

POPULATION PROBLEM AND ENVIRONMENTAL ISSUES FOR SUSTAINABLE DEVELOPMENT IN INDIA

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Abstract

Environmental problems have become serious in many parts of the country, and hence cannot be ignored. The main environmental problems in India relate to air and water pollution particularly in metropolitan cities and industrial zones, degradation of common property resources which affect the poor adversely as they depend on them for their livelihood, threat to biodiversity and inadequate system of solid waste disposal and sanitation with consequent adverse impact on health, infant mortality and birth rate. There are many environmental issues in India. According to data collection and environment assessment studies of World Bank experts, between 1995 through 2010, India has made one of the fastest progress in the world, in addressing its environmental issues and improving its environmental quality. Still, India has a long way to go to reach environmental quality similar to those enjoyed in developed economies. Major environmental issues are forest and agricultural degradation of land, resource depletion - water, mineral, forest, sand, rocks etc., environmental degradation, public health, loss of biodiversity, loss of resilience in ecosystems, livelihood security for the poor. Any country's environmental problems are related to the level of its economic development, the availability of natural resources and the lifestyle of its population. In India, rapid growth of population, poverty, urbanization, industrialization and several related factors are responsible for the rapid degradation of the environment. 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. In the country many centres are providing special training for environmental management. The programmes of environmental awareness have been launched through media. India is an active member of International Organizations concerning environment. Several programmes are going on under UNEP. The Government has recently started emphasizing the combined use of regulatory and economic instruments for improving environmental quality. There is a need for coordination between government agencies, NGOs and the public for the proper management of environment quality and to achieve sustainable development in the country. The main concern of this paper is to discuss about the major environmental problems and suggest some measures for sustainable development.

Introduction

There are many environmental issues in India. According to data collection and environment assessment studies of World Bank experts, between 1995 through 2010, India has made one of the fastest progress in the world, in addressing its environmental issues and improving its environmental quality. Still, India has a long way to go to reach environmental quality similar to those enjoyed in developed economies. Major environmental issues are forest and agricultural degradation of land, resource depletion - water, mineral, forest, sand, rocks etc., environmental degradation, public health, loss of biodiversity, loss of resilience in ecosystems, livelihood security for the poor. Any country's environmental problems are related to the level of its economic development, the availability of natural resources and the lifestyle of its population. In India, rapid growth of population, poverty, urbanization, industrialization and several related factors are responsible for the rapid degradation of the environment. Environmental problems have become serious in many parts of the country, and hence cannot be ignored. The main environmental problems in India relate to air and water pollution particularly in metropolitan cities and industrial zones, degradation of common property resources which affect the poor adversely as they depends on them for their livelihood, threat to biodiversity and inadequate system of solid waste disposal and sanitation with consequent adverse impact on health, infant mortality and birth rate. 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. In the country many centres are providing special training for environmental management. The programmes of environmental awareness have been launched through media. India is an active member of International Organizations concerning environment. Several programmes are going on under UNEP. The Government has recently started emphasizing the combined use of regulatory and economic instruments for improving environmental quality. There is a need for coordination between government agencies, NGOs and the public for the proper management of environment quality and to achieve sustainable development in the country. The main concern of this paper is to discuss about the major environmental problems and suggest some measures for sustainable development.

Environmental issues

There is a long history of study and debate about the interactions between population growth and the environment. According to a British thinker Malthus, for example, a growing population exerts pressure on agricultural land, causing environmental degradation, and forcing the cultivation of land of poorer as well as poorer quality. This environmental degradation ultimately reduces agricultural yields and food availability, causes famines and diseases and death, thereby reducing the rate of population growth.

Population growth, because it can place increased pressure on the assimilative capacity of the environment, is also seen as a major cause of air, water, and solid-waste pollution. The result, Malthus theorised, is an equilibrium population that enjoys low levels of both income and environmental quality.

Malthus suggested positive and preventative forced control of human population, along with abolition of poor laws.

Malthus theory, published between 1798 and 1826, has been analysed and criticised ever since. The American thinker Henry George, for example, observed with his characteristic piquancy in dismissing Malthus: "Both the jayhawk and the man eat chickens; but the more jayhawks, the fewer chickens, while the more men, the more chickens." Similarly, the American economist Julian Lincoln Simon criticised Malthus's theory.^[14] He noted that the facts of human history have proven the predictions of Malthus and of the Neo-Malthusians to be flawed. Massive geometric population growth in the 20th century did not result in a Malthusian catastrophe. The possible reasons include: increase in human knowledge, rapid increases in productivity, innovation and application of knowledge, general improvements in farming methods (industrial agriculture), mechanisation of work (tractors), the introduction of high-yield varieties of wheat and other plants (Green Revolution), the use of pesticides to control crop pests.

More recent scholarly articles concede that whilst there is no question that population growth may contribute to environmental degradation, its effects can be modified by economic growth and modern technology. Research in environmental economics has uncovered a relationship between environmental quality, measured by ambient concentrations of air pollutants and per capita income. This so-called environmental Kuznets curve shows environmental quality worsening up until about \$5,000 of per capita income on purchasing parity basis, and improving thereafter. The key requirement, for this to be true, is continued adoption of technology and scientific management of resources, continued increases in productivity in every economic sector, entrepreneurial innovation and economic expansion.

Other data suggests that population density has little correlation to environmental quality and human quality of life. India's population density, in 2011, was about 368 human beings per square kilometre. Many countries with population density similar or higher than India enjoy environmental quality as well as human quality of life far superior than India. For example: Singapore (7148 /km²), Hong Kong-China (6349 /km²), South Korea (487 /km²), Netherlands (403 /km²), Belgium (355 / km²), England (395 /km²) and Japan (337/ km²).

Water pollution

Perhaps the largest of the environmental issues in India facing the people of India is inadequate or lack of access to vital fresh water resources. As India's industries get bigger so will the amount of water they require and the amounts are already beginning to spiral. For example the Coca-Cola factory which was accused for years of messing up an entire eco-system. By simply diverting all the water to their factory, millions of people went without. The company are also accused of causing huge droughts and contamination to a massive area by exploiting an excessive amount of ground water and then replacing it with toxic discharge.

India is recognised as has having major issues with water pollution, predominately due to untreated sewerage. The rivers are on the front line of pollution in India. Millions of people depend on them for their livelihoods but they are slowly being polluted and destroyed by sewage, chemicals and other agricultural and industrial waste. Rivers such as the Ganges, the Yamuna and Mithi Rivers, all flowing through highly populated areas, thus polluted. India's Upper Lake is still polluted with chemicals from the 1984 Bhopal disaster. A campaign has been launched in January 2009 by the Chief Minister Shivraj Singh Chouhan to clean and desilt the Upper Lake.

Water supply and sanitation continue to be inadequate, despite long-standing efforts by the various levels of government and communities at improving coverage.

Air pollution

Air pollution in India is a serious issue with the major sources being fuelwood and biomass burning, fuel adulteration, vehicle emission and traffic congestion. India is the world's largest consumer of fuel wood, agricultural waste and biomass for energy purposes. Traditional fuel (fuel wood, crop residue and dung cake) dominates domestic energy use in rural India and accounts for about 90% of the total. In urban areas, this traditional fuel constitutes about 24% of the total. Fuel wood, agri waste and biomass cake burning releases over 165 million tonnes of combustion products into India's indoor and outdoor air every year. Vehicle emissions are another source of air pollution. Vehicle emissions are worsened by fuel adulteration and poor fuel combustion efficiencies from traffic congestion and low density of quality, high speed road network per 1000 people. Air pollution through ritual cremations in India is another major factor for air pollution. 70% population of India which includes Hindus, Sikhs, Buddhists, Christians as well, go for cremation by consigning the dead to fire. As this ritual is practised, very few people realise the amount of pollution created by insufficient use of material whilst consigning, to avoid this pollution caused by different foul emissions from the body. The human body can be fully consumed at a temperature of 700 degree Centigrade or higher, at which temperature the Electric Cremation Furnaces are designed. But in India, people generally prefer to go for ritual wood fire for cremation where the maximum temperature can be achieved, is only up to 300 degree C. In order to increase this temperature to 700 or more, agents like ghee is used. But generally people are found to use a very small quantity which does not serve at all the purpose. It has been suggested by various scientist on the subject that if sufficiently good quantity of desi ghee(at least 10-15 kg) is used along with the ritual Havan Samagri of 10-15 kg., having aromatic and healthy ingredients, the pollution has been experimentally found to be very less, countering the foul smell in addition, as well. **Pryavaran Sanrakshan Nyas, a NGO Trust based in Chandigarh**, had started in practicing this novel project of voluntary contribution of 5 kg. of Havan Samagri mixed with One kg. of Desi Ghee, since 2005 at Chandigarh at every cremation without any caste or creed consideration for poor or rich, to avoid this un-noticed un-realised and un-observed pollution by the civic society so far and has been able to create an awakening on the subject. On per capita basis, India is a small emitter of carbon dioxide greenhouse. In 2009, IEA estimates that it emitted about

1.4 tons of gas per person, in comparison to the United States' 17 tons per person, and a world average of 5.3 tons per person. However, India was the third largest emitter of total carbon dioxide in 2009 at 1.65 Gt per year, after China (6.9 Gt per year) and the United States (5.2 Gt per year). With 17 percent of world population, India contributed some 5 percent of human-sourced carbon dioxide emission; compared to China's 24 percent share.

The Air (Prevention and Control of Pollution) Act was passed in 1981 to regulate air pollution and there have been some measurable improvements. However, the 2012 Environmental Performance Index ranked India as having the poorest relative air quality out of 132 countries.

Solid waste pollution

Trash and garbage is a common sight in urban and rural areas of India. It is a major source of pollution. Indian cities alone generate more than 100 million tons of solid waste a year. Street corners are piled with trash. Public places and sidewalks are despoiled with filth and litter, rivers and canals act as garbage dumps. In part, India's garbage crisis is from rising consumption. India's waste problem also points to a stunning failure of governance.

In 2000, India's Supreme Court directed all Indian cities to implement a comprehensive waste-management programme that would include household collection of segregated waste, recycling and composting. These directions have simply been ignored. No major city runs a comprehensive programme of the kind envisioned by the Supreme Court. Indeed, forget waste segregation and recycling directive of the India's Supreme Court, the Organisation for Economic Cooperation and Development estimates that up to 40 percent of municipal waste in India remains simply uncollected. Even medical waste, theoretically controlled by stringent rules that require hospitals to operate incinerators, is routinely dumped with regular municipal garbage. A recent study found that about half of India's medical waste is improperly disposed of. Municipalities in Indian cities and towns have waste collection employees. However, these are unionised government workers and their work performance is neither measured nor monitored. Some of the few solid waste landfills India has, near its major cities, are overflowing and poorly managed. They have become significant sources of greenhouse emissions and breeding sites for disease vectors such as flies, mosquitoes, cockroaches, rats, and other pests.

In 2011, several Indian cities embarked on waste-to-energy projects of the type in use in Germany, Switzerland and Japan. For example, New Delhi is implementing two incinerator projects aimed at turning the city's trash problem into electricity resource. These plants are being welcomed for addressing the city's chronic problems of excess untreated waste and a shortage of electric power. They are also being welcomed by those who seek to prevent water pollution, hygiene problems, and eliminate rotting trash that produces potent greenhouse gas methane. The projects are being opposed by waste collection workers and local unions who fear changing technology may deprive them of their livelihood and way of life. Along with waste-to-energy projects, some cities and towns such as Pune, Maharashtra are introducing competition and the privatisation of solid waste collection, street cleaning

operations and bio-mining to dispose the waste. A scientific study suggests public private partnership is, in Indian context, more useful in solid waste management. According to this study, government and municipal corporations must encourage PPP-based local management through collection, transport and segregation and disposal of solid waste.

Noise pollution

The Supreme Court of India which is in New Delhi gave a significant verdict on noise pollution in 2005. Unnecessary honking of vehicles makes for a high decibel level of noise in cities. The use of loudspeakers for political purposes and for sermons by temples and mosques makes noise pollution in residential areas worse.

In January 2010, Government of India published norms of permissible noise levels in urban and rural areas.

Land or Soil pollution

In March 2009, the issue of Uranium poisoning in Punjab came into light, caused by fly ash ponds of thermal power stations, which reportedly lead to severe birth defects in children in the Faridkot and Bhatinda districts of Punjab. Land pollution in India is due to the poisonous pesticides and fertilisers as well as corrosion during 2009. Another main reason of this type of pollution is poor garbage disposal services in both the rural and urban areas of India. It is very common in India to find heaps of garbage on street corners.

Greenhouse gas emissions or Chemical Pollution

India was the third largest emitter of carbon dioxide in 2009 at 1.65 Gt per year, after China (6.9 Gt per year) and the United States (5.2 Gt per year). With 17 percent of world population, India contributed some 5 percent of human-sourced carbon dioxide emission; compared to China's 24 percent share. On per capita basis, India emitted about 1.4 tons of carbon dioxide per person, in comparison to the United States' 17 tons per person, and a world average of 5.3 tons per person.

Environmental issues and Indian law

Since about the late 1980s, the Supreme Court of India has been pro-actively engaged in India's environmental issues. The Supreme Court of India has been engaged in interpreting and introducing new changes in the environmental jurisprudence directly. The Court has laid down new principles to protect the environment, re-interpreted environmental laws, created new institutions and structures, and conferred additional powers on the existing ones through a series of directions and judgments.

The Court's direction on environmental issues goes beyond the general questions of law, as is usually expected from the highest Court of a democratic country. The Supreme Court of India, in its order, includes executive actions and technical details of environmental actions to be implemented. Indeed, some critics of India's Supreme Court describe the Court as the *Lords of Green Bench* or *Garbage Supervisor*.

Supporters of India's Supreme Court term these orders and the Indian bench as pioneering, both in terms of laying down new principles of law, and in delivering environmental justice.

A key factor has been the failure of government agencies and the state owned enterprises in discharging their Constitutional and Statutory duties. This has prompted civil society groups to file public interest complaints with the Courts, particularly the Supreme Court, for suitable remedies.

Judicial activism in India has, in several key cases, found state-directed economic development ineffective and a failure, then interpreted laws and issued directives that encourage greater competition and free market to reduce environmental pollution. In other cases, the interpretations and directives have preserved industry protection, labour practices and highly polluting state-owned companies detrimental to environmental quality of India. Proactive measures should be taken to conserve the depleting environment.

Conclusion:

India is among the top 12 mega centers of the world in terms of its bio-diversity. It has a wide range of geo-climatic conditions and a rich and varied flora and fauna, as well as a long standing tradition of environmental sensibility and concern that goes to the very roots of its millennia-old culture. Harmony with nature has been an integral part of the ethos of Indian society.

India is committed to the promotion and pursuit of sustainable development, with balanced emphasis on the economic, social and environmental pillars. The Prime Minister of India, Mrs. Indira Gandhi, was the only foreign Head of State or Government to participate in the United Nations Conference on Human Environment held in Stockholm in June 1972, at a time when international concern over environmental issues was yet to fully crystallize. At that session she emphasized that „poverty is the worst polluter“ and that environmental concerns cannot be viewed in isolation from developmental imperatives of developing countries. India has consistently played an important role in the evolution of an international consensus to tackle major global environmental issues. It was an active participant in the process leading up to and culminating in the convening of the United Nations Conference on Environment and Development in Rio de Janeiro in June 1992 and the Earth Summit held in Johannesburg in 2002.

India welcomes the successful conclusion of the historic Rio+20 Conference in June 2012 and attaches high importance to its outcome. The conference renewed the focus on sustainable development, building upon past commitments and reaffirming the fundamental Rio principles, in particular the principle of common but differentiated responsibilities agreed to in the landmark Rio Earth Summit in 1992. It made a strong call to pursue global growth and development with equity and recognized poverty eradication to be the greatest global challenge in advancing sustainable development.

In line with its high level commitment to sustainable development, India's Prime Minister Dr. Manmohan Singh led the Indian delegation to the UN Conference on Sustainable Development held in Rio De Janeiro from 20-22 June 2012. Speaking in the Plenary he conveyed India's abiding commitment to sustainable development and stated that *“the future we want should be a future in which there is ecological and*

economic space for sustainable growth for all". Noting the importance of giving practical shape and content to the sustainable development architecture in a manner that allows each country to develop according to its own national priorities and circumstances, Prime Minister emphasized that *"those living at the subsistence level cannot bear the costs of adjustment and their livelihood considerations are important in determining how scarce natural resources such as land, water and forests are used"*. Prime Minister said that the current consumption patterns in the industrialized world are unsustainable and called for new pathways for sustainable living. He stressed that at the global level, our approach to the environmental sustainability should be guided by equitable burden sharing.

India has also played a positive and constructive role in the successive conferences of Parties under the UN Framework Convention for Climate Change (UNFCCC).

India is actively engaged in the process for the follow-up of the Rio+20 Conference on sustainable development. The Rio+20 Conference mandated the setting up of an Intergovernmental Open Working Group for developing Sustainable Development Goals (SDGs) and for the establishment of a universal High Level Political Forum to follow-up on the implementation of sustainable development. It also mandated the setting up of an Expert Working Group to propose options for sustainable development financing strategy and requested the UN Secretary General to identify options and make recommendations regarding a Technology Facilitation Mechanism for promoting the development, transfer and dissemination of clean and environmentally sound technologies.

India participated actively in the negotiations for the format and organizational aspects of the High Level Political Forum which have now been completed. India looks forward to the first meeting of the High Level Political Forum during the 68th session of the UNGA.

India is also a part of the Open Ended Working Group to define the Sustainable Development Goals. India shares its seat with the Asia-Pacific troika of India-Pakistan-Sri Lanka. India has called for the SDGs to be simple to comprehend, concise and easy to implement and precise to communicate. It is important for the SDGs to place equal emphasis on each of the three pillars of sustainable development and fully respect the Rio principles.

India also places high importance on the adoption of a Post-2015 Development Agenda. The Post-2015 Development Agenda, India believes, must be arrived at through an inter-governmental negotiation process under the United Nations. The Post 2015 development agenda must be in consonance with the outcomes of Rio+20 Conference and it must adhere to the principles agreed to at Rio, in particular the principle of common but differentiated responsibilities. Eradication of poverty must be the central and overarching goal of the Post-2015.

The unfinished task of MDG is being carried forward in the Post 2015 development agenda (www.worldwewant2015.org- UN discussion), which should have a strengthened global partnership to support the efforts of developing countries.

At last but not in the least, for a sustainable society or a country most important thing is that consciousness regarding basic concept of environment, causes of environmental degradation, its serious effect and remedies. It should reach in every human mind then only we can think for sustainability because laws or any rules and regulation cannot do this until if there is no consciousness. And it is the duty of teachers, policy makers, NGOs, social workers to make this consciousness through various programmes like poster, street drama, publicity, TV serial etc. and need to change the methods of teaching to teach environment curriculum.

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