

Perils of a fragile Planet: Shifting Paradigms and Sensitive Possibilities

*Tapan R. Mohanty**

Global environmental issues are a growing concern among the people and communities of various regions today. As it is the changing ecological base which will ultimately affect them as they seek to exploit the available resources in order to raise their standard of living. The challenge is not so much that of improving the quality of life of the population at the cost of their standard of their living - a dilemma faced in particular by the developed countries - but rather to improve the standard of living in an environmentally sustainable manner. This involves recognition of the fact that alternation in the human and natural environment are underlining factors in the development process so that the topic of the environment can not be absent from the minds of those who are responsible for guiding that process.

The rational arrangement of the natural resources is a necessary precondition for achieving economic growth and sustainable improvements in the standard of living of the populace. The natural capital is of fundamental importance in achieving changing production patterns with equity. The nation has entered upon a stage in which the existing resources will soon threaten the process of development. India now is on the threshold of a number of environmental problems, which, if not solved, will adversely affect the productive capacity of the economy. India as an agrarian country producing agricultural goods heavily depends on the management of natural resources such as soil, water, vegetation and the climate. These elements are already beginning to suffer from

* Assistant Professor (Sociology of Law), National Law University, Bhopal-462 044. Madhya Pradesh, India. Email- tapanmohanty@gmail.com

considerable strains, which are having a negative effect on the quality and quantity of agricultural products. The relation between growth, equity and environmental sustainability are extremely complex. On the one hand, the transformation of natural resources into goods is essential for growth and the raising of living standards. Thus, for example, the expansion of the water supply is what makes it possible for growth of human settlements. On the other hand, however, there is the danger of development processes affecting the quality of the environment. For example, air and water pollution due to industrialization and concomitant social and economic change reduces the capacity of ecosystems to provide the community with vital goods and services. The theory of sustainable development deals with these issues and consequent changing of priorities at length.

Most observers would agree on many of the symptoms of malaise in the world and unanimously believe that these have not appeared overnight, but have been accumulated over decades. Unemployment, poverty, alienation and self-abuse of many a varieties form the beginning the possible list of symptoms, symptoms that have lead many people argue that a fundamental change in our ways of life is long overdue.

The present ways of life are indeed liable to change in near future. The problems in many cases are routed in our faulty socio-economic practices and in some cases change is promoted to make life more healthy and fulfilling. Advancement of new technologies has ensured the reshaping work and leisure particularly in developed countries. These are in industrial societies, while the “Third World” proved to be a “victim of economic colonization” by the erstwhile colonial powers to perpetuate their imperialist designs. This realization has accelerated a process of global transformation.

The reason of this change may be attributed to “affluence” of developed and “continuity” poverty for the underdeveloped. The study here focuses on the perspective of the Third World. The model of development, which focuses on economic growth, has failed on account of redistribution. Increase of poverty, continuity of hunger, lack of housing and sanitary facilities compelled the third world nations to look for an alternative beyond the paradigm of development.

Grey Areas in Conventional Development Paradigms

The 1970’s became the decade, which increasingly questioned the assumption that growth and industrialization would solve the problems of poverty and want. During that decade, focus was on the needs of the population in general and the need of the poorest in particular. To quote Robert McNamara, “ the task, then for the government of the developing nations is to reorient their development policies in order to attack directly the personal property of the most deprived 40 percent of their population. This government can do without abandoning their goals of vigorous overall economic growth. But they must be prepared to give greater priority to established growth targets in terms of essential human needs: in terms of – housing, nutrition, health and employment....”¹.The analysis and report of international labour organization (ILO) and World Bank (WB) gave particular dimension to development by emphasizing “ redistribution with growth”. In this background Mahabub Ul Haq had written 1976 that there are several areas of agreement in the debate o development strategies. He summarizes the arguments as follows:

¹ M.U. Haq, The poverty Curtain: Choices for the Third World, New York: Columbia University Press, 1979, p.9.

First it is generally accepted by now that market mechanisms are neither efficient nor reliable instruments for allocating resources when the income distribution is very distorted... A related area of agreement is the realization that the institutional reforms are often more decisive for a developing country than marginal changes in the price system. There is no longer a blind faith in price corrections achieving a multiplicity of objectives...

Secondly, there is an increasing realization that economic growth does not filter down automatically to the mass except in the modern sector in a very high rate of G.N.P growth...

Third, most developing societies realizes by now that they cannot emulate the consumption style of the rich nations....thus, there is greater interest in the concept of basic human needs and in fashioning development strategies which are need oriented, rather than market demand oriented.

Fourth, there is also an agreement that the economic condition of the poorest sections cannot be improved simply by distributing some purchasing power to them through short-lived welfare schemes. Any long-term improvement requires...fundamental institutional reform....

Fifth, there is also a widespread realization that development strategies should be shaped by domestic needs and not by export or foreign assistance requirements.

These general agreements on development reflect the bottlenecks in the contemporary development strategies. However, the most stringent criticism against development is its complete ignorance of two important dimensions namely, culture and environment.

Development has analytically a wider frame of reference if it is understood within the design of the culture concept. The culture concept unites more and provides multi dimensionally to the notion of development because it encapsulates history and socio-economic parameters of life. Culture sums up the human creation, as generally transformed altered phenomenon. An evolutionary and revolutionary process of change, influence both by internal and external conditions. It appropriates conceptually both material and non-material spheres of social production, and summarizes the totality of the material representations of human creativity, while vesting permanence and continuity to the institutional forms of social life defined by language, religion, mores and customary practices. Thus cultures provide men with their intellectual bearings in the production and reproduction of social life. Few concepts have the universality of culture concept. In the vastness of the catchment area, it affords a good measure of the idea of development. To which it defines as “the enrichment of material base of culture. The evolution and material base of culture as well as transformation is exercised developmentally and validated by extent to which development options offer greater and more effective control and means of control over the material or natural environment.”²

Even if the culture is conceived in a narrower and often more colloquial sense, it is difficult to rationalize development in economic and infrastructural dimensions without such development being evidenced in area of collective social life and usage such as music, literature and dance which are crucial to flowering of the above areas to draw on the interest of the wider society.

² K.K. Prah, “African Languages Key to African development”, in M.V. Troil, Changing Paradigms in Development South East and West, Uppasala: The Scandinavian institute of African Studies, 1993, pp.70-75.

Mohapatra (1994) argues that in the age of rapid economic growth and technological advancement culture has taken a back seat and constraint to make adjustment. This path of adjustment has taken all leanings and curves resulting dilution, distortion and death of cultural forms.³

Dove (1998) also echoes the same sentiment in his studies of Indonesian society. According to him “traditional cultures and life styles are regarded as clear signs of under development and as formidable obstacles to the necessary socio-economic advancement.⁴ The dimension of gender is too neglected in the paradigm of development. Female subordination of all interpersonal relations is deeply ingrained in the consciousness of both sexes. This creates a fissure among the units of society and the recent movements like eco-feminism is the logical outcome of genuine outburst against a repressive social order.

Another important aspect, which has been bypassed in the drive to development, is the shabby treatment meted out to nature in general and environment in particular. In the name of industrialization forests were destroyed, mining and quarrying went unabated causing enormous damage to mountains and springs, toxic and harmful effluents were drained to the water bodies without giving a second thought. Huge dams and massive reservoirs were constructed in order to tame the rivers and generate hydroelectric power. This has not only altered the ecological balance of the area but also changed the socio-economic bases of the population besides causing large-scale displacement. The design of development has created major problems not only in terms of environmental degradation but also in terms of human suffering.

³ S. Mahapatra, “Culture as Centre Piece”, Times of India. New Delhi, 5th August, 1994.

⁴ M.R. Dove, The Real and Imagine Role of Culture in Development, Honolulu: University of Hawaii Press, 1998.

This has in fact give rise to the quest of searching for an alternative design of development, which will not only improve the standard of living and life chances but also arrests the by-products of contemporary development strategy. Then comes the question of alternatives, its meaning and importance. “The alternative is something new and better, both in the qualitative and quantitative aspect, then the preceding and existing conditions and state of affairs.”⁵

The alternative to development was not an accident but the product of continues search for a strategy that will harmoniously combine nature and culture. The capitalist and socialist developmental models are designed to perpetuate inequality and imperialism in the grab of an ideology and their threat to nature is menacing. This was in fact a late realization on the part of the victim the third world country. The failure of various models of development in fulfilling the objectives has only hastened the process pf searching an alternative. Present slogan for “sustainable development” is a reaction against the existing models of development and deeply routed in an environmental awareness.

Man’s use and reuse of environmental resources has not only confined to food, shelter and clothing as the basic needs of life, but also goes much beyond to it. The present form of use of nature can be defined in terms of exploitation plunder. Today there is hardly any pocket of land, island, polar region or space left virgin from the scars of human interference in a bid to realize and translate man’s aspirations and dreams into reality.

Realizing the imminent danger of ignoring the environmental issues there has been some kind of new awakening and the new world order addressed itself to protect the environmental cause. How best one can maintain, upgrade and improve the environment

⁵ A. Guha and F. Vivekananda, Development Alternative, Stockholm: Bethny Books, 1985 pp.41.

with judicious utilization of the natural treasure is a million dollar question. There has been a plethora of environmental issues need to be debated and focused. Environmental issue needs to be debated and focused. Environmental issues is not lies in technical and scientific arena but enmeshed with social, economic and political fabric besides in the ethos of humanity.

It was only in the early seventies that the world made an extraordinary rapid transition in terms of social awareness from capitalist economy to environmental concern particularly, the mutilation of natural resources and subsequent ecological imbalances. Administration, monitoring, abatement and maintenance of environment is linked with certain decision of political nature and legal sanctions. Here exists an urgency to examine ecological improvements and maintenance in the context of local condition and native population. It was this awareness of conservation of nature that led to the Stockholm conference in 1972, which not only recognised the crisis that environment was facing but also emphasized that solving these problem is a political issue and could not be left to the hands of a few environmentalist alone.

The effect of the conference is evident today with the change in the attitude and perception of third world countries towards environmental problems in these nations went unnoticed, uncared and unemphasised. Issues relating to environment were then considered as the domain of the industrialized world.

The catastrophe of Bhopal in 1984 and followed by Chernobyl in 1986 provided a glimpse of the destructive potential of global environmental hazards. Six years later at Rio de Janerio in 1992 the earth summit presented a programme for action to avert global environmental disaster based on the underlying principle of sustainable development.

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There has been the ending of the of the cold war, the brake up of the former soviet empire, the war in the Gulf, which along with the emergence of new-nation states provides an unique opportunity to give a fresh look at the immediate environmental problem. The uneasy stability of super powers has been replaced by an increasingly unpredictable world bur it certainly has delayed the imminent nuclear threat and opened up the possibility of diverting resources towards more humane concerns than in the horse race of global domination.

In the advanced western countries public interest in the environment is mounting. In Eastern Europe and former USSR the emerging evidence of grossly degraded and polluted areas underlined the urgency of the problem. In the developing countries problem of deforestation, desertification and resource depletion was also attracting grater attention. And the long term but apparently inevitable threats of global warming and ozone depletion also underline the global interest in environmental protection. At regional, national and global level environmental policy has achieved a higher priority and underwent vigorous development, the leitmotif of the Brundtland report in 1987, has become the accepted goal of policy at Rio five years later.

It soon became clear that optimism must necessarily be qualified. Interests in the environment, though sustained, were not always translated into action in the face of more immediate and pressing economic concerns. The crumbling of Soviet empire, persistence of poverty in the third world and the growing recession in the west emphasized the competing priorities and inherent conflicts in development theory. The eponymous process of balkanization in areas such as former Yugoslavia threatened to entangle countries in a serious regional conflict. As the Gulf war has shown such conflicts could

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do serious harm to sensitive eco-system.⁶ Overall was the threat of nuclear proliferation, more alarming as the Soviet nuclear complex was dispersed and which, if not restrained, would pose a far more dangerous threat to world survival than the more published global warming. However some steps has been taken in order to check global pollution i.e. the international agreements in the Vienna, Montreal and London in 1985, 1987 and 1990 respectively. These achievements have led to the banning of Chlorofluorocarbons (CFCs) to protect the ozone layer and various other agreements designed to restrict the trade in hazardous waste (Basel convention-1989, Bamko convention-1991 and related environment commission directives).

This process of global negotiations and agreements on environmental problems culminated at Rio summit which saw the adoption of 27 principles constituting a declaration on environment and development, the first of which was “human beings are at the center of concerns for sustainable development”. Over 150 nations signed a framework convention on climate change to tackle the problem of global warming and also a convention on biological diversity. By consensus the summit endorsed agenda 21, an 800-page action programme of follow-up (United Nations). Although the summit had been preceded by conflict especially between North and South over the responsibility and resources Rio produced a number of positive features. It was a process engaging more governments than even before and the participation of 6,500 non-governmental organizations and 15,000 participants at their global forum. The involvement of NGOs had begun at the Bergen conference on sustainable development in 1990. Despite, the failure to reach agreements on certain issues, notably forests, and USA’s reluctance to

⁶ F. Barnaby, “The Environmental impact of the Gulf War”, *The Ecologist*, vol. 21; No. 4, July/August, 1991.

enter into binding targets or to sign Bio Diversity Convention, Rio was a global endeavor at cooperation in the interest of mutual security. “It defined the new international values of equity and environment, linked them inseparably, and dramatized how powerfully they affect North-South relations.⁷ Rio should also be seen as stage in a sustain process of developing policy and securing implementation.

Sustainable development has now passed a threshold of public and political concern that makes it fully and permanently established as an issue of high priority on the national and international policy making agenda. Although the environment is on the agenda, environmental policy making is fraught with uncertainty and conflict, particularly between North and South.

Sustainable development is the acknowledged subject of most recent development thinking but little headway appears to have made in terms of a rigorous definition of the concept. Therefore, not surprisingly, efforts to “operationalize” sustainable development and to show how it can be integrated into practical decision-making have been few and generally unpersuasive. The use of the term ‘development’ rather than ‘economic growth’ implies acceptance of the limitations of the indexes such as Gross National Product (GNP) to measure the well being of nations. Instead development embraces wider concerns such as the quality of life, educational attainment, nutritional status, and access to basic freedom and spiritual welfare.⁸

The emphasis on sustainability suggests that what is needed is a policy effort aimed at making these developmental achievements last well into the future. According to Winepenney, “sustainable development is that which leaves our total patrimony,

⁷ J. Speth, “A Post Rio Impact”, Foreign Policy, No.88.pp. 146-61, 1994.

⁸ Pearce et al. Sustainable Development, London: Edward Elger Pvt. Ltd., 1990.

including natural environment assets, intact over a particular over a particular period. We should be able to bequeath to future generations at the same capital, embodying opportunities for potential welfare, that we currently enjoy.”⁹

Perhaps Repetto gives the best definition of sustainable development. For him sustainable development is a development strategy that manages all assets, natural resources, and human resources, as well as financial and physical assets, for increasing long term wealth and well-being. Sustainable development as a goal rejects policies and practices that support current living standards by depleting the productive base, including natural resources and leaves future generations with poorer prospects and greater risks than our own.”

The analysis of this definition depicts that sustainability appears to be accepted as the mediating term designed to bridge the gulf between ‘developers’ and ‘environmentalists’. Its beguiling simplicity and apparently self-evident meaning have obscured its inherent ambiguity. Its survival attests to the fact that developmental interests now recognize that much more serious attention must be paid to incorporating although understanding of environmental process into project investment calculus, it for no other reason than that failure to do so, any result in environmental side-effects that carry economic losses.

The notion of sustainability appears most conveniently to the replenishable use of renewable resources. The aim is to benefit from the advantage provided by such resources to the point where the rate of ‘take’ equals to the rate of renewal, restoration and replenishment. So in agriculture the farmer derives fertility from soil equal to the

⁹ Winepenney, 1990 Quoted from- Kula, E., Economics of Natural Resources, the Environment and Policies, London: Chapman & Hall, 1994.p. 32.

ability of the soil to supply nutrition. Similarly, the woodsman removes trees or the products at a rate equal to the regeneration. The fisherman catches marine resources in amounts that are equivalent to their refurbishment. This begs the question of whether inherent rates of renew ability can be enhanced through scientific management.

The relation between growth, equity and environmental sustainability are extremely complex. On the one hand, the transformation of natural resources into goods is essential for growth and rising of living standards. Thus, for example, the expansion of the water supply is what makes it possible for growth of human settlements. On the other hand, however, economic development process affects the quality of the environment. For example, air and water pollution, which reduces the capacity of ecosystems to provide the community with vital goods and services.

It was the Brundtland Commission's publication "Our Common Future" in 1987 that really put the concept of sustainable development on the international agenda and highlighted its applicability to the environmental problems in the developing world. The report recognizes that in most developing countries there is a greater dependence on natural resources and environment as an input of production and economic growth. Essentially, development and the environment are complementary, it is not economic growth *per se* that is to be rejected but there is a need to search for alternative development strategies and technologies based on sustaining and expanding the environmental resource base in the word of the Brundtland Commission.

There has been a growing realization among national governments and multilateral institutions that it is impossible to separate economic development issues from environmental issues; many forms of development erode the environmental resources

upon which they must be based, and environmental degradation can undermine economic development (WCED, 1987, p. 3).

The report reflects the importance of economic efficiency in achieving the goals of sustainable development but also stresses that the benefits of development must be distributed equitably. Social equity both within and across generations is a fundamental goal and prerequisite to achieve sustainable development. In this context poverty is seen as a major cause and effect of global environmental problems and attempts to deal with environmental problems will be thwarted unless a broader perspective that encompasses the factors underlying world poverty and international inequality is adopted. Brundtland Commission perceived sustainable development as a strategy to ensure that (development) meets the needs of the present without compromising the ability of future generations to meet their needs" (WCED, 1987, p. 8).

Markandya has written extensively on the topic of sustainable development. In a paper titled as "Criteria for sustainable agricultural development", he suggests a set of working rules on targets covering equity, resilience and efficiency as a first step in making the concept operational in the agricultural sector. In working towards these sustainability targets, three broad areas of action are identified - those of valuation, regulation and monitoring.

Another area is environmental monitoring which is also fundamental to the pursuit of policy of sustainable development. Markandya and others stress the need to develop a set of sustainability indicators that can be used to evaluate performance. However in broad terms the objectives and premises of sustainable development can be summarized in following points.

1. *Survival of human beings.*
2. *Survival of all other life forms.*
3. *Satisfaction of basic human needs.*
4. *Maintenance of biophysical productivity.*
5. *Economic efficiency and Growth.*
6. *Preservation of environmental quality and ecosystem.*
7. *Inter and intra generational equity.*
8. *Social Justice.*
9. *Self-reliance and people's participation.*
10. *Stabilization of human population.*
11. *Promotion of values and ethics.*

The emergence of sustainable development in the discourse of development has raised wide-ranging debate on the issues of environment equity and redistribution of natural resources. The result is a growing realization about ...

1. Excessive stresses on biophysical environment for short-term gain is ultimately counter productive, so there is a limit to which productivity can be raised.
2. Human survival can only be assured by preserving the basic resource base.
3. Even the renewable resources are not perpetual unless prudent management praxis is followed.
4. Conventional economics does not necessarily indicate the actual status of resource utilization.

Social justice and equality are prime objectives of any form of development. Quite naturally they are encapsulated in the premise of sustainable development. Sustainable development at the central level can be assumed as a process to maximize three goals - Biophysical, economic and social. From another angle sustainable development can be depicted as a process of development that operates within a framework confined by the Biophysical, economic, and social coordinates. To operate within such condition, it is essential to resort to a process of trade-off, primarily to recognize that there are certain limits within which development has to be functional. These limits can be broadly identified as Biophysical and Ethico-social limits. The biophysical limit, which actually controls the resource availability, resources use and economic viability is due to (i) finitudes, (ii) entropy, and (iii) complex ecological interdependence (iii) and (iv) resilience-self ameliorating capacity.

The Ethico - social limit has more to do with the philosophical back drop of a society including its legal, executive and policy making authorities. Bio- physical conditions differ regionally as well as locally hence it requires utmost attention in adopting management practices. Another point to note is that, although when the biophysical limit is exceeded then it can be detected from the degraded conditions of land, information is quite inadequate to anticipate the triggering of degradation. This is one of the serious problems in natural resource management.

On the one hand, intervention leads to determination on the other hand intervention is required because the local productivity is perceptibly low to support today's population. Thus the new development strategy should be sustained amidst various pressures and the resource management has to be viewed in its totality

considering all the available uses and focusing not on the sustainability of any individual project on sector but on the entire production system. Analysts and planners have become increasingly concerned about the futility of maximization of growth rate in ensuring economic equity and social justice.

Growth with justice also can constitute the necessary and sufficient conditions for the fulfilment of the basic needs of the poor. Therefore, growth-oriented development planning needs to be replaced by planning for sustainable development. Recent ecological critiques of development have focused on the impact of development in degrading eco-systems, and degrading consequently in poverty and deprivation. Because the poor in developing countries have to depend directly on natural resources like land, water, forest products and marine life, any exploitation and commercialisation of these resources tend to threaten the very survival of the poor. This is more so in countries with have predominantly agrarian social structure. In this context, the basic need approaches of sustainable development open new vistas to social life.

As science and technology go on enlarging the space for human creativity, simultaneously, nature and ecology impose restrictions on the extent to which this creativity could be purposefully utilized to satisfy human desires without jeopardizing their own future. Since consumption standards and perceptions of 'better life' are culturally defined, 'sustainable development' then becomes an ideological construct in the sense-that it requires promotion of values that either encourage or discourage kinds of needs within the bounds of ecological possibilities. Some staunch Marxist economists may believe that the socio-cultural systems are themselves propelled by a set of forces that have their origins in prices and markets and in other institutions such as the State. In

other words, such an epiphenomenal view could tend to treat culturally defined uses of ecological resources as basically anchored in political economy. But sustainability or unsustainability of development process is essentially a consequence of the interaction between socio-economic systems and ecological systems. Both are co- evolutionary systems which suggest not only that they reinforce each other but also that each encounter constraints and impasses that originate in the other. The notion of sustainable development suggests that the process of production that functions within a given ecological system must determine the optimum level at which we should operate.

Certain modes of environmental management do suggest that every ecosystem has a certain waste accumulative capacity. Only when the accumulation of effluence goes beyond this limit then it tends to erode ecological balance. However, just because a certain type of production or industrial material pollutes the environment that does not render the entire development process 'unsustainable'. The operational concept of "Sustainable Development" would therefore, differ in a synchronic and in a diachronic context. In the short run, it refers to the balance between ecosystem and production system that exploits it at given point of time. In the long run, it is just to be achieved by a given society where its production process sustains the needs of present without jeopardizing the future.

Resources of the eco-system are both renewable and non-renewable. And, water, forests, fish stocks, etc., are renewable and do not get depleted by their exploitation provided it is within certain limits. The rate at which these resources are replenished periodically is the limiting factor. The non-renewable resources include fossil fuels and minerals. Their indiscrete and wanton exploitation by the present generation can lead to

depletion of resources that are not easily sustainable. The coal and fuel crisis in Europe some centuries ago is a pointer to the critical dangers inherent in indiscriminate exploitation of non-renewable resources of the eco-system. Sustainable development then is a process in which an equilibrium is maintained between utilization of natural resources and environment, the direction of investment in technological development and institutional change should be in harmony with one another in a bid to enhance the present as well as the ¹⁴as well as future capabilities of human societies to meet their needs and aspirations as well as to enhance their quality of life.

The successful operation of sustainable development depends upon interdependent principles aimed at meeting human needs, maintaining ecological integrity, attaining social self-determination and establishing social equality. Conventional interpretations of development either pay too little attention to equality consideration or else assume inequalities will be explained through economic growth on a scale that would threaten global ecological integrity and jeopardize future generations. Sustainable development depends upon a better understanding and satisfaction of non-material human needs in the developed nations and a reorientation of social and economic policy. Human needs can be divided into material and non-material needs. Material on basic needs include physical necessities of life such as adequate food, water and shelter. One of the primary goals of sustainable development is to raise the standard of ¹⁵living of the world's poor to a level where these basic needs are meet. Non-material needs include "quality of life" requirements such as health, political and spiritual freedom, human rights, clean, healthy

40. D.N. Dhanagare, "Sustainable Development, Environment and Social Science Research in India", in Savur, M., & Mushi, M., (ed) Contradictions in Indian society, Jaipur : Rawat Publications, 1995.

¹⁵ . Reddy, V.R., "Environment and Sustainable Development", Economic and Political Weekly, Bombay : Vol. XXV. No. 12, March 25, 1995.

and accessible natural environments and meaningful work. These needs also include our needs for personal development and self-fulfilment. Maintaining ecological integrity can also be divided into two parts. One is characterized by principles of consumption, stewardship and appropriate land uses and is pertinent to all interpretation of sustainable development. The second, reducing the inequitable consumption of energy and materials by the industrial houses is somehow downplayed in conventional interpretation of sustainable development and must be considered an integral part of sustainable development.

Social Self-Determination rests on certain prerequisites, not the least of which is place. Militarism and over consumption by the affluent section of the society causes massive destruction both to natural resources and to the ability of many of the world's people to achieve self-governance. Place and equity require community self-reliance, in both developed and underdeveloped communities. Other important elements of social self-determination include people's participation in decision-making, human scale communities, participatory governance-decentralized management, grass root activity and cultural integrity.

Equity means both future equity and current equity. Proponents of conventional sustainable development have embraced intergenerational equity in principle; it depends largely on maintaining ecological integrity. Sustainable development gives close attention to issues of current inequalities, which in turn requires not only maintaining ecological integrity but also meeting the entire range of human needs and achieving self-determination. Steady state economy defined as an economy in which the total population and the total stock of wealth are maintained at constant at some desired levels by a

minimal rate of maintenance throughout. The need for a steady economy is based on the fact that the resources are finite. The human economy is a subsystem of the steady state ecosystem. Therefore at some level, over some time period, the subsystem must become a steady state.

Sustainable Development in India

India's quest for economic growth, scientific achievement and social development has been aptly reflected in the Nehruvian policy of post-independent India. But a critical analysis of India's progress after half a century depicts a sad reality. Poverty, unemployment, illiteracy and poor health care facilities continue to haunt the nation. These facts question the validity of our development model and its effect. The recent emphasis on sustainable development is a product of our search for alternatives in pursuing human happiness and welfare.

A conservative estimate of environmental damage in India puts the figure at more than \$10 billion a year or 4.5% of GDP in 1992. That is, urban air pollution costs India \$1.3 billion a year. Water degradation leads to health costs amounting to \$5.7b every year, nearly three fifths of the total environmental costs. Soil erosion affects 83-163 million hectares of land every year. Deforestation, which proceeded at the rate of 0.6% a year between 1981 and 1990, leads to annual costs of \$214 million.

Taking an example of a development process of industrialization and urbanization and its impact on the environment, it is noted that of the 3 million premature deaths in the world that occur each year due to outdoor and indoor air pollution, the highest number are assessed to occur in India. According to the World Health Organization, the capital city of New Delhi is one of the top ten most polluted cities in the world. Surveys indicate

that in New Delhi the incidence of respiratory diseases due to air pollution is about 12 times the national average. According to another study, while India's gross domestic product has increased 2.5 times over the past two decades, vehicular pollution has increased eight times, while pollution from industries has quadrupled.

These disastrous revelations came at a stage when controlling such pollution was a Herculean task. The development of India can be divided into phases. In the phase lasting almost till 1972, development essentially meant usage of natural resource to gain material wealth or rather conversion of natural resource to market commodities. There was absolutely no consciousness of natural resource depletion or other issues of environment degradation. The 1980s continued with speedy conversion of the green tree cover into the green moolah cover in industrial houses and world state economies. It was somewhere in the late 80s and early 90s that the alarm bells rang and the concepts of sustainable development etc sprung up. Thereafter the global community has become conscious of the possible results of the present rate of natural resource depletion world over.

Several enactments world over came into force; many of them based on general environmental protection and quite a few on specific aspects of environment protection. The crucial point however is not in the framing of exclusive enactment but in their **enforcement**. This is of special relevance in a developing country like India.

A developing country like India is on its way to achieve the standards set by its developed counterparts like the United States of America; while on to this arduous task, the international community imposes on it an obligation to take care of its environment.

The situation, which arises, is one of prioritization; which in itself is the most challenging decision for the state authorities. It's a position in the middle of the valley and the well.

The issues for consideration are:

The socio-economic cost for environment protection.

Environmental Cost for industrial development.

Retarded development for environment protection.

For a nation, which has yet to provide its citizen with the bare minimum necessities; is it viable for it to take steps towards environmental protection which could use up funds spared for development activities? Must the state give preference to activities of national development or the larger issue of environmental protection? Also in a nation, where people do not have a day's meal; would they be in a position to resort to environment friendly products which are relatively more expensive than ordinary commodities?

Sometimes, these developing nations facing the multitude questions are also victims of choice-less situations. For instance, a harmful substance-producing factory is to establish by a foreign corporation in the developing country for the sake of economy. The developing country looking for all avenues for development might or may be forced to permit this establishment for fear of international sanctions and also for revenue purposes. The solution suggested for balancing developmental needs and environmental protection has been sustainable development. There has been fiery debate on this issue and much needs to be resolved on this aspect.

The phenomenon of development also highlights another situation, where the impact of developmental policies show a direct bearing on aspects of national life and may affect one segment of the society more strongly than another segment. As much as a

segment of the global community moves towards urbanization, mechanization, industrialization, another segment of the community would in all probability be paying for it in relative terms.

Environmental Impact Assessment:

In view of the Bhopal gas tragedy, future projects in a developing country like in India must apply environmental Impact Assessment. (EIA) to fulfill the following objectives:

- to identify adverse environmental problems that may be expected to occur;
- to incorporate into the development action appropriate mitigation measures;
- to identify the environmental benefits and drawbacks of the project, as well as its economic and environmental acceptability of the community;
- to identify critical environmental problems which require further studies and /or monitoring;
- to examine and select the optimal alternative from the various relevant options available;
- to involve the public in the decision-making process related to the environment ; and
- to assist all parties involved in development and environmental affairs to understand their roles , responsibilities and overall relationships with one another.

Environmental Impact Assessment is essentially a preventive process, which avoids costly mistakes in planning and development. Therefore, it is necessary to carry out EIA during the feasibility study stage of the planning process. India must carry out EIA for its development projects in order to ensure economic development. It should ensure rational geographic distribution of its development plans and try to avert adverse environmental impacts in the future. Training of skilled manpower and an easy access to

in order from other countries having somewhat similar physical and socio-economic conditions are important factors which could determine the quality of environmental assessment to be made.

Developing countries must carry out EIAs to the best of their national capability. Therefore it is urgently necessary to train our own experts in EIA. Foreign experts are no substitute for well- trained local experts. The involvement of local expertise will not ensure that EIAs are carried out more relevant to local needs, but will also ensure a significant reduction in EIA costs when compared with those conducted by foreign experts.

The need to take environmental considerations into account to ensure successful economic development is increasingly recognized throughout the world. Laws of many countries provide that reports on environment impacts must be submitted for public review. Environmental Impact Assessment provides an important methodology for acquiring a clear understanding of the relationship between economy, society and environment and offers positive measures for better harmonizing the relationship between economic development and environmental protection as an effective means for strengthening environmental planning and management. The implementation of this system is of great significance to both economic development and environmental protection especially in a developing country like India, with its historical Bhopal gas tragedy.

The Supreme Court on Sustainable Development

The Indian Supreme Court has earned itself an excellent record in the creation of environmental rights in India, and their contribution to the jurisprudence of

environmentalism has provided an example for environmental lawyers all over. The court has also applied the principle of sustainable development in several cases before it. The Indian experience serves as a good example to look at how sustainable development theory has development in a given legal context.

The case regarded as a landmark for the application of sustainable development in the Indian context is the decision in the *Calcutta Wetlands* case¹⁰, where a Public Interest Litigation was filed against the rapid dredging and filling of marshes in the Salt Lake area of Calcutta. The High Court recognized that the environmental concerns had to be addressed at the same time as developmental concerns, and that development much progress at a rate that took into account the interests of ‘posterity’ as well. The High Court struck down the decision to dredge and fill the marshes in Salt Lake on the grounds that India was a party to the Ramsar Convention, and had thereby signified its intent towards the protection of wetlands. Further, the High Court also recognized that fact that the industries could be built in other areas with less environmental damage.

The first concrete application of sustainable development theory arose in *State of Himanchal Pradesh v. Ganesh Wood Products*, where the Supreme Court held that the government could not allow the approval of these industries in the State where the industries sought to use the forest products collected by mechanized units as the units had a deleterious effect on forest wealth, ecology and the environment. The Supreme Court also held such approval to be contrary to established considerations of sustainable development and intergenerational equity. However, in the striking down of the approval of the forest industries that posed environmental threats, the Supreme Court did not go into an analysis of the application of the principle of sustainable development to the facts

⁴¹. People United for Better Living in Calcutta v. State of West Bengal, AIR 1993 Cal. 215

of that case, nor did it explain the principle itself. Hence, the value of the case as a precedent for the application of sustainable development in the Indian context may be regarded as slightly doubtful.

The actual leap from the principle of absolute liability laid down in the *Oleum Gas Leak* case occurred in the case of *Indian Council for Enviro-Legal Action v. Union of India* where the court held that the manufacturers of products discharging toxic effluents into the region would be liable for the payment of compensation as per the absolute liability rule laid down in the *Oleum Gas Leak* case, as well as the precautionary principle and sustainable development principles. This represented the first instance in which the Supreme Court used sustainable development theory as a basis for calculation of damages for environmental wrongs.

The decision in *Vellore Citizen's Forum v. Union of India* was the first decision in which the Supreme Court discussed the principle of sustainable development from a theoretical standpoint. In that case, the Court agitated its mind upon the matter of polluting tanneries in Tamil Nadu. The court held that the polluting industries had to prove that they were non-polluting, as they had failed to do so; they were liable to be shut down and pay compensation for the ecological damage caused by them.

The trend in the Supreme Court till recently was to apply the principle of sustainable development towards ecological harmful industrial activity, resulting in the closure or relocation of industries, as most of them were found to be violative of the delicate sustainable development balance principle. However, of late, the trend has seen a few deviations. Recent Supreme Court decisions have tended to support incursions on the

forest cover and the environment in the interests of 'development'. Good examples are as follows:

Consumer Research & Education Center v. Union of India: In this case the petitioner filed Public Interest Litigation against the alteration of boundaries of the Chinkara Sanctuary to allowing within the sanctuary. The Court ordered that the mining be allowed for a period of five years, after which it would examine if any deleterious impact of the mining could be noticed.

Live Oak Resort v. Panchgani Hill Station Municipal Corporation: In this case, the petitioners sought to prevent the construction of a 5-star luxury hotel in the Panchgani Hill Station on the ground that it might affect the environment of the area. Court in this case allowed the construction on the grounds that:

'In a developing economy there cannot be only development or only ecology, but both must exist and thus a balance will have to be struck else otherwise society will perish in the absence of either of the elements.'

Narmada Bachao Andolan v. Union of India: This was a case challenging the legality of the proposal to raise the height of the Sardar Sarovar dam, which would directly impact people in parts of the states of Madhya Pradesh and Gujrat. When discussing the environmental impact of the dam, the court did not apply shift the onus of proof upon the polluting industries as was laid down in *MV Nayudu's* case. As dams were not so inherently hazardous, this shift in the onus of proof was unnecessary. The Court held:

Merely because there will be a change is no reason to presume that there will be ecological disaster. It is when the effect of the project is

Known then the principle of sustainable development would come into play, which will ensure that mitigative are and can be taken to preserve the ecological balance. Sustainable development means what type or extent of development can take place, which can be sustained by nature and ecology, with or without mitigation.”

Having looked at the decision of the Supreme Court seeking to apply sustainable development theory, the correctness or authenticity of their application must also be analyzed. In the initial phase, it cannot be denied that the Supreme Court was on a strong theoretical footing, seeking to apply sustainable development by means of its handmaidens- the polluter pays principle and the precautionary principle. The application of sustainable development in the Indian context may not satisfy conventional sustainable development theorists, however, as some of the later decisions conflict with this trend and seem to have the following common characteristics:

The reliance upon the precautionary principle, which pervaded earlier judicial decisions, seems to have been diluted in these decisions. The precautionary principle takes a very tricky approach to the enforcement of protective measures for the environment. Hence, any doubts that may reasonably arise may be justified on the basis of this principle. There also appears to be a shift away from the reconciliatory approach of sustainable development. The concept of sustainable development is reconciliation between environment and economy. Decisions of the Supreme Court seem to take a confrontational approach to the crisis of ecology and economy, by adopting to follow either a purely ecological trend, or a purely economic perspective, depending upon which has a more persuasive case.

Finally, it must be submitted that sustainable development is not purely abstract concept. It must be clearly enunciated, and its tools and methods must be clearly specified. However, while prescribing the trend of sustainable development, the Supreme Court has failed to lay down a roadmap for sustainable development in its orders. While it is clear that the courts in India have not adhered to a rigid interpretation of sustainable development theory in India, the importance of the theory lies in its potential for use by the courts as a means of ensuring environmental compliance. Hence, in order to comply substantially with the requirements of sustainable development theory, the courts should seek to incorporate the suggestions made above.

To end the discussion it can be said that the threat to environment and ecology due to pollution, poverty, population and indiscriminate industrialization is a hard reality in India. People have begun to realize the dangers to ecosystem inherent in the development design India has chosen at the behest of market forces.

There have been some fundamental problems endemic to sustainable development like transfer of environmental technology, the need for a social policy etc. But to our understanding and observation, we can achieve our objective of economic growth and equitable distribution of wealth and resources if we can restructure our present development policy and alter our priorities a bit. In fact, crucial to development practice is the notion of commitment and accountability. If our political decision makers and executives of development and planning could be accountable to the masses for their action and a little bit committed to the ethos of development then we could see significant change in near future.