ENVIRONMENTAL EDUCATION: HOLISTIC APPROACH FOR ENVIRONMENT PROTECTION AND SUSTAINABLE DEVELOPMENT IN THE INDIAN CONTEXT

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The environmental education becomes an integral part of the strategy for ecological development, environmental improvement and protection as well as prevention of environmental degradation. Such an approach to education becomes a medium and process of creating awareness about man's relationship with his natural as well as social and man-made environment. It should aim at enabling individuals and communities to understand the complex formation of environment that results from interaction of their biological, physical, social, economic and cultural aspects along with knowledge, values, attitudes and skills acquired over the years.

INTRODUCTION

DURING LAST decade, environmental issues have been receiving increasing attention in all spheres of life, including greater coverage in the media. There is also a growing awareness of the need and importance of involving people actively in the protection of environment and management of the natural resources of their locality. While the disasters, like the Bhopal tragedy and Chernobyl accident, the recent nuclear plant emissions in Japan have heightened the awareness among the general public and the governments as to the grave dangers, the most significant contribution of the nascent environmental movement in India has been to bring into sharp focus the vital connection between growing poverty of vast numbers of marginalised people and the accelerating environmental degradation and the need to involve the people especially the affected people actively in the protection and management of the natural resources, especially the Common Property Resources (CPRs), like forests, rivers and grazing lands. Issues of violation of rules and regulation by the industries, creation of
more and more SEZ, problems of CRZ have further added to the gravity of the situation worsening the prospects. It is the marginalised people who are the focus of the environmental movement and depend on it for their essential basic needs. So environmental conservation and restoration of ecological balance must include not just rivers, forests, and soil but also the humans, who are very much a part of the eco-system.

The goals of improved equity, eradication of poverty and environmental sustainability which must form the basis of development in the Third World, can only be achieved if basic human necessities are met on a much wider scale than before. It is the contention of this article that development requires a large scale decentralised but coherent effort for the application of science to basic needs and the delivery of goods and services aimed at fulfilling these needs through the government machinery, judicial administrative, social and academic institutions. The environmental impacts of conventional technology are relatively well known today. Air pollution, acid rain, industrial waste disposal, toxic effluent, noise and vibrations, crowding and congestion and many other side effects of urban and industrial activity are now widely recognised as the costly by-products of activities which otherwise produce useful outputs. In addition to the deteriorating quality of air, water and other components of our environment, the poor lack access to basic amenities, such as food and water, housing, clothing, transport and the myriad other basic needs. This, perhaps, is the most crucial area of human concern, linking technology with environment. While governments must necessarily play a leadership role through education, creation of awareness, implementation of various Acts, policies and programmes in letter and spirit along with the provision of infrastructure and overall planning, their policies on science and technology must be geared primarily for promotion of creative action at the individual and community levels.

In India too, the policy makers have begun to voice their concern with ecological and environmental issues. These issues have in recent years become important in India. The new Fundamental Duties of Citizens, added to the Indian Constitution in 1977-78, make concern for the environment a fundamental duty of all citizens. The enactment by Parliament of the Environment (Protection) Act in 1986 and the Rules formulated under it by the Department of Environment have made immediate concern with these essential issues. This law is in addition to earlier laws and regulations, as personified by the State Pollution Control Boards. Thus, environmental management has become a serious issue of major interest, in the context of planning, and an important agenda item for the manager and public administrator. Even if we confine attention to industry, several questions
will need to be asked—what will be the cost of “add-on” measures of pollution control in established industries.

*Environment, Climate Change and Sustainable Development*

The Earth is the only planet in our solar system that supports life. The complex process of evolution occurred on Earth only because of some unique environment conditions which existed there. Human activities are releasing greenhouse gases into the atmosphere. Rising levels of greenhouse gases are rapidly changing the climate. There is new and stronger evidence that most of the global warming is attributed to human activities.

The on-going climate change predicts that the global temperature will rise unusually. The mean sea level is expected to rise 9-98 cm by the year 2100, causing floods at low-lying areas. Other effects could include an increase in global precipitation and changes in the severity or frequency of extreme events. Humans will face new risks and pressures. Food security is unlikely to be threatened at the global level, but some regions may experience food shortages and hunger. Water resources will be affected as precipitation and evaporation patterns change around the world. Physical infrastructure will be damaged, particularly by sea-level rise and by extreme weather events. The situation is quite an alarming one and calls for the state intervention at every point not only as a caretaker but also as the saviour of its citizens.

The strategies to ensure sustainable development has at least four important elements, such as ecologically harmonious, efficient and conserve resources including energy, and must aim at local self reliance and offer equity with social justice. While for the achievements of the first three elements, considerable inputs from the science, technology, economics, and sociology would be needed while equity is a political question calling for the sensitivity and commitments of the political masters and policy makers in letter and spirit. However, one thing is clear that sustainability means commitment to safe and secure future calling for sound and effective administrative management through efficient policies, their implementation, laws, motivating and educating masses for developing awareness for the environment preservation at the individual as well as institutional and government level in responding to the climate changes globally.

*National Environment Policy (NEP)*

National Water Policy 2002. Across the political spectrum of the country there has been a recognition of the vital role natural resources play in providing livelihoods, and securing life support to ecological services. In this perspective a need for a comprehensive policy statement has been evident for some time in order to infuse sectoral and cross-sectoral, including fiscal approaches to environmental management. The NEP is intended to be a guide to action in regulatory reform, programmes and projects for environmental conservation and the review and enactment of legislation, by agencies of the Central, state, and local governments. The policy also seeks to stimulate partnerships of different stakeholders, i.e. public agencies, local communities, academic and scientific institutions, the investment community, and international development partners, in harnessing their respective resources and strengths for environmental management.

The principle objectives of the policy relate to current perceptions of key environmental challenges. They include: to protect and conserve critical ecological systems and resources, the invaluable natural and man-made heritage, which are essential for life support; to ensure equitable access to environmental resources and quality for all sections of society, and in particular, to ensure that poor communities, which are most dependent on environmental resources for their livelihoods, are assured secure access to these resources; to ensure judicious use of environmental resources to meet the needs and aspirations of the present and future generations; to integrate environmental concerns into policies, plans, programmes, etc. The policy has been evolved from the recognition that only such development is sustainable, which respects ecological constraints, and the imperatives of justice. The present policy marks a paradigm shift in the sense that, for once, liabilities have been fixed. ‘The polluter pays’ is the mainstay of NEP whereby responsibilities are fixed either on the individual or a government agency. Secondly, environmental clearance for any developmental activity has become mandatory. Strict liability imposes an obligation to compensate the victim for harm resulting from actions or failure to take action, which may not necessarily constitute a breach of any law or duty or care.

A Viable Model of Eco Development

The concept of sustainable development thus defined, it now becomes imperative to identify some of the elements of viable model of eco development and formulate an integrated strategy. Fig. 1 depicts six elements of the proposed model and traces the interconnection. Human welfare or improvement in the quality of human life is now regarded as the ultimate goal of any development strategy. It consists of income and
employment generation and poverty alleviation as well as mass participation and self-reliance in order to neutralise the forces which lead to deprivation and marginalisation of the weaker sections of the society. Decentralisation of the administration and strengthening of local authorities and institutions may also help in motivating these groups. The new development strategy should not only aim at economic growth but also at an equitable distribution of the income it produces because rural poverty is not a production problem but distribution problem. World Conference for Agrarian Reform and Rural Development proposed the strategy of balanced participator and formulated the following seven focus points:

(i) Elimination of rural poverty through targeted development programmes in the economic and social sector.
(ii) Access to land, water and other natural resources.
(iii) Participation.
(iv) Integration of women into rural development.
(v) Access to production means, markets and services.
(vi) Development of rural job opportunities outside agricultural.
(vii) Education, training and extension services

![Diagram](FIG. 1:THE THREE E’S NEXUS AND DEVELOPMENT)
Environmental Education

The word ‘Environment’ is defined as the complex of edaphic, climate and biotic factors that act upon an organism or a community and in the above context environmental education means the educational process dealing with man’s relationship with his natural and cultural surroundings and as such it includes the relationship of population, resource allocation and depletion, conservation, energy and technology and urban and rural development and planning to the total biosphere. Thus, environmental education becomes an integral part of the strategy of eco development, environmental improvement and protection as well as prevention of environmental degradation. The environmental education, thus defined, becomes a medium and process of arousing awareness about man’s relationship with his natural as well as social and man-made environment. One of the basic aims of environmental education is to enable individuals and communities to understand the complex nature of the natural and built in environments resulting from the interaction of their biological, physical, social, economic and cultural aspects and to acquire knowledge, values, attitudes and practical skills to participate in a responsible and effective way in anticipating and solving socio-economic problems and in the management of the quality of the environment. It also assists in creating a sense of responsibility and solidarity among countries and regions as the foundation for new international ecological order which will guarantee the conservation and improvement of the environment.

Thus, environmental education is also education through environment, about environment and for environment. It requires a holistic approach considering all components together in their totality. Environment becomes both—the style and the subject—matter of education. In so far as the style is concerned it means using environment as a teaching-learning aid and as an approach to education. In so far as the subject matter is concerned it means teaching about the components and constituents of environment. The phenomenon that merits our attention is population explosion in the developing countries, depletion of renewable and non-renewable physical resources and increasing environmental pollution. The concept of ecology and ecosystem; environmental resources, their classification and exploitation, environment; development and the hydrologic and nutrient cycles; energy, technology and environment; society and environment; impact of agricultural and industrial developments and urbanisation on environment, legal provisions and pollution control measures must form the core of environmental education at appropriate level of teaching and learning. The school and college teachers must be given refresher courses and orientation programmes before they take up the challenging task of
creating environmental awareness among school going children and youths. Several other courses are needed to cater to the demand of trained personnel at various levels to monitor the environmental quality and to assist the decision-makers in evaluating the environmental impact of proposed development activities. In some cases specialised cadres may need reorientation. Thus, there is an explicit need to support various types and levels of environmental education and training programmes that are essential for ensuring an effective and enlightened handling of environmental problems. The public in general and students in particular should be made aware of legal provisions under the Wild-life Preservation Act, Indian Forest Act, Pollution Control Act and other environment conservation measures.

Environmental education is the principal means of enhancing awareness, both among the public at large, and among focused groups. Such education may rely on educational institutions at different levels; the print electronic or live media; and various other formal and informal settings. The Supreme Court has also mandated that environmental education must be imparted at all levels, including higher education in the formal system. However, there is a need for further strengthening the existing programmes and making them more inclusive and participatory.

The environmental laws and government machinery for its implementation plays extremely important role in protecting healthy environment as a basic human right. Other factors responsible for an environment protection regime are: prevailing environmental laws, particularly in the Indian context reflecting vivid culture bound traditions, the agencies responsible for their implementation inclusive of judicial trends, to assess and analyse the performance and the challenges before of the Pollution Control Boards and National Environment Policy of India in comparison with international environmental standards, to make an assessment of public opinion as regards the enforcement of environment and Human Rights, and efforts to educate people to inculcate the awareness about the concerns of environment through government institutions specially created for environment preservation; positive role and the contribution of academic institutions like schools, colleges and universities; issues of proper solid waste disposals, recycling of reusable materials like paper, plastics are of paramount importance and need to be considered to protect the healthy and safe environment leading to the sustainable development.
CONCLUSION

The development programming and sectoral priorities of governments are fundamental for environmental planning and management of economic development. Environmental decisions have always presented difficult choices between public welfare and private needs, on the one hand, and between the preferences of the present generation and the uncertain needs and desires of future generations, on the other.

A basic requirement of any environmental protection system is that it should enter the planning process as early as possible so that its role becomes more one of developing alternatives than of resisting a particular course of action. Therefore, the input is needed by all administrators. Further several of the environmental laws are difficult to enforce, and whatever enforcement has been undertaken is generally very poor. In most cases, environmental impact assessment has yet to be instituted as an enforceable regulation, and there is no overall view of how other comprehensive environmental legislations can be applied. For the most part environmental law is made in a piecemeal fashion, not in accordance with policy but in response to immediate requirements. For environmental law, to be effective, public awareness and public opinion must be mobilised which can be done very easily by the academic institutions like schools, colleges, university research foundation through their emphasis on tailor-made syllabi, their proper implementation, research findings, ultimately the dissemination of knowledge and moral policing to inculcate the conducive culture in the minds of the students from their childhood wherein their teachers, mothers can play very effective role to contribute to the cause of mankind.

The article concludes with the observation that people are very much concerned about personal health but are negligent in maintaining healthy environment, which is corollary of health. The panacea lies not in creating public awareness about environmental protection but in uplifting practice of environmental protection from individual level. When every person assures himself or herself a pollution free environment the problem of its protection will be solved. The model of transformation of this idea into practice should be from individual to national level. The individual should get in association with the like-minded people, i.e. self-help (SHG) and the SHG at large could invoke national commitment in making health and healthy environment as the basic human rights. Therefore, it could be safely concluded that the laws of environment should be framed, amended and implemented in consonance with the basic human rights of the individuals irrespective of all national and international boundaries and barriers keeping in view the safety of human life and liberty.
Women can also play a very vital role in this context. They can be good educator for their children and family shaping up the mindset of the children and family members, self-help group of women for the communities at their low strata levels in slums, hutment and teachers in their school, colleges and universities through incorporation and teaching of various aspects for maintaining the environment concerns, women in governance as an administrators and policy-makers. As a role model women can create not only awareness but sensitivity in the minds of those immediate concerned and contribute substantially to the cause of environment. The country of more than 1,21,01,934,22 population having 46.7 per cent women can channelise and utilise their potentials in this direction as they have a greater impact on the society as a whole.