

Environmental Degradation in India - Dimensions and Concerns : A Review

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Abstract

This paper attempted to understand different dimensions of environmental degradation in India. The costs of environmental degradation were analyzed based on a recent report of the World Bank on the subject. Environmental sustainability could become the next major challenge for India as the costs of degradation are huge. The paper also threw light on different approaches to environmental degradation. Integrating sustainable development goals with the main stream of economic strategy have been suggested for preventing further degradation of the environment. Regulation of markets becomes imperative for preventing environmental degradation. It was argued that the current regulatory framework must be modified to cope with environmental pressures, irrespective of the origin of sources and for this, the regulatory capacity has to be increased with growing mandates of meeting sustainable development requirements.

Keywords : environmental degradation, sustainable development, ecology, natural capital

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Environmental degradation is a major causal factor in enhancing and perpetuating poverty, because of its adverse impact on soil fertility, quantity and quality of water, air quality, forests, wildlife, and fisheries. Environmental factors are estimated as being responsible for nearly 20% of the burden of disease in India. Interventions such as reducing indoor air pollution, protecting sources of safe drinking water, protecting soil from contamination, improved sanitation measures, and better public health governance offer tremendous opportunities in reducing the incidence of a number of critical health problems (United Nations Development Programme (UNDP), 2009).

The objective of this paper is to analyze different dimensions of environmental degradation in India. The paper is divided into three sections. Different aspects of environmental degradation and their costs are presented in the first section. The different approaches to the problem along with broad policy objectives of the government are presented in the second section. The concluding section discusses the role of corporations and regulators in the context of sustainable development imperatives.

Section – 1: Extent of Environmental Degradation in India

India's recent remarkable economic growth record has been clouded by a degrading environment and growing scarcity of natural resources. India's environmental risks have become more complex and wide ranging. Over the

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years, India has become a home to one of the most degraded environments in the world. Soil erosion, desertification, deforestation, and industrial pollution are threatening challenges to the environment of India. According to the Environmental Performance Index (EPI) ranking by Yale University, India ranked 155th out of 178 countries, and was ranked almost last in air pollution exposure in 2014. India's performance was labeled as the worst among other emerging economies including China, which was ranked 118th, Brazil at 77th rank, Russia at 73rd rank, and South Africa at 72nd rank. India's performance was found lagging, most notably, in the protection of human health from environmental harm. In particular, India's air quality was rated among the worst in the world exceeding World Health Organization's thresholds (Hsu et al., 2014).

India's rapid economic progress along with a growing population of more than one billion people is putting a growing burden on the environment, infrastructure, and ecosystems of the country. With very low GDP per capita and with the second highest population in the world, India's environmental challenges are far more formidable than those faced by other emerging economies. Industrial pollution, soil erosion, deforestation, urbanization, and land degradation are all leading to overexploitation of the country's resources- be it land or water. Some of the more important problems are discussed below :

(1) Increasing Soil Erosion: Soil erosion is a disastrous environmental problem throughout the world. Erosion is a slow, insidious problem that is continuous. Indeed, 1 mm of soil, easily lost in one rain or wind storm, is so minute that its loss goes unnoticed by the farmers and others. However, this loss of soil over a hectare of cropland amounts to about 15 t/ha. Replenishing this amount of soil under agricultural conditions requires approximately 20 years ; meanwhile, the lost soil is not available to support crops. Along with the loss of soil is the loss of water, nutrients, soil organic matter, and soil biota. In India, a total of 17, 50,000 km² out of the total land area of 32, 80,000 km² is prone to soil erosion. Thus, about 53% of the total land area of India is prone to erosion (Pimentel & Burgess, 2013). According to a study conducted by the Central Soil Water Conservation Research and Training Institute-Dehradun in 2010, the average rate of soil loss due to erosion was 16.4 tonnes per hectare annually, with an annual total loss of 5.334 billion tonnes (CSWRCTI, 2011).

Table 1. Land Degradation in India (Million Hectares)

Degradation type	Degree of Degradation				Total
	Slight	Moderate	Strong	Extreme	
Water Erosion	27.3	111.6	5.4	4.6	148.9
a. Loss of topsoil	27.3	99.8	5.4	-	132.5
b. Terrain Deterioration	-	11.8	-	4.6	16.4
Wind Erosion	0.3	10.1	3.1	-	13.5
a. Loss of topsoil	0.3	5.5	0.4	-	6.2
b. Loss of topsoil/terrain deterioration	-	4.6	-	-	4.6
c. Terrain deformation/over blowing	-	-	2.7	-	2.7
Chemical Deterioration	6.5	7.3	-	-	13.8
a. Loss of nutrient	3.7	-	-	-	3.7
b. Salinization	2.8	7.3	-	-	10.1
Physical Deterioration	-	-	-	-	116.6
Waterlogging	6.4	5.2	-	-	11.6
Total (affected area)	36.8	137.9	8.5	4.6	187.8

Source: The World Bank (2013). An analysis of physical and monetary losses of environmental health and natural resources. Washington D.C. : The World Bank

(2) Desertification: According to a study conducted by the Central Research Institute for Dry Land Agriculture, which as a nodal agency for ICAR (Indian Council of Agricultural Research) on the effects of climate change, it was found that arid regions have substantially increased in Gujarat; whereas, the dry sub humid regions in Madhya Pradesh, Tamil Nadu, and Uttar Pradesh have now become semi-arid. Similarly, moist sub-humid and the humid regions of Chhattisgarh, Odisha, Jharkhand, and Madhya Pradesh have become dry sub-humid. Overall, around 27% of the geographical area of the country saw a climatic shift between 1971 and 2005. The shift from moist sub-humid to dry sub-humid was the largest and made up 7.23% of the country's area (Rebello, 2014). The Space Application Centre in 2007 brought out the Desertification and Land Degradation Atlas. The atlas showed that 81.45 million hectare land in the country had turned into arid, semi-arid, or dry sub-humid region (Press Information Bureau, 2010). The Table 1 depicts the data regarding the extent of land degradation in India.

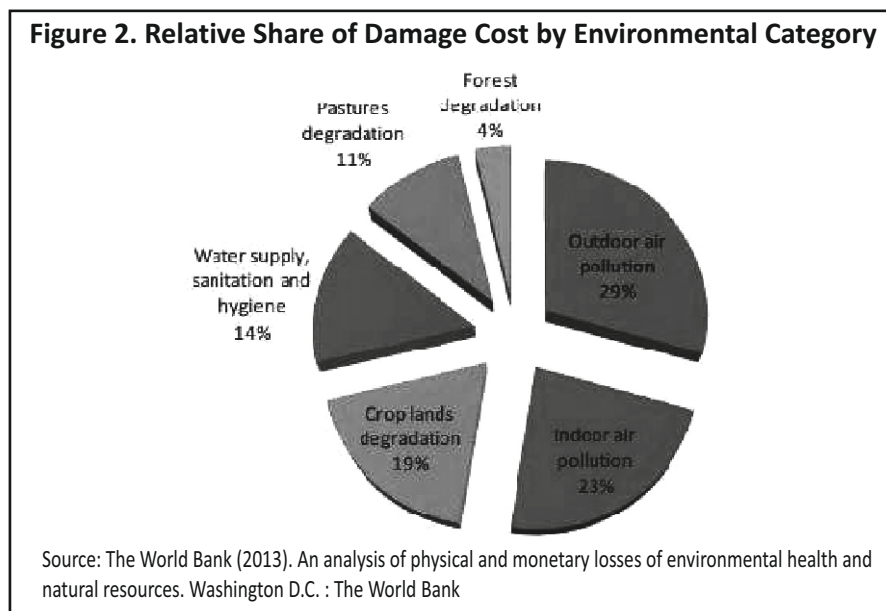
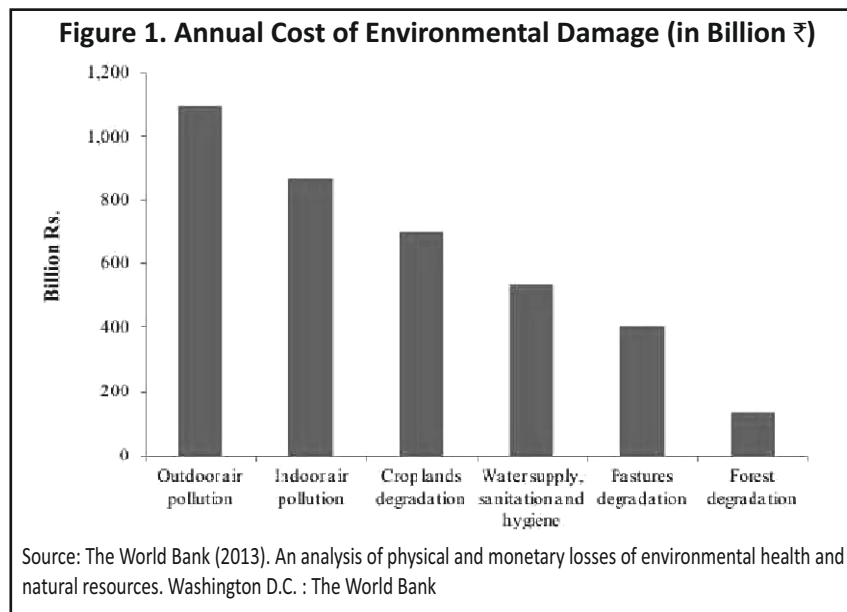
(3) Loss of Forest Wealth: According to the assessment of the Forest Survey of India, the net annual loss of forests was estimated to be 99,850 ha during the period from 2007- 2009, even though the total area under forests had increased (Ravindranath, Srivastava, Murthy, Malaviya, Munsu, & Sharma, 2012). About 25% of the country's geographical area is affected by desertification. Desertification results in decline in water table and availability of water. It will have an adverse impact on agricultural productivity and bio-diversity. All these changes affect the lives and livelihoods of the population, forcing out migration. Desertification is caused by climatic variations and human activities. The human activities that have a bearing on desertification are: over cultivation of soils, excessive use of chemical fertilizers and pesticides, over grazing, over exploitation of forest resources, and deforestation.

(4) Effects of Industrial Pollution: Industrial pollution is threatening the country. A million people die each year due to water pollution. One lakh people are estimated to die each year due to air pollution. Lakhs of people are suffering from high rates of illnesses and poor quality of life because of various forms of pollution. Tens of thousands of marginalized people are losing their sources of livelihood every year due to environmental degradation and displacement from their traditional habitats due to construction of big dams, industrialization, and indiscriminate mining, and so forth.

🔗 **Costs of Environmental Degradation in India:** The World Bank (2013) in its report in 2013 estimated the cost of environmental degradation at US \$80 billion annually, or equivalent to 5.7% of GDP in 2009 (in 2009 prices). The Figure 1 presents the estimates of the World Bank of social and financial costs of environmental damage in India from three pollution damage categories: (a) urban air pollution, including particulate matter and lead, (b) inadequate water supply, poor sanitation and hygiene, (c) indoor air pollution; and four natural resource damage categories: (a) agricultural damage from soil salinity, water logging, and soil erosion, (b) rangeland degradation, (c) deforestation, and (d) natural disasters. The estimates are based on a combination of Indian data from secondary sources and on the transfer of unit costs of pollution from a range of national and international studies (a process known as benefit transfer).

Data limitations have prevented estimation of degradation costs at the national level for coastal zones, municipal waste disposal, and inadequate industrial and hospital waste management. Furthermore, the estimates provided do not account for loss of non-use values (i.e., value people have for natural resources even when they do not use them). These could be important, but there is considerable uncertainty about the values.

The report estimated that the total cost of environmental degradation in India was about ₹ 3.75 trillion (US\$80 billion) annually, equivalent to 5.7% of the GDP in 2009, which is the reference year for most of the damage estimates. Of this total, outdoor air pollution accounted for ₹1.1 trillion followed by the cost of indoor air pollution at ₹ 0.9 trillion, croplands degradation cost at ₹ 0.7 trillion, inadequate water supply and sanitation cost at around ₹ 0.5 trillion, pastures degradation cost at ₹ 0.4 trillion, and forest degradation cost at ₹ 0.1 trillion. As a proportion to GDP, outdoor air pollution accounted for the highest share at 1.7% followed by cost of indoor air pollution at 1.3%, croplands degradation cost at just over 1%, inadequate water supply, sanitation, and hygiene



cost at around at 0.8%, pastures degradation cost at 0.6 %, and forest degradation cost at 0.2% of the GDP (Mani, Markandya, Sagar, & Strukova, 2012).

The Figure 2 presents the relative share of damage cost by environmental category. As share of the total, outdoor air pollution accounted for 29%, followed by indoor air pollution (23%), crop land degradation (19%), water supply and sanitation (14%), pasture (11%), and forest degradation (about 4% each). In addition, over the period from 1953-2009, damages from natural disasters (floods, landslides, tropical cyclones, and storms) were estimated at ₹150 billion a year on an average (in constant 2009 prices) and took the form of loss of life and injury, losses to livestock and crops, and losses to property and infrastructure. At such a huge cost, The World Bank warned that the environment could become a major constraint in sustaining the future economic growth of India.

Millions of people in India are dependent on nature for their livelihood - food, fodder, firewood, water, herbals, and so forth. Denial of access to the products of nature and commoditization of the same threaten the sources of livelihoods of these people. Hence, the issue of equity and social justice plays a crucial role in the Indian

ecological imagination. The popular environmental struggles in India such as the Chipko Movement against deforestation in Himalayas, the Narmada Bachao Andolan, Tehri and Koel - Karo resistance movements against big dams, the Chilika Bachao Andolan against shrimp farming by the Tatas in the Chilika Lake were all about protecting the livelihood interests of the adivasis and other marginalized communities.

The major issues in our tropical, agrarian, and densely populated country are around the use of renewable resources such as land, water, forest, air, seas, and their conservation. A typical Indian village is built around the gross nature product. The Indian villages share a complex, yet fragile ecological equation with both private and common resources, which got disturbed due to environmental degradation. The Indian environmental movements have successfully highlighted the immiserisation of marginalized communities because of alienation of their livelihood resources.

Section – 2 : Approaches to the Problem

Neo-liberal economics or economic rationalism dates back to the 18th century liberalism as reflected in the writings of Adam Smith. While the neo liberals argue that market failures lead to negative environmental impacts, they advocate a free play of market forces along with technological innovation in order to reduce environmental risks. This argument gave rise to environmental economics and free market environmentalism. Environmental economics promotes environmental costing and technological fixes for environmental problems. According to Welford (1997) and Jaffe, Newell, and Stavins (2004), environmental economics is based on the idea that the potentially harmful consequences of economic activities on the environment constitute an “externality,” and through the use of cost-benefit analyses, they have to be evaluated (Boyce, 2002 ; Pearce, 1998). In theory, environmental costing sounds fine, but many writers have argued that it is very difficult to place an accurate monetary value on environmental risks (Cairncross, 1995 ; Foster & Keats, 1997 ; Sagoff, 1988). Even with economic incentives such as carbon taxes, investment in environmentally beneficial technologies is unlikely to occur at the level that society would desire.

According to free market environmentalists, environmental externalities such as resource depletion, land degradation, pollution, and so forth are due to the absence of a well defined, transferable, and enforceable private property rights in respect of common environmental assets (Eckersley, 1995). Private ownership of environment gives rise to a market for unpolluted rivers, rainforest, clean oceans, and so forth, and thus, it can be a solution to the problem of environmental degradation.

In the neo-Malthusian framework, environmental degradation is the net result of population explosion. The sheer increase in the numbers would become a burden on the scarce natural resources and hence result in further degradation (D'Souza, 2002). However, the neo-Malthusian approach like other neo- classic approaches ignores the aspects of structural inequality and political economy origins of environmental degradation.

The western model of economic growth, which we have adopted, is both resource and capital intensive. The resource intensity of the model results in the mobilization and use of natural and energy resources on a massive scale. This, in turn, leads to enormous amounts of pollution and degradation of natural resources. This is what has exactly happened in India. The elite have pushed a form of development that has intensified resource extraction at the expense of the environment and the sub-altern classes who depend on it for subsistence.

The current rates of pollution and environmental degradation can be traced to the peculiar character of dominant social order - Capitalism. Capitalism, propelled by the dictates of capital accumulation, attempts a qualitative transformation of nature. The complexity of nature and its innumerable linkages are broken down in the process of capital accumulation and the environmental goods, which are free gifts of nature, are transformed into economic goods. The capitalist expansion results in disarticulation - in the form of disruption to the integration of ecological processes and in the form of disruption to the livelihoods of millions of people dependent on nature.

↳ **Importance of Natural Capital :** Natural capital may be defined to comprise all gifts of nature: land, animals, fish, plants, non-renewable and renewable energy, and mineral resources. Natural capital can be exploited by man, but cannot be created by man. Natural capital and man-made capital, in most cases, are complements rather than substitutes. Christensen (1989) termed the various elements of natural capital as 'primary' inputs and man-made capital and labour as 'agents of transformation'. While substitution possibilities are high within each of these two groups, substitution possibilities between the two are very low. Increasing output thus means, increasing use of both types of inputs in many cases.

↳ **Sustainable Development :** Daly (1991) suggested that sustainable development can be operationalized in terms of the conservation of natural capital. By limiting the renewable consumption to sustainable yield levels and by re-investing the proceeds from non-renewable resource exploitation into investment in renewable natural capital, a constant stock of natural capital has to be maintained.

The standard neo-classical approach is entirely different from the approach suggested by Daly. In the neo-classical perspective, there is no special reason to conserve natural capital. According to the Hartwick's rule (Solow-Hartwick Approach) (Hartwick, 1977; Solow, 1986), the consumption may remain constant, or increase, with declining non-renewable resources, provided that the rents from these resources are reinvested in reproducible capital. This is based on their assumption of possible substitutability of the two types of capital. Unlike Daly's reinvestment rule, this does not require maintenance of any particular stock of natural capital.

Daly's view is based on the opposite assumption, that man-made and natural capitals are fundamentally complements and only marginally substitutes. If natural capital has a special and unique importance, then neo-classical economic efficiency will not suffice for sustainability, and it becomes necessary to maintain the stock of natural capital deliberately at particular levels. The following four operational principles for sustainable development have been suggested by Prof. Daly. They are :

- (1) Setting all harvest levels at less than or equal to the population growth for some predetermined size in the case of renewable resources.
- (2) Establishing assimilative capacities for eco systems and maintain waste discharges below these levels and setting the cumulative pollutants close to zero.
- (3) Dividing the receipts from non-renewable resource extraction into an income stream and an investment stream. The investment stream has to be invested in renewable substitutes, and only the income stream should be available for consumption.
- (4) Minimizing the matter energy used in the economy. Such controls must be quantitative and aimed at population levels and resource use.

Ecologists also argue that the economy is a part of the environment and not the other way around. Brown (2001) emphasized the need for placing ecology and ecosystems ahead of the economic system. An environmentally sustainable economy has to be built, and for this, the principles of ecology must form the framework of the economic policy.

Environmental sustainability was defined by the World Commission on Environment and Development (WCED, 1987) in its report 'Our Common Future' as “development that meets the needs of the present without compromising the ability of future generations to meet their own” (p. 41). It contains two key concepts: the concept of "needs," in particular, the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs. The two aspects of equity- equity between generations and equity across the generations are given equal importance by the World Commission on Environment and Development (WCED).

WCED (1987) noted that :

Environment and development are not separate challenges; they are inexorably linked. Development cannot subsist upon a deteriorating environmental resource base; the environment cannot be protected when growth leaves out of account the costs of environmental destruction. These problems cannot be treated separately by fragmented institutions and policies. (p. 36)

The debate on sustainability has focused on two key aspects : (a) the degree to which natural 'capital' can be replaced by human capital, and (b) the obligations the present generation owes to future generations. The definition given by the Commission has been accepted by world governments as a guiding policy for formulating environmental policies. It involves keeping the consumption of renewable resources within the limits of their replenishment. It also implies that we should hand down, to the successive generations, not only material wealth, but also natural wealth such as clean and abundant water supply, clean air to breathe, good cultivable land, and ample forest and animal wealth.

↳ **Environmental Policy of the Indian Government** : Against the background of the above discussion, the environmental policy of the Indian government was also examined. In the initial years of planned development, nature was treated as given, a resource to be managed through application of science and technology. It was only after the publication of Rachel Carson's classic *Silent Spring* (1962) and the *Club of Rome Report - Limits to Growth* (1972) that our policy makers realized the importance of limits to intervention in nature.

Environmental regulation in India has been seen to play different roles during different phases of the country's development. During the initial phase of development, environmental degradation was accepted as the obvious and unavoidable outcome from a process of economic growth. In the next phase, a more active approach was evolved with a focus on environmental governance - giving effect to various mechanisms for monitoring performance and enforcing standards. In the third phase, the government came with a comprehensive environmental policy to promote economic growth compatible with environmental services (UNDP, 2009).

↳ **National Environmental Policy 2006:** The National Environmental Policy (Ministry of Environment and Forests, Government of India, 2006) recognized that “environmental degradation is a major causal factor in enhancing and perpetuating poverty, particularly among the rural poor, when such degradation impacts soil fertility, quantity and quality of water, air quality, forests, wildlife and fisheries” (p. 4).

This policy was a response to the national commitment to a clean environment, mandated in the Constitution in Articles 48 A and 51 A (g), and strengthened by judicial interpretation of Article 21. The policy, which is intended to be a guide to action in regulatory reform, programmes, and projects for environmental conservation and review and enactment of legislation has the following objectives:

- ↳ Conservation of Critical Environmental Resources,
- ↳ Intra-generational and Inter-generational Equity,
- ↳ Integration of Environmental Concerns in Economic and Social Development,
- ↳ Efficiency in Environmental Resource Use,
- ↳ Environmental Governance, and
- ↳ Enhancement of Resources for Environmental Conservation.

According to the World Bank report (2007), by any benchmark, India has an extensive environmental management system with a comprehensive set of environmental laws, specific statutory mandates, regulatory instruments, and institutional frameworks to implement and enforce environmental policy objectives. Environmental legislation is on the national list. There are over 200 laws relating to environmental protection (UNDP, 2009).

In spite of this, at present, the development path of economic growth in India lacks resource management efficiency and ecological security concerns. As discussed earlier, the World Bank in its 2013 report cautioned the government about the burden of cost of environmental degradation. The weak regulatory mechanisms have led to serious environmental concerns. Besides, the policy has strangely made itself more meaningful to the industrial sector, attempting to protect it instead of the environment. It recognizes the "dichotomous relationship" between economic growth and environmental degradation, but justifies economics as a means to resolve the two as it can allocate resources for environmental investments.

Moreover, the institutional and legal framework created in the country for protecting the environment over the years was built on the western paradigm of exclusion and protectionism. The state was made responsible for everything - protection of bio-diversity, forests, water use, control of pollution, and so forth. A number of legislations were made as a response to the enlightened public opinion and often consequent to judicial intervention. Pollution control requires enormous public and private investment. Besides, it requires strict enforcement of pollution laws and effective regulation.

However, environmental administration in the country has been dismal because of the nexus between the politicians, bureaucrats, and big polluters. As a result, the pollution control laws and conservation strategies largely remained on paper. The Supreme Court of India, in a judgment, commented on the sorry state of environmental administration in India. It (ICEL v. UoI, 1996) said, "If mere enactment of laws relating to protection of environment was to ensure a clean and pollution-free environment, then India would perhaps be the least polluted country in the world. But that was not so" (p.303).

This being the state of affairs, after the advent of globalization, more complex problems have cropped up. Ecological globalization, based on global rules that are dominated by the interest of the developed countries is one such problem. The governments, both at the Center and State levels, seem to be unprepared to face this challenge. Fighting unjust ecological globalization requires substantial financial and intellectual resources. We have yet to realize the gravity of the situation.

Section – 3: Role of Business Corporations

Reich (2008) explained the power of big corporations to influence the environmental policies of the government. The consequence of this is the inability of the governments to provide effective leadership in environmental management because corporations are a part of the environmental problem, they must be involved in becoming the part of the solution also (Dunphy, Griffiths, & Benn, 2003). They also stated that corporations must cherish individuals, support communities, and nourish the natural environment.

Corporations are part of the society and act within the framework of the society. They have to be careful in utilizing the society's scarce resources, particularly, the non-renewable ones. They have no right to plunder the global commons cheaply. On the positive side, Porter (1991) argued that good environmental responsiveness on the part of the corporations may indeed provide them a competitive advantage in terms of more efficient processes, improvements in productivity, lower costs of compliance, and new market opportunities.

Responding to growing pressure, corporations developed self-regulating codes and strategic policies on environmental management, environmental certification programs, self-monitoring practices, as well as voluntary participation in monitoring by independent auditors. In addition to the tenets of CSR, the notion of a triple bottom line (people, planet, and profits), stakeholder theory, environmental management systems (EMS), life cycle assessments (LCA), bio-mimicry, and other corporate movements emerged in the 1990s. These concepts sought to change corporate culture and management practices by placing a new importance on the environment. After the United Nations Conference on Sustainable Development (Rio+20), most of the companies in the West started adopting sustainable business practices as an integral element of their corporate strategies (UNESCAP, 2013).

Indian companies must also move from corporate social responsibility (CSR) to corporate sustainability or responsible business practices. For this, the Indian corporate companies have to integrate the environment into all

aspects of their operations. To start with, every company has to formulate its corporate environment policy. The policy should state how the company is going to integrate environmental concerns in the design, production, and distribution of its products and services. The companies must be willing to go beyond the existing laws relating to the environment and be a part of the sustainability campaign. Companies should establish an open-book policy whereby employees, community members, and others can be informed of any potentially adverse effects the company might have on the environment. An environmental audit must be undertaken by every company to evaluate the type and amount of resources used by a company, product line or facility, and the types of waste and emissions generated. Besides, they have to involve the employees in a big way in matters relating to conservation of the environment. They have to educate and sensitize the employees and institute incentives and rewards for their efforts to be the change agents who could demonstrate their environmental commitment. They can also initiate programmes of green procurement-procuring greener products and materials from their suppliers. Companies must focus on producing products with lower energy requirements, lower emissions, and lower health and safety risks.

Conclusion and Implications

The original idea of development was based on a straight-line progression from traditional to modern mass-consumption society. Development, as it has proceeded over the last half-century, has remained inequitable, and has had growing negative environmental impacts. India has had its share of environmental problems as part of this developmental story. It is now agreed that the conservation of natural capital is essential for sustainable development and inter-generational equity. Both population and demand for resources must be limited in scale. The integrity of the eco systems and diversity of species have to be maintained. The observation of Mahatma Gandhi that nature has enough to satisfy everyone's need, but does not have enough to satisfy man's greed is more relevant now than before.

Important problems facing the world today, such as deforestation, degradation of the environment, or climate change, can be described as 'the problem of the commons'. The solution to the 'tragedy of commons' requires cooperation between nations across the world and local communities. The solution does not lie either in outright privatization of the commons or centralized bureaucratic control over the commons. It is necessary to recognize the limits to the effectiveness of the market mechanisms. Market mechanisms do not operate effectively to conserve natural capital, but tend to deplete and degrade it. While markets may be excellent under some conditions at achieving economic efficiency; they are often counterproductive in terms of sustainability. Regulation of markets thus becomes imperative for preventing environmental degradation.

The tragedy of commons can be prevented through large-scale cooperation across the communities. Sometimes, it may not be available on the required scale because free-riders enjoy common benefits without bearing the cost of their provisions. However, there is ample evidence to show that historically, communities have been able to rise to the occasion and solve such problems. The international protocols and agreements on environment and climate change and emergence of new branches of knowledge and rising levels of environmental awareness clearly provide the hope for solving some of our worst environmental problems.

The Economic Survey 2013-14 (Ministry of Finance, Government of India, 2014) pointed out that India has voluntarily committed to an endeavor to reduce the emissions intensity of its GDP by 20-25% by 2020. According to the projections of the expert group set up by the Planning Commission for evolving low carbon strategies for inclusive growth, low carbon strategies will bring down the average GDP by 0.15 % points, while per-capita CO₂ emissions in 2030 will fall from 3.6 tonnes per person in the BIG (baseline inclusive growth) scenario to 2.6 tonnes per person in the LCIG (low carbon inclusive growth) scenario. Even though India has not utilized its fair share of earth's carbon space, it has committed to adhering to global standards of emission. This becomes a very difficult task in the context of India not achieving the basic minimum standards of living for its entire population.

The World Bank has asserted, keeping in mind the unique biodiversity and ecosystems of India, that India needs to value its natural resources in order to inform policy and decision making towards an environmentally

sustainable future. There are also warnings that environmental sustainability could become the next major challenge as India surges along its projected growth trajectory (The World Bank, 2013). Hence, the regulatory framework must be made to cope with environmental pressures, irrespective of the origin of sources and for this, regulatory capacity has to be increased with growing mandates of meeting sustainable development requirements.

Environmental sustainability also demands the creation of a political order in which the control of natural resources rests with the local community. Decision making within the community has to be participatory, open, and democratic. The environment is not about planting trees or protecting tigers, but it is about deepening democracy. In this context, the attempts of the ruling classes to weaken and dis-empower civil society are deplorable. The long term economic and ecological interests of the country are better served by the participation of the community at all levels. As pointed out by the World Commission on Development and Environment, economy is not just about the production of wealth, and ecology is not just about the protection of nature; they are both equally relevant for improving the lot of humankind. All over the world, business corporations are increasingly factoring environmental concerns in their business strategies. The Indian companies must become more environmentally responsible for preventing further environmental degradation in our country before it is too late.

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