



## Study on Environmental issue of India and its Future Possible Trends

Manju Bala

Former Master Degree Student, Department of Geography, Kurukshetra University, Kurukshetra -136119, Haryana (India)

[e-mail-manju.arya002@gmail.com](mailto:e-mail-manju.arya002@gmail.com)

**Abstract:** The environmental problems which may arise in India, due to population growth, increased industrial and agricultural activities, and depletion of natural resources in the next 25 years, are discussed here. Selected aspects of problems which require special attention are treated with particular emphasis on rural situations. The present status of the various aspects of human settlement—such as quality of air, water, sanitation, health, and housing—as well as aspects of conservation of forests, soils, and wildlife, is outlined as far as possible in a quantitative manner. It is visualized that environmental management will have to be more serious and of growing dimensions in the coming years.

[Bala M. **Study on Environmental issue of India and its Future Possible Trends**. *N Y Sci J* 2021;14(10):21-26] ISSN 1554-0200 (print); ISSN 2375-723X (online) <http://www.sciencepub.net/newyork>. 4. [doi:10.7537/marsnys141021.04](https://doi.org/10.7537/marsnys141021.04).

**Keywords:** Environmental issue, Future Prospective, India

### 1. Introduction:

It emerges from the study that two of the most serious problems which India may face in 25 years' time are water pollution and deforestation. By A . D . 2000, population in India is projected to reach around 950 millions, 65% of whom would be living in rural areas. The environment's capacity to absorb the concomitant wastes and pollution would be significantly reduced through the consequent growth of human activities. At present, in the rural areas, the percentage of population with piped water-supply and exclusive sanitation facilities is less than 10%. Unless drastic measures are taken, this percentage may not exceed 30% by A.D. 2000. Without appropriate sewerage and sanitation facilities, the accumulated wastes could mix with open-water resources, so leading to high levels of water pollution. The effects of mixing agricultural runoff containing wastes, pesticides, and fertilizers, in the rural water-sources, would also need consideration.<sup>1</sup>

The current practice in the rural areas of obtaining more than 90% of domestic fuels from non-commercial sources—firewood, animal dung, and agricultural wastes—even if considerably reduced, may continue and lead to deforestation and hence to soil erosion, floods, climatic changes, and loss of precious varieties of flora and fauna. Such burning leads to air pollution as well.

Apart from the problems of water pollution and deforestation, the problems of the urban areas include increasing slums, inadequate transportation facilities, and industrial pollution—all of which

would have to be dealt with. Finally, the present status of environmental legislation is reviewed, and certain policies and intense efforts for generating environmental awareness are recommended.

Most of India's poor live in rural areas and are engaged in agriculture. India's poverty reduction through the anti-poverty and employment generation programmers along with overall economic growth planning efforts has helped to reduce the poverty ratio in the country. The trends in poverty in India. The people below poverty line declined from 55 percent in 1973 to 26 percent in 1999-2000. The absolute number of poor have, however, declined from 320 million in 1973-74 to 260 million in 1999-2000. During the same period the fraction of population below poverty line dropped from 56.4 percent to 27.1 percent in rural areas and from 49 percent to 23.6 percent in urban areas. Over the period 1987-88 to 1999-2000, urban and rural poverty declined but more declines has been experienced by urban areas.<sup>2</sup>

Population growth and economic development are contributing to many serious environmental problems in India. These include pressure on land, land/soil degradation, forests, habitat destruction and loss of biodiversity, changing consumption pattern, rising demand for energy, air pollution, global warming and climate change and water scarcity and water pollution.

There are many environmental issues in India. Air pollution, water pollution, garbage, domestically prohibited goods and pollution of the natural

environment are all challenges for India. Nature is also causing some drastic effects on India. The situation was worse between 1947 through 1995. According to data collected and environmental assessments studied by World Bank experts, between 1995 through 2010, India has made some of the fastest progress in addressing its environmental issues and improving its environmental quality in the world. Still, India has a long way to go to reach environmental quality similar to those enjoyed in developed economies. Pollution remains a major challenge and opportunity for India.

Environmental issues are one of the primary causes of disease, health issues and long term livelihood impact for India.<sup>3</sup>

## **2. Trends in poverty and its environmental effects in India**

Poverty is said to be both cause and effect of environment degradation. Poorer people, who cannot meet their subsistence needs through purchase, are forced to use common property resources such as forests for food and fuel, pastures for fodder, and ponds and rivers for water. It also contributes to environmental degradation through over exploitation of natural resources like land, air and water. Population pressure driven overexploitation of the surface and underground water resources by the poor has resulted into contamination and exhaustion of the water resources. Urban population is also using rivers to dispose of untreated sewage and industrial effluent. The result is that health of those dependents on untreated water resources is increasing at risk. Moreover degraded environment can accelerate the process of impoverishment, again because the poor depend directly on natural assets. The poverty and rapid population growth are found to coexist and thus seems to reinforcing each other.<sup>4</sup>

### **Major issues**

Major environmental issues are forests and agricultural degradation of land, resource depletion (such as water, mineral, forest, sand, and rocks), environmental degradation, public health, loss of biodiversity, loss of resilience in ecosystems, livelihood security for the poor.

The major sources of pollution in India include the rapid burning of fuel wood and biomass such as dried waste from livestock as the primary source of energy, lack of organized garbage and waste removal services, lack of sewage treatment operations, lack of flood control and monsoon water drainage system, diversion of consumer waste into rivers, using large land area for burial purposes, cremation practices near major rivers, government mandated protection of highly polluting old public

transport, and continued operation by Indian government of government-owned, high emission plants built between 1950 and 1980.

Air pollution, poor management of waste, growing water scarcity, falling groundwater tables, water pollution, preservation and quality of forests, biodiversity loss, and land/soil degradation are some of the major environmental issues India faces today.

India's population growth adds pressure to environmental issues and its resources. Rapid urbanization has caused a buildup of heavy metals in the soil of the city of Ghaziabad, and these metals are being ingested through contaminated vegetables. Heavy metals are hazardous to people's health and are known carcinogens.

Our environment faces several problems, and many of these seem to be worsening with time, bringing us into a time of a true environmental crisis. It is therefore becoming increasingly important to raise awareness of the existence of these issues, as well as what can be done to reduce their negative impact. Some of the key issues are:

### **1) Pollution**

Pollution of the air, water and soil caused by toxins such as plastics, heavy metals and nitrates, caused by factors such as toxins and gases released by factories, combustion of fossil fuels, acid rain, oil spill and industrial waste.

### **2) Global warming**

The emission of greenhouse gases due to human activity causes global warming, which in turn causes an increase in temperature that then leads to rising sea levels, melting of polar ice caps, flash floods and desertification.

### **3) Overpopulation**

We are facing a shortage of resources such as food, water and fuel to sustain the rising global population, particularly in developing countries. Intensive agriculture attempting to lessen the problem actually leads to more damage through the use of chemical fertilizers, pesticides and insecticides.

### **4) Waste disposal**

An excessive amount of waste is produced and dumped in the oceans. Nuclear waste is particularly dangerous, as well as plastics and electronic waste.

### **5) Ocean acidification**

The increase in the production of carbon dioxide by humans causes the oceans' acidity to rise, which has a negative impact on marine life.

**6) Loss of biodiversity**

Species and habitats are becoming extinct due to human activity. This causes an imbalance in natural processes like pollination and poses a threat to ecosystems – coral reef destruction is particularly affected.

**7) Deforestation**

Loss of trees in order to make space for residential, industrial or commercial projects means that less oxygen is produced, and temperature and rainfall are affected.

**8) Ozone layer depletion**

Pollution caused by chlorofluorocarbons (CFCs) in the air creates a hole in the ozone layer, which protects the earth from harmful UV radiation.

**9) Acid rain**

Pollutants in the atmosphere such as sulfur dioxide and nitrogen oxides cause acid rain, which has negative consequences for humans, wildlife and aquatic species.

**10) Public health issues**

Lack of clean water is one of the leading environmental problems currently. Pollutants in the air also cause issues such as respiratory disease and cardiovascular disease.

**3. Environmental Management in India**

India's economic growth over the past few years has raised the prospect of eliminating extensive poverty within a generation. But this growth has been clouded by a degrading physical environment and the growing scarcity of natural resources that are essential for sustaining further growth and eliminating poverty. It is no coincidence that the poorest areas of the country are also the most environmentally-stressed regions, with eroded soils, polluted waterways, and degraded forests. Simultaneously, rapid growth has unleashed greater public awareness and an unprecedented demand for the sound management of natural resources including air, water, forests, and biodiversity. Environmental sustainability is rapidly emerging as the next major development and policy challenge for the country, and will be central to the 12th Five Year Plan which is currently under preparation.<sup>5</sup>

**The Challenges****Pollution:**

Water, land and air contamination associated with growth are increasing exponentially. Rapid investment in the manufacturing sector, that includes 17 highly polluting industries that are on the Central

Pollution Control Board's "Red List", has fuelled this growth. The share of the most polluting sectors in India's exports has increased dramatically during the last decade suggesting that India could be emerging as a net exporter of pollution-intensive commodities. These trends indicate the need for greater investment in environmental management.

**Natural Resources, Ecosystems and Biodiversity:**

In rural areas, poverty has become intertwined with resource degradation - poor soils, depleted aquifers and degraded forests. To subsist, the poor are compelled to mine and overuse these limited resources, creating a downward spiral of impoverishment and environmental degradation. There is growing pressure to better protect India's pockets of mega-biodiversity which are increasingly recognized as being of immense significance for global biodiversity, yet are increasingly threatened. Greater investment in the protection of these natural assets would yield a double dividend of poverty alleviation and the improved sustainability of growth.

**Coastal Zone Management:**

India's coastal zone is endowed with fragile ecosystems including mangroves, coral reefs, estuaries, lagoons, and unique marine and terrestrial wildlife, which contribute in a significant manner to the national economy. Economic activities such as rapid urban-industrialization, maritime transport, marine fishing, tourism, coastal and sea bed mining, offshore oil and natural gas production, aquaculture, and the recent setting up of special economic zones have led to a significant exploitation of these resources. In addition to the contribution of increased economic activity, coastal development and livelihoods are under stress due to a higher incidence of severe weather events, which have the potential to inflict irreversible damage to lives and property, for communities that are traditionally poor and vulnerable to economic shocks.<sup>6</sup>

**Environmental Governance:**

The pace of infrastructure investments, which could reach \$500 billion in the 12th Five Year Plan, calls for integrated and coordinated decision-making systems. This is made especially challenging by fragmented policies and multiple institutional legal and economic planning frameworks, with often conflicting objectives and approaches.

**Environmental Health:**

The health impacts from pollution are comparable to those caused by malnutrition and have a significant impact on the productivity, health and

the quality of life. Environmental health challenges are largely caused by poverty-related risks associated with poor access to basic services, such as safe drinking water and sanitation, and poor indoor air quality. The contamination of surface waters and the spread of pathogens are promoted by the alteration of catchments and watersheds that have accompanied rapid urbanization and intensive farming. Despite significant improvements in rural water supply and sanitation over the past few decades, water-related diseases still account for a large number of avoidable child deaths every year.

#### **Climate Change:**

India is highly vulnerable to climate change due to a combination of: (i) high levels of poverty, (ii) population density, (iii) high reliance on natural resources, and (iv) an environment already under stress (for instance water resources). By mid-century, the mean annual temperature in India is projected to increase 1.1° to 2.3 ° C under the moderate climate change scenario of the Intergovernmental Panel on Climate Change (A1B), with anticipated deterioration of agro-climatic conditions. In the higher portion of that range, the loss to Indian GDP would be greater than the world average, and could be close to 5 %. Simultaneously, there is likely to be greater variability in rainfall, leading to higher risk of increased frequency and severity of droughts, floods and cyclones.

Reflecting the size of its economy and population, India is ranked as the sixth largest emitter of greenhouse gas emissions in the world. However, by most measures, India would be classified as a low carbon economy. It has: (i) a low intensity of emissions per unit of GDP ( on par with the world average); (ii) per capita emissions that are among the lowest in the world (at about 10 percent of the developed country average) and (iii) forest cover that has stabilized. However, India's emissions are set to grow substantially due to its sustained economic growth.<sup>7</sup>

#### **Government Priorities:**

India has made a substantial effort in attempting to address environmental challenges. It has enacted stringent environmental legislation and has created institutions to monitor and enforce legislation. The National Environmental Policy (NEP) recognizes the value of harnessing market forces and incentives as part of the regulatory toolkit, and India is one of only three countries worldwide which has established a Green Tribunal to exclusively handle environmental litigation. On environmental governance, the GOI is contemplating the establishment of the National Appraisal and

Monitoring Authority (NEAMA) to carry out environmental appraisals.

During the current 11th Five Year Plan, the Government issued regulations to promote an integrated and inclusive approach to coastal zone planning and the sound management of hazardous wastes, issued a number of critical policies (e.g. revised river conservation strategy and the National Biodiversity Plan), and established a Wildlife Crime Control Bureau to supplement existing conservation measures for species at risk, such as tigers. In response to the threat of climate change, the Prime Minister's National Council on Climate Change issued India's first comprehensive National Action Plan in June 2008. In the run-up to Copenhagen, India also volunteered its own target to reduce carbon intensity by 20 to 25 percent by 2020 against a 2005 baseline and established an Expert Group on Low Carbon Growth to identify how best to meet this challenge.<sup>8</sup>

#### **World Bank Support:**

Responding to these pressures, the World Bank has developed a multi-pronged approach to address environmental issues and mitigate its lending risks:

**A Sound Program of Knowledge Products and Lending:** This seeks to improve the knowledge base for environmental solutions, and to pilot a number of programs to address key environmental challenges.

**Risk Management and Mainstreaming through Cross Support Activities:** Through the World Bank's safeguard policies, a sound mechanism for decision making has been developed. A number of tools to enable the integration of environmental management in project design, and minimize the environmental footprint of the Bank's operations have also been developed.

**Country Systems and Capacity Building Initiatives** help build institutional capacity, and include the piloting of country (state) systems for managing risks of World Bank projects.

#### **5. List of Active Projects**

The World Bank has a growing relationship and portfolio in the environment sector. Projects under implementation include the following.

**Integrated Coastal Zone Management Project** (\$222mn approved June 2010) to help build the appropriate institutional arrangements, capacity and advanced knowledge systems needed to implement the national program on integrated coastal zone management. It will also help pilot this approach in three coastal states, Gujarat, Orissa and West Bengal, through a range of complementary pilots in select coastal stretches to build state-level capacity.

Capacity Building for Industrial Pollution Management Project (\$65mn approved June 2010) to build tangible human and technical capacity in state agencies in Andhra Pradesh and West Bengal for undertaking environmentally sound remediation of polluted sites and to support the development of a policy, institutional and methodological framework for the establishment of a National Program for Rehabilitation of Polluted Sites (NPRPS).

The National Ganga River Basin Authority Project (\$1bn approved in May 2011): to build capacity of its nascent operational-level institutions, so that they can manage the long-term Ganga clean-up and conservation program; and implement a diverse set of demonstrative investments for reducing point-source pollution loads in a sustainable manner, at priority locations on the Ganga.

Biodiversity Conservation and Rural Livelihoods Project (GEF/IDA \$23m approved in May 2011): to develop and promote new models of conservation at the landscape scale through enhanced capacity and institutional building for mainstreaming biodiversity conservation outcomes.

### **Pipeline Projects**

Environmentally Sustainable Development Policy Loan in the State of Himachal Pradesh: The proposed Development Policy Loan will seek to establish a framework for environmental sustainability, which will promote the participation of the state public and private sectors in the National Mission on Enhanced Energy Efficiency, develop a policy and institutional framework for the further development of environmentally sound hydropower development, and enable sustainable development in a number of key sectors of the economy including: tourism, industry, and agricultural development and horticulture.

Global Environmental Facility (GEF): Following the recent replenishment, the World Bank has been requested to prepare a number of projects to be financed by the GEF, namely: Climate Resilience through Community-Based Approaches in Semi-Arid Areas, Integrated Biodiversity Hotspots and Improvements, Adaptive Management Tools in Sustainable Land Management, and Integrated Ecological Management of the Lakshadweep Sea.

### **Research**

Energy Intensive Sectors of the India Economy: Options for Low Carbon Development: The study looks at five sectors of the Indian economy that accounted for three quarters of India's CO<sub>2</sub> emissions from energy use in 2007 – power generation, energy-intensive industries (like iron and steel, cement, fertilizer, refining, pulp and paper etc),

road transportation, commercial buildings and residential housing. It presents three carbon emission scenarios, outlining the different growth paths that India could follow from 2007 to 2031 -- the end of the Fifteenth Five Year Plan.

### **Sundarbans Sustainable Socio-Economic Development:**

The objective of the Non-Lending Technical Assistance is to assess measures that would build resilience of the socio-economic and biophysical system and achieve long term sustainable development. Resilient systems are those having a capacity to adapt when faced with persistent stresses, but the adaptive capacity of those residing in the Sundarbans has been undermined on an ongoing basis. Historic sea level rise from deltaic subsidence, salinity intrusion, flooding and nutrient loss in local soils have all conspired over the past century to render this one of the most hazardous areas in the Indian sub-continent.

### **India 2030: Vision for an Environmentally Sustainable Future:**

This study deals with a broader debate on the implications of rapid economic growth on environmental sustainability and the need to rethink India's current institutional arrangements in light of promoting long-term environmental sustainability. The primary objectives of the study are to identify environmental challenges, opportunities and constraints to growth that will emerge in India over the next few decades and suggest policy responses and develop strategies to harmonize the twin objectives of growth and environmental sustainability in urban and ecologically fragile hill areas.

### **6. Efforts Addressing Environmental Issues**

Numerous approaches have been taken to target these issues:

#### **Clean energy.**

To reduce pollution and our use of oil and fossil fuels, efforts have been made to find clean, renewable energy sources. Some include biofuel, hydropower, solar energy, and wind power.

#### **Environmental education programs.**

One of the most basic things contributing to sustainability is environmental education. Learning about the environment and what is happening is one of the easiest ways to make a difference and reduce your carbon footprint.

**Wildlife conservation.**

Wildlife, including plants, animals and habitats, plays a large part in balancing natural systems. A number of different organization are involved in wildlife conservation around the world and express the importance of conservation and investing in biodiversity.

**Ecological restoration.**

Not only does ecological restoration assist in the recovery of the environment, but it promotes a healthy relationship between humans and nature. By repairing the damage we cause, we promote a healthier ecosystem and improve living conditions for humans, possibly with a profit.

**Research for advocacy and policy change.**

Possibly one of the most important steps to achieving a healthy environment involves policy. But to gain government support, we need solid research and advocates to voice the facts.

**Corresponding author:**

Manju Bala  
Former Master Degree Student,  
Department of Geography,  
Kurukshetra University, Kurukshetra -  
136119, Haryana (India)  
e-mail- [manju.arya002@gmail.com](mailto:manju.arya002@gmail.com)  
Contact No. +91-9468154805

**References:**

- [1]. Anderson, D., Wishart R., Murray A. and D. Honeyman. 2000. Sustainable forestry in the Gwich'in settlement area: ethnographic and ethnohistoric perspectives. Sustainable Forest Management Network Publication 2000-9.
- [2]. Archibald, C.P. and Kostasky, T. 1991. Public health response to an identified environmental toxin: Managing risks to the James Bay Cree related to cadmium in caribou and moose. Canadian Journal of Public Health. 82: 22-26.
- [3]. Beckley, T. 2000. Sustainability for whom? Social indicators for forest-dependent communities in Canada. Sustainable Forest Management Network Publication 2000-34.
- [4]. Berkes, F., Davidson-Hunt, I., Ruta, T. and J. Sinclair. Scientific and First Nation perspectives of non-timber forest products: a case study from the Shoal Lake watershed, northwestern Ontario. Sustainable Forest Management Network Publication 2002-4.
- [5]. Berti, P., Receveur, O., Chan H.M. and H.V. Kuhnlein. 1998. Dietary exposure to chemical contaminants from traditional food among adult Dene/Métis in the western Northwest Territories, Canada. Environmental Research. 76:131-142.
- [6]. Blair, H., Rice, S., Wood, V. and J. Janvier. 2002. Daghida: Cold Lake First Nations work toward language revitalization. In Indigenous languages across the community, B. Burnaby & J. Revhner (Eds.). Flagstaff, AZ: Northern Arizona University. Pp. 89-98.
- [7]. Blossey, B., Skinner, L. and J. Taylor. 2001. Impact and management of purple loosestrife (*Lythrum salicaria*) in North America. Biodiversity and Conservation. 10:1787-1807.
- [8]. Botkin, D., Demarchi, R., Frost, D., Gunn, A., Marmorek, P., O'Gorman, D. and S. Riley. 2004. Environmental effects of a mining road through the traditional territory of the Taku River Tlingit First Nation: a critique of proposed management plans for a new mining road. Report to the Taku River Tlingit First Nation by the Independent Science Panel.

10/15/2021