
Sustainable Development : Problems And Prospects

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Abstract

History of human civilization is the history of men's insatiable Craving for development. But if in the race of development, mankind loses the potential of future development then the process of development would be self limiting. In the blind pursuit of consumerism, man has somehow forgotten to put a limit to his needs. Nature is not a commodity, but we ourself including all creations are Part of nature. As human beings are endowed with a creative mind, it is our primary duty to sublimate nature with the help of science and technology so that it does not lose its capacity to sustain all life on earth. Sustainable development is a holistic approach to development. Development to be meaningful should be sustainable.

Key words- Sustainable, Holistic, Aspiration

Introduction

The history of human civilisation is the history of constant human aspiration for development. Human civilisation has traversed due to human aspiration for development from the stone-age to the present cyber age. Man's un-satiable spirit for development inspired him to experiment and harness the forces of nature surrounding him and to use it for his development. But in the race of development, mankind became oblivious of the fact that ruthless pursuit of nature will put the process of development to a dead end. If in the present pursuit of development mankind loses the potential of future development, then the process of development would be self-limiting. It will make the development meaningless, whether this process takes place in society, polity, economy, or in government. Development to be meaningful should be sustainable. So, in the present pursuit of development future needs of human race should be taken care of. The concept of sustainable development emerged as an important theme in 1987. The Brundtland Commission on Environment and Development in its report 'Our Common Future' called for application of sustainability as a criterion of all development initiatives. "In order for development to be sustainable, it must meet the need of the present without compromising the ability of future generation to meet their own needs," said the Commission.¹ The similar interpretation on sustainable development has been expressed by the successor writer and Commissions as well.

THE CONCEPT OF SUSTAINABLE DEVELOPMENT

According to the Indian National Conservation and Policy Statement on Environment and Development, "it is a process of social and economic betterment that satisfies the needs and values of all interest groups without foreclosing future options."

Principle three and four of the Rio Declaration on Environment and Development declared, "The right to development must be fulfilled so as to equitably meet developmental and environmental needs of present and future generations and in order to achieve sustainable development, environment

protection shall constitute integral part of the development and cannot be considered in isolation from it.”³ Edward B. Barbier defines sustainable development specifically in the context of Third World Countries. He says, “...the concept of sustainable economic development as applied to the Third World, is, therefore, directly concerned with increasing the material standard of living of the poor at the grass root level, which can be quantitatively measured in terms of increased food, real income, educational services, health care, sanitation and water supply, emergency stock of food and cash, etc., and only indirectly concerned with economic growth at the aggregate, commonly national level. In general terms, the primary objective is reducing the absolute poverty of the world poor through providing lasting and secure livelihood that minimises resource depletion, environmental degradation, cultural disruption and social instability.”⁴

The 1992 UNDP report stated: “Sustainable development is a process in which economic, fiscal, trade, energy, agricultural and industrial policies are all designed to bring about a development that is economically, socially and ecologically sustainable.”

Sustainable development cannot be a static concept and hence cannot be defined once for all. It is a dynamic process and will be applied by different countries in tune with their own cultural, political and economic perspectives.

We may work out a broad outline of what constitutes sustainable development or how sustainable development differs from development in general:

- .it cannot be achieved in short run;
- i.it is based on equity and justice;
- ii.its approach is balanced and integrative;
- iii.it has common goal but different routes;
- iv.It accepts nature not only as a resource for development but also as a earthly womb for survival and development of human kind; and
- v.It is participatory in nature.

The economic, political, technology and structure and super structure built during the last few centuries particularly in industrialised countries of the world cannot be dismantled in a day. No structure is, however, permanent. Elementary and partial changes do take place as a part of the renewable process. This renewable process can be accentuated within the tolerable birth pangs and death agonies that mark any such change.

Equity and justice are the *sine qua non* of the sustainable development. It is:

1. Equity among nations – rich nations, poor nations, developed nations, developing nations;
2. Equity within countries – between regions, social class, genders, centres of activities;
3. Equity between generation; and
4. Equity between economics and ecology and science and spirituality.⁵

DEVELOPMENT AND VALUE: MAN-NATURE RELATIONSHIP

Nature constitutes an integral part of our life. The issues related to nature have been so vital for our life that we can ignore them to only at our peril. Political philosophers from Aristotle to Montesquieu and to Marx, made serious attempts to relate nature to polity and vice versa. In man’s endeavour for

development, nature has been the source, through harnessing of which mankind has achieved all the prosperity and development. In the process of interaction with nature, technology has been the instrument through which man makes use of his environment. But in his blind pursuit of consumerism mankind has forgot to put a limit to his needs. So, one need has spontaneously led to another one and man has constantly devised new technology for fulfilling his new needs. Maurice F. Strong, Secretary General of the UNCED 1992, said in 1989: “We have been literally living off the Earth’s Capital and that capital is being seriously depleted. We cannot continue to run over planet this way any more than we could run a business for long by running down and living off its capital. Indeed, our earth, it was an incorporated entity would be headed for bankruptcy if we continue on our present course. Richard Saint Barber-Baker said the same thing more emphatically. This generation may either be the last to exist in any semblance of civilised world or it will be the last to have the vision, the bearing and the greatness to say: “I will have nothing to do with the destruction of life; I will play no part in this devastation of land; I am determined to live and work for peaceful construction for I am morally responsible for the world of today and the generations of tomorrow.”

To reach a sound conclusion, we have to discard two big lies on which modern materialistic civilisation, which flourished after Industrial Revolution in Europe, is based. These are:

1. Nature is a commodity; and
2. Society is only of human being.

Nature is not a commodity but we ourselves including all – creations are a part of Nature. Society cannot be of human beings alone as all life is interdependent. This in a truly developed society, our behaviour with nature should be such in which the nature fulfils the basic needs of all being. As human beings are endowed with a creative mind, it is our primary duty to sublimate nature with the help of science and technology so that she does not loose her capacity to sustain all life on earth. Human being like other living entities has come from the Nature. Nature has a nurturing role. After death, the human body, the part that is matter goes back to Nature... The Hindu concept of ‘Panchboota’ is so relevant here. Land, water, air, energy, and space constitute the basic elements of all living organism. All this must remain ample and pure to sustain life. The Atharva Veda wrote homage to earth and incorporated it as ‘Prithvi Sukta’. The essence of Sukta is: The Earth is the mother and we are her children. People of other religious traditions may not be used to such a reverence for nature. But they cannot ignore the fact that the human destiny is inseparably linked with that of the earth. It is, therefore, our duty to maintain the nature of Nature. It is our self-interest, if nothing else. Nature has always been kind in providing its bounties to mankind. Nature has shown a great amount of elasticity in granting man’s demand. But every elasticity has its limits Since, in time of Industrial Revolution, there has been consistent ever-increasing pressure on nature through the unrestrained use of technology and it has consequently brought into operation, what is known as, ‘physical limits to growth’.

This limit operates in two ways:

Firstly, the greedy exploitation of nature has depleted and is increasingly depleting many essential resources that are vital not only for satisfying human needs but also sustaining ecological balance. Secondly, the ratio between investment in sophisticated technology and the out of end product

is getting progressively marginalised.⁶ 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 utilised to satisfy human wants without jeopardising their own future. Since consumption standards and perception of better life are culturally defined, “sustainable development then becomes an ideological construct in the sense that it requires promotion of values that either encourages or discourages kind of needs within the bounds of ecological possibilities. Sustainability and un-sustainability of development process is essentially a consequence of interaction between socio-economic system and ecological system. Both are co-evolutionary system, which suggest not only that they reinforce each other but also that each encounters constraints and impulses that originate in the other.⁷ 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 it should operate.

Eco system has great resilience; they recover from minor disturbances in no time. By minor we mean within the limit of tolerance. Human body is also an ecosystem. Its metabolism removes the unwanted things. In the same way, every ecosystem has a certain waste accumulation capacity. “It is only when the negative externality created by the production process across is the assimilative capacity that it leads to erode ecological balance.”⁸ Because industrial pollution of the environment 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 the ecosystem and production system that exploits it at a given point of time. In the long run, it is a goal to be achieved by a given society where its production process satisfies the need of present without jeopardising the future.⁹

Resources of the ecosystem are both renewable and non-renewable. Land water, forest, 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 a limiting factor. Sustainable development is then a process in which an equilibrium is maintained between utilisation of natural resources and environment, the direction of investments in technological development and institutional changes so that these be in harmony with one another and enhance the present as well as future capabilities of human societies as well as enhance their quality of life. Sustainability of growth or development process stands for complementarity between environmental conservation and development both held in perfect.

INDIAN CONCEPTUALISATION

In the pre-British period, the status of the economy of the country was in harmony with ecology and environment. But in the British period, due to ruthless exploitation of India’s natural resources for the fulfilling the needs of the industrial revolution of Britain, the balances between nature and man got disturbed. The ecological and economic balance in the villages was disturbed while the urban landscape was the scene of wanton expansion with filth and dust galore. Gandhiji’s economic thinking stressed the harmonious equation between nature, economy and society that prevailed in the country before installation of the British regime.¹⁰ The Constitution of India embodies the conceptualisation regarding the possible directions of development in free India. The various articles in Part IV on Directive Principles of State Policy had paved the way for economic development and legislative and

administrative measures for the welfare of people.¹¹ Article 38, 41, 42 and 43 provide for a social order for the promotion of welfare of the people, 'right to work, to education and to public assistance in certain cases, "...just and humane conditions of work and maternity relief" and "living wage, etc. for waters, respectively. Article 39 seeks to reduce disparities in the economic conditions of different strata of the population. Besides articles 45 and 46 promotes development of compulsory education and of scheduled castes, scheduled tribes and other weaker sections in respect of their educational and economic interests. Article 47 and 48 on the other hand, provide for raising the level of nutrition and the standard of living and improving public health and proper organisation of agriculture and animal husbandry. These constitutional provisions had not ensured equitable development of the very poor people in the country on account of various factors including population explosion and due to non-percolation of the fruits of development to the lowest strata of society. In the 70s, development programmes and schemes targeted at poor were introduced. The target of Indian concept of sustainable development is not only equitable development but also environmental up-gradation and security. The Article 48-A was inserted in the Indian Constitution by the (42nd amendment) Act 1976 for the protection and improvement of environment and safeguarding of forests and wildlife.

DEVELOPMENT PROCESS AND ENVIRONMENTAL CRISIS: POLICY PERSPECTIVES

Since the 70s the realisation has dawned on the humanity that the development process in different countries of the world – developed as well as developing – is interlinked, and interlocked. In the words of the Report of the World Commission on Environment and Development,¹² direction of the development process need to be changed to avert the environmental crisis or at least to mitigate its ill effects. Need of the hour is not only remedial measures but preventive measures have to be taken in both developing and developed countries.

The UN Declaration on Human Environment took cognisance of it in 1991 as "major and undesirable disturbances to the ecological balance of the biosphere due to manmade harm in many regions of the earth."¹³ The Stockholm Conference (1972) called far greater importance being given to international conservation. In the North, problems of pollution and depletion of renewable fossil fuel had to be dealt with and in the south natural resources degradation evident in deforestation, desertification and threat to irrigation had to be counteracted. The World Conservation Strategy (WCS) launched in 1980 had further defined the three objectives of resource conservation as maintenance of essential ecological process and life support systems, preservation of genetic diversity and restrained utilisation of species and ecosystems. But the WCS did not go deep into the social and political changes needed in the developing countries to realise these objectives. The Brandt Commission Report (1980 and 1983) also noted the irreversible destruction of the ecosystem of the poor countries and the implicit threat to world security and the consequent political instability and social problems.¹⁴ (World Environment and Development) commission (1984-87) to identify and enlarge upon the interlocking of development process and environmental crisis.

ENVIRONMENTAL CRISIS

During the 18th and 19th centuries deleterious impact of development was there on the environment in the West yet, it was not significantly visible. But after the Second World War, as the colonies became independent, interaction between development process and the status of environment

in the developed and the developing countries increased and the situation changed.¹⁵ North has gained all round development through the process of development. It made tremendous advances in scientific technological and industrial spheres and subsequently used this power to have political domination over the rest of the world for two centuries. It made use of economic surplus derived from the exploitation of the resources of subjugated countries. All these factors put together resulted in higher standard of living of people of north. The colonies, at the same time, went through the process of counter development. Their traditional economic structure was dismantled, a new economic system, which as a means of the furtherance of the aim of colonial masters, was devised. They were uprooted of their own cultural mooring in their own soil. The only gain for these countries during this era was that they came into cultural contact with the scientifically and industrially advanced countries.

Overall, since World War II, among the successes of the development process in the world as a whole, including the developing countries could be listed, the fall in infant mortality, increase in life expectancy, rise in literacy and growth in food production. But the development process has cast a deleterious impact on the environment. The enormous growth of population in developing countries has aggravated the poverty of the poorest sections there. This has consequently worsened the quality of life of poor in respect of housing, health, ecological surroundings and other essentials.

INDUSTRIALISATION

The most harmful effect on environment of the enormous and rapid pace of industrialisation is in evidence in pollution through toxic gaseous emission. Carbon dioxide, sulphur dioxide and other chemical gases have polluted the environment. The USA with 4 percent of the world's population consumes one-fourth of energy resources in the world. The toxic gases emission causes warming up of the globe, which is called 'Greenhouse Effect' on the atmosphere. The principal natural greenhouse gases are water vapour, carbon dioxide, methane, nitrous dioxide, etc. There are also manmade greenhouse gases, which include ozone-depleting substances such as chloro carbons (CFC). The CFCs and nitrous oxide are several times more potent than the same quantity of carbon dioxide and methane. Nitrous oxide is emitted by the oceans and soil and by human activities like lioness burning and use of fertilizers.

The various factors causing environmental degradation apart from negatively affecting the health of human beings diminish productivity. The water pollution and the resultant water scarcity lead to the decline of fisheries, raise the costs of providing safe water, cause aquifer depletion and constrain economic activity. Air pollution affects the supply of oxygen for living beings. Solid and hazardous wastes initiate groundwater. Soil degradation results in losses in field productivity and siltation of reservoirs, river transport channels and other hydrologic reserves. Deforestation spells an enormous impact on productivity through the loss of logging potential and affecting erosion prevention, watershed stability and carbon withdrawal. The loss of biodiversity reduces eco system adaptability and genetic resources. Atmospheric changes cause damage to coastal investment, regional changes in agricultural productivity and disruption of marine food chain.¹⁸

DEFORESTATION AND LOSS OF PASTURES

One-third of land area of the earth carrying deserts and snow paved cities supports little biological activity. Another one-third is occupied by forests and treeless plain; and the remaining one-

third is cropland and pastures. The pasture area of the world is shrinking due to overgrazing. The share of cropland is coming down due to degradation and non-agricultural uses like roads, urban dwellings, airstrips, railways, etc. In 1980, the annual rate of deforestation in the tropics was about 11.4 million hectares. In India for every four hectares of deforestation only one hectare of afforestation takes place. Deforestation also causes loss in biodiversity as wild life extinguishes at a fast rate. The natural fertility of agriculture in the tropics including India, which was well known for its natural productivity, has declined due to overuse, lack of fallow land and of the rotation of crops and other practices. The use of irrigation at an extensive scale has reduced the mucus in the soil, bringing in water logging and salinity.

POPULATION GROWTH

Apart from natural degradation and natural disasters, like floods and famines, the most potential cause for acceleration of the over-utilisation of productive resources, downgrading the quality of environment, is the enormous increase in population particularly in the developing countries.

ACTION AREA

INDUSTRY

The control of industrial effluent to attain the necessary standards is affected through the following methodologies:

- . Innovation and improvement in the existing manufacturing technologies in order to reduce the inflow of pollutants in the streams;
- A. Recovery of the useful materials from the effluent streams for a removal of dissolved, undesirable and refractory materials and destruction by incineration; and
- B. Secondary treatment of pre-treated effluent by bio-degradation.²⁰

The return on investment for environmental improvements was fast initially, but hampered off later. In developing countries, end of pipe controls would be less important because their industrial sectors are fast expanding and the new capital investments can afford to incorporate cost effective pollution control. In ten years, new plants would account for half of the industrial output in developing countries and in 20 years for nearly the whole of it. The new-low-waste processes and prevailing end-of-pipe control for developing countries would be able to lower emission from large industrial plants at a lower cost than in industrially advanced countries.²¹ The World Development Report 1992 has also referred to the various effective modes of reducing the efflux of industrial pollutants such as industrial zoning, levying charges, taxing and other market based incentives – in force in different countries.²²

AGRICULTURE AND AFFORESTATION

To sub-serve the requirements of sustainable development the utilisation of land for agricultural purposes should be economical, conserving the fertility of soil but on the other hand, in the short term, agriculture has to provide adequate amount of food to the people and also supply raw material for industrial use. Afforestation has a durable impact in regard to the environmental up-gradation, preservation of biodiversity and of the eco-system so essential for good life of humanity on the earth. The world Commission on environment and Development Report to enhance the resource base, has recommended the following broad land categories:

enhancement areas, which are capable of sustaining intensive cropping and higher population and consumption levels;

- a. procreation areas, which by common consent should not be developed for intensive agriculture or where developed, should be converted to other uses; and
- b. restoration areas, where land stripped of vegetative cover has either totally lost its productivity or had it drastically reduced.²³

The World commission has also suggested in this context strict water management, use of organic nutrients, growth of agro-forestry system to reduce food and fuel and aquaculture.

Regarding the application of biotechnology to the agriculture, the Commission had noted that 55 percent of the world's scientifically stored plants genetic resources are controlled by institutions in industrial countries, 31 percent by those in developing countries, and 14 percent by International Agricultural Research Centres.²⁴ Hence, the developing countries would have to be selective in the use of biotechnology in those plants and seeds in which they have superiority over advanced nations. The effective forest cover is too low, viz., 14 percent; it should be 33 percent in plains and 60 percent in the hills.²⁵

ENERGY

In the consumption of energy the world is divided in advanced industrial nations and oil producing countries on the one hand and the remaining countries on the other. The consumption of energy per person in industrial market economies exceeds than in Sub-sahara Africa by more than 80 times. With efficient and productive use of primary energy, the same levels of energy services as today can be produced within a span of next half-a-century. This will require the use of renewable source of energy along with prudent, economical use of primary energy. But this would necessitate enormous structural changes in the socio-economic and institutional set up in the world.²⁶

POPULATION STABILISATION

Population stabilisation especially in developing countries is absolutely imperative to achieve both the objectives of reduction of poverty level and improvement of the quality of environment. Family planning measures and rapid economic development policies targeted at the poor sections will have to be adopted expeditiously in developing countries to realise population stabilisation at present levels there.

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