
Linkages between Society, Environment, Development, Education

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1. Introduction

Environment refers to the surroundings of organisms in which they live and interact. Environment is a system in which various living beings like animals including man, birds, insects, rodents, microorganisms like algae, fungi, protozoa and nonliving beings like the soil, the water, the air etc. are interrelated in a life sustaining system. On the basis of basic structure, environment may be divided into two basic types –

- Abiotic or physical environment – it consists of solid, liquid and gas.
- Biotic or biological environment—it consists of flora [plants] and fauna [animals] including man as an important factor.
- Ecosystem – the interactions of organisms with biotic and abiotic factors form an ecosystem.

Society: Man, as such, lives in two environments – natural environment consisting of water, air, soil, hills, trees, other living beings etc. and social environment created by man himself using technology, science, religion and politics.

Man and natural environment has cordial relationship from time immemorial. They protected the nature for their own survival. The interplay between man and his surroundings is a dynamic process in which each is influencing, molding and interacting with the other. But with the help of science and technology, man started destroying and exploiting the nature in the name of development. Thus man's endeavor to establish supremacy over nature resulted in degradation of nature threatening the human existence itself. The contradiction between natural and social

environments or man-made environment, therefore, results into serious environmental problems. Dalai Lama has rightly said that “If we care for Nature, it can be rich, bountiful, inexhaustible and sustainable”. Environment came to be recognized as an international issue at the 1972 Stockholm Conference.

2. **Education**

Why study environment? ---

- The main objective for studying environment is to develop knowledge based awareness that will lead to cultivation of responsible attitude to environment,
- Environmental education is the process of recognizing values and clarifying concepts in order to develop skills and attitudes necessary to understand and appreciate the inter-relatedness among man, his culture and his biological surroundings.
- Environmental education entails practice in decision-making and self-formulation of a code of behavior about issues concerning environmental quality

According to Tbilisi [Georgia] Declaration the goals of environmental education are:

- To foster a clear awareness of concern about economic, social, political and ecological interdependence in urban and rural areas,
- To provide every person with opportunities to acquire the knowledge, values, attitudes, commitment and skills needed to protect and improve the environment,
- To create new patterns of behavior of individuals, groups and society as a whole towards the environment,

The Wildlife [Protection] Act [1972] governs wildlife conservation and protection of endangered species. The govt. started conservation projects for individual endangered species like Hungal [1970], Lion [1972], Tiger [1973], Crocodiles [1974] and Brown-antlered Deer [1981].

National Policy on Education [1986], therefore, says, ' There is a paramount need to create a consciousness of the environment. It must permeate all ages and all sections of the society, beginning with child, this aspect will be integrated in the entire educational processes. In 1986, the Parliament passed the Environment [Protection] Act which relates to prevention, control and abatement of environmental pollution.

Study of environment became more significant and relevant after the Supreme Court judgment [1991] –‘It is the responsibility of every university and college to accept environment a compulsory subject at every level of higher education’, Environmental issues are interdisciplinary, multi-disciplinary and trans-disciplinary in nature. It involves subject matters from both sciences and social sciences. With the subject matter as the central theme each and every student can use the inquiry skills to explore and observe man’s interaction with the environment,

- each citizen must be responsible for making right decision on different environmental problems and issues, by using information from both natural and social sciences,
- to refocus on right actions – a rich literature in environmental virtue ethics has been arising that explores connection between human flourishing, particular virtues and vices, and a healthy natural environment. [Jenny, K.,[2005], *Western Environmental Ethics*] . Since the modern way of life is leading to environmental degradation, living in harmony with nature is the solution to the environmental crisis.
- The Rio Declaration on Environment and Development [1992] also states –‘ Human beings are at the centre of sustainable development, and they are entitled to a healthy and productive life, in harmony with nature ... There is an urgent need to address the causes of ill health, including environmental causes and their impact on the development’,

Environmental Education Conference [1971], World Environment Conference at Stockholm, Sweden [1972], Belgrade Workshop [1975], Tbilisi [Georgia] Conference [1977], first Environmental Workshop on Development and Biosphere stability [New Delhi, 1984], Earth Summit at Rio-de-Janeiro, Brazil [1992], Johannesburg , South Africa [2002] and other such Forums have highlighted the importance of the study of environment.

- Kyoto Protocol—under it, European nations and the US have a commitment to reduce greenhouse gas emissions on average by 8% between 2008 and 2012 compared to emissions in the base year which is 1990.
- At the Copenhagen conference in December 2008, the US and EU wanted the baseline year to be shifted to 2005, which India opposed. Moreover, the Rich countries have failed on their commitment under the Kyoto and are not willing to provide resources [technology transfer and finances] to the developing world to meet the challenges of climate change.

- Cancun [Mexico] conference 2010 – India agreed to take on binding emission cuts, while developed countries did no more than make sympathetic noises.
- According to the latest World Bank figures, GNI [Gross National Income] per capita figures are: \$46,040 in USA, \$38,860 in Germany, \$38,500 in France, \$42,740 in UK, \$2,360 in China and \$900 in India. Yet, despite such economic disparities, the pressure is growing on India and China to make equal contributions to reduce the flows of greenhouse gas emissions in order to tackle the global warming.

Study of Environment is essential:

- To understand the biodiversity, its significance and ways to protect them,
- To understand air, water, soil, marine, noise and thermal pollution and their causes, effects and remedial measures, wastes and disaster management, the concept of sustainable development, urban problems of energy, water conservation, resettlement and rehabilitation of people, environmental ethics, climatic change, global warming, acid rain, nuclear accidents, and environmental protection acts. It creates public awareness towards environment and discusses the measures to make this human habitat pollution free.
- To recognize that economic growth, environmental protection and social equity are interdependent and mutually reinforcing goals. To quote Gandhi , the world had enough for everyone’s need but not enough for everyone’s greed,

We can easily understand the importance and significance of the study of environment by taking the example of recent ban on plastic bags by Delhi Government which is yet to be observed by the people of Delhi in an effective manner. Reason being the ignorance regarding the pollution caused by plastic bags.

The National Environmental Policy, 2004 has identified the key environmental challenges in the following words – The key environmental challenges that the country faces relate to the nexus of environmental degradation with poverty in its many dimensions, and economic growth. These challenges are intrinsically connected with the state of environmental resources, such as land, water, air and their flora and fauna.

The proximate drivers of environmental degradation are population growth, technology and consumption choices, and poverty, leading to changes in relations between people and ecosystems,

and development activities such as agriculture, polluting industry, and unplanned urbanization. However, these factors give rise to environmental degradation only through deeper causal linkages, in particular institutional failures, resulting in lack of clarity or enforcement of rights of access and use of environmental resources and policies which provide disincentives for environmental conservation.

3. **Development Vs Rehabilitation**

Ramchandra Guha and Madhav Gadgil, Ghanshyam Shah have divided the Environmental Movements into various categories on the basis of participants, ideology respectively. According to Ramchandra Guha and Madhav Gadgil, it is possible to identify three distinct ideological perspectives within the movement ---

Crusading Gandhian –

- Rejects modern way of life based on materialism and consumerism thereby leading to wasteful lifestyles.
- It calls for a return to pre-colonial and pre-capitalist village society based on social and ecological harmony.

Ecological Marxists –

- Unequal access to resources explains the environmental degradation and social conflict.
- Creation of an economically just society is a logical precondition of special and ecological harmony.
- Faith in modernity and emphasis on confrontational movements.

Appropriate Technology –

- It strives for a working synthesis of agriculture and industry, big and small units, and traditional and modern technological traditions.
- Their emphasis is on demonstrating in practice a set of socio-technical alternatives to the centralizing and degrading technologies presently in operation.

All these three trends are represented in the Chipko movement –

- Gandhian trend --- Sunderlal Bahuguna,

- Marxist trend --- Uttrakhand Sangarsh Vahini, and the
- Appropriate Technology trend --- Dashauli Gram Swarajya Mandal, under it the movement began.

In the 1970's, it was believed by the politicians and intellectuals alike that concern for nature was a luxury to be afforded by only the rich countries. However, men like Chandi Prasad Bhatt established the view that there was an environmentalism of the poor.

In the 1980's, Indian Greens began receiving massive as well as positive media attention. There was a veritable flood of reportage on environmental issues by the scholars such as Anil Agarwal, Darryl D'Monte, Usha Rai, Raj Kumar Keswani and Shekhar Pathak, Nagesh Hegde.

In 1980, a new Department of the Environment was established which was upgraded five years later into a full fledged Ministry of Environment and Forests. State governments followed by setting up environment ministries of their own.

In the 1990's, the third phase commenced which may be termed as Professionalisation. Scientists and social scientists began to systematically analyze the roots of environmental conflicts. Some went further, seeking technical or institutional solutions.

In about 1995, an anti-environmental backlash began. As the Indian economy began to take off, as a surge of new projects were floated or started, the Greens found themselves cast as negative, backward-looking and, indeed, as the only obstacles to India's march to greatness.

Now the growing global concern with climate change could bring the question of sustainable development back into the centre-stage. If or when, that happens, the Indian elite would be advised to look within, to seek solutions worked out at home, for example, the work of A.K.N. Reddy on sustainable energy strategies, Madhav Gadgil and Ashish Kothari on biodiversity conservation, Anupam Mishra and Ramaswamy Iyer on water management, Dinesh Mohan on transport, Dunu Roy on workplace safety, Ravi Chopra and the Peoples Science Institute in Dehradun on rehabilitation.

These works address the environmental question in highly practical ways and if given the necessary push by the press and the broader public – take India down a less destructive, that is to say more sustainable, path of economic development.

4. **Recent Trends**

- Popular Movements – it talks about people’s control over natural resources.
- Elite Movement – it calls for preservation of forests and therefore supports state control over the resources.
- Feminist Environmentalist – it is mainly confined to tribal and poor peasant women’s concern with environment degradation.

North – South Divide – The North blames the countries of the South for their hesitation in signing accords that could limit the green house gases and in absorbing the costs of pollution control as well as other environmental programmes. On the contrary, the South i.e. developing countries uphold the view that the industrialized nations are mainly responsible for the environmental degradation and thus expect it to pay for its protection. This divide could be overcome if the two blocks could cooperate over the environmental issue.

Green Marketing – it places emphasis on sustainability of marketing activities of a firm so that these create a positive impact of their products on environment. Seeing the phenomenal rise in environmental consciousness among consumers, business firms have started turning green, thus paving the way for what is referred to as corporate environmentalism.

Green Economists – they put interests of the ecosystem above human economic development. According to them, sustainable state is one which satisfies minimum conditions of ecosystem stability and resilience through time. Sustainable human development approach- advocated by Puthenkalam which ensures larger goals of sustaining development without disturbing the natural environment. This approach:

- Puts people at the centre of development
- Regards economic growth as a means and not an end,
- Protects the life opportunities of future generations as well as the present generation and respects the natural systems on which all life depends.
- Social integration and environmental regeneration.

According to Kumkum Dasgupta, the climate change debate in India seems to be revolving around the macro issues. But the need is to put more focus on micro issues – how the common people of India are adapting to the changing climate patterns. In Punjab, for instance, farmers have

turned to basmati to beat the climate change threat. Dasgupta further says in her article entitled Local Warming that the climate change is not just a developed v/s developing world debate but it is also an Urban India vs Rural India tussle.

V.N. Misra in his article entitled, Climate a Factor in the Rise and Fall of the Indus Civilization: Evidence from Rajasthan and Beyond has highlighted the theory of Gurdip Singh who revived the theory of wet climate i.e. Climatic factors [earlier proponents were Stein, Marshall, Raikes, Dyson] responsible for the decline of the Indus Valley Civilization. According to Singh, a decrease in rainfall around 1800 BC led to a decline of the Indus Civilization. Mahatma Gandhi and the Environmental Movement [Ramchandra Guha] – From the Chipko Andolan to the Narmada Bachao Andolan, environmental activists have relied heavily on Gandhian techniques of non-violent protests and Chandi Prasad Bhatt, Sunderlal Bahuguna, Baba Amte and Medha Patkar have acknowledged their own debt to Gandhi.

Chipko Movement –In April, 1973, the peasants of Mandal, a village in the Chamoli district of Garhwal Himalaya, effectively thwarted commercial felling in a nearby forest by threatening to hug the trees. Chipko brought into sharp focus a wide range of issues concerning forest policy and the environment debate as a whole [Guha].

Bina Agarwal has highlighted women's active participation in Chipko Movement –

- Women's protest against the commercial exploitation of the forests,
- They have been successful in protecting trees,
- Replanting of trees,
- Cash in the men's hands would not necessarily benefit them or their children due to alcoholism.
- Under Chipko Movement there has been large-scale mobilization against male alcoholism and associated domestic violence and wasteful expenditure, women have developed a holistic understanding of the environment in general and forests in particular.

5. **Dams/ Development/ Rehabilitation**

Through the 1980s and beyond, different river valley projects – from Tehri in the north to Silent Valley in the south, Koel Karo in the east to Sardar Sarovar in the west – have been the subject of bitter controversy.

Critics —

- Dam displaced people of India.
- Cost- benefit ratios overvalue benefits and undervalue costs.
- High incidence of water logging and the wholesale submergence of forests and wildlife.
- Disrupt fish life
- Spread of water borne diseases.
- In the last three decades, more than 11.5 million people have been displaced by development projects without being properly rehabilitated.
- Deprivation cultural and psychological as well as economic – suffered by the displaced communities.

6. **Delhi: Pollution of Yamuna**

In early 1997, the Centre for Science and Environment, an NGO, came out with a report on pesticide pollution of the Yamuna River. Delhi Water Supply and Sewerage Undertaking [DWSSU] came out with blanket statements asserting that there were no pesticides even in raw water. After few years DWSSU said that the pesticide levels were within the prescribed limits. DWSSU then decided to buy equipment to constantly monitor the pesticide level. According to Agarwal 1996, the authorities will have to seek management solutions to see that pesticides do not enter the water. For once pesticides enter the water it is difficult to remove them.

Global Warming-It is one of the most serious environmental problems facing the world community. It is estimated that an increase in the average atmospheric temperature of 3 degree would raise the average global sea level by 0.2 -1.5 meters over the next 50-100 years as a result of the melting of glaciers and early snowmelt, which will lead to coastal flooding on the Eastern seaboard in Florida as well as Gulf of Mexico.

A meter rise in the sea level may inundate low lying areas of cities like Shanghai, Cairo, Bangkok, Sydney, Venice, low lands in Egypt. In India, the Lakshadweep Islands with a maximum height of 4 meters above the sea level is vulnerable. The major pollutants, which contribute to global warming, are CO₂, N₂O, CH₄ AND CFCs – these are known as greenhouse gases. Recently, Trifluoromethyl sulphur pentafluoride [SF₅CF₃] has also been investigated as a potential greenhouse gas.

7. Sustainable Development

Sustainable development is a strategy by which communities seek economic development approaches that also benefit the local environment and quality of life. It meets the needs of the present without compromising the ability of future generations to meet their own needs.

All ecologists have questioned the way in which industrial societies have been employing the means of development. They all focus on sustainable development i.e. development which will not damage but will exist harmoniously with the eco-system. Ecologists have maintained that in the quest for sustainable development in India, it will be best for the government to go for a partnership with the civil society.

Sound environmental, social and economic policies, democratic institutions responsive to the needs of the people, the rule of law, anti-corruption measures, gender equality and an enabling environment for investment are the basis of sustainable development. International cooperation particularly in the areas of finance, technology transfer, debt and trade is needed and effective participation of developing countries in global decision making is to be maintained and increased.

Peace, security, stability and respect for human rights and fundamental freedoms, including the right to development, as well as respect for cultural diversity, are essential for achieving sustainable development.

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