities in wildlife population.
- Biodiversity is probably most serious consequence of deforestation, it means the destruction and extinction of many plants and animal species, and whose benefits will be left undiscovered.
- Some indigenous people's way of life and survival are threatened by the loss of forests.
- Deforestation can cause the climate to become extreme in nature (Dahlman 2012). It increases CO₂ concentration in atmosphere and contributes to global warming.
- The occurrence and strength of floods and droughts affect the economy (Sarkar 2006). It also leads to loss of future markets. The stress of environmental change may make some species more susceptible to the effect of insects, pollution and diseases (E Boyle 1996).

Forests are nature's protective shield, but this shield is being eroded by human folly and greed. In India, the past century saw massive deforestation and many wild animals and birds are having become rare species due to massive deforestation. As Gandhiji once said, 'Nature has enough for everybody's need but not for everybody's greed'. Indiscriminate felling of trees is destructive and contra-productive and urgent steps are called for to put down this evil with a heavy hand (Khoshoo 2010).



Indiscriminate cutting of trees leads to the following situation, viz. disturbs the ecological balance, causes environmental pollution, soil erosion and landslides, floods, water sources may get dried, climatic changes etc.

Some ways to the Conservation of forest

Conservation of forests is of vital importance for India Forests not only provide wood but also they directly control floods, drought, soil erosion etc. Environmental scientists have calculated that forest releases oxygen, checks air pollution, control moisture and avoids water pollution, prevents soil erosion and increases soil fertility, Provides shelter to birds and nests. There is great necessity for conserving forests.

- Attention should be given to the trees while they are cutting down so that no damage shall cause to its neighbouring trees. Celebrating 'Van Mahotsava' every year during the rainy season when saplings can be planted (Suresh 2007).
- Planting trees on waste lands or lands lying idle and preventions the fall of immature trees,
- Regular measures should be taken to conserve the forests from disease and forest fire by spraying necessary insecticides and clearing dry leaves and branches.
- Overgrazing of cattle, goat etc. on pastures cause roots to be uprooted, leaving the soil loose so prone to soil erosion (Sarkar 2006).

Most significantly, awareness has to be generated in each person regarding the importance of trees and forest. In the dry season when the branches and leaves of the trees become very dry, winds blowing through the forest cause these dry leaves to brush against each other and with the wind on dry stony surfaces creating a spark which quickly kindles a forest fire. Once the forest fire starts, it begins consuming not only the dry leaves, twigs etc but also the live trees and animals. The intensity and duration of forest fires depend on the shape of the forest, direction of wind and its speed etc. Forest fires may also start because of human carelessness or lightning and other factors. To control forest fires many countries have voluntary organisation. In recent times, satellites have been used to detect and control forest fires. Often spraying of water, foam etc. from motor vehicles, helicopters, light planes etc. is needed. Conserve Forests to save human beings. Due to deforestation, the forest cover of India has fallen below the minimum recommended level.

Conclusion

Today all of us believe that the air we breathe the water we drink and the food we eat should be free from harmful pollutants. We want to avoid the threat and uncertainty of climate change. Conserving the environment produces both challenges and opportunities. Let us discover these challenges and try to make environment clean and healthy for quality life, which we desire, for us and for our children in future (Harder 2004). The concern arises from the resources restraints which our country faces. The government is determined to make sure that major development activities of the country shall not affect the environment in future and accordingly, additional resources are provided to these activities in order to diminish the adverse consequences on the environment. We have to understand that the damage to the environment does not arise only from the effects of developmental projects. More damage to the environment is being caused through the pressures of the people to meet their minimum needs. Now a days, there is common realisation that there can be no convenient solutions, that technology alone cannot solve problems, that we need to use all our resourcefulness to find solutions which combine the best of the old practices with the benefits that modern science and technology can offer (Bryant 1995). There is a need to develop and modernise the current paradigm, without losing our sound traditional values and practices. We along with other developing countries, have to find substitute paths to an alternative good. We have to realise that environmental issues like global warming and ozone depletion, acid rain, marine pollution and biodiversity are not merely national issues but are global and must be tackled with international efforts and cooperation. We are fully aware of the environmental problems. This awareness has spread across all sections of population-villagers, city dwellers, youth, students, women, law-makers etc. The immediate result of this consciousness is a wide spectrum of laws on pollution control, forests, wildlife etc., which provide a sound basis for environmental protection (E Boyle 1996). There is need of enforcement of these laws and rational patterns of consumption, more efficient utilisation of depletable resources by the developed countries, and more equitable accesses to these resources for the developing countries.

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