

## ENVIRONMENT AND SUSTAINABLE DEVELOPMENT IN INDIAN PLANNING

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### ABSTRACT:

The Sustainable Development Paradigm (SDP) emerged as a reaction to the large number of problems related to the dominant model of economic growth which is pursued worldwide. There is a growing apprehension that, the model, if allowed to operate unchanged for a few decades more, may invite a number of complex issues which may be beyond the management capability of the technological, social, and political systems that nations possess at present. This paper deals with topics centred on repercussions of non-sustainable growth, emergence of the New Economics, and the rationale and means to sustainable development.

This study is primarily aimed at subjecting Indian Five Year Plans to a sustainability check. The framework for analysis is provided by the sustainable development paradigm. The environment management system of the Indian economy is selected for focused study.

**Key Words:** Sustainable Planning and Development, Five Year Plan, Environment, Growth, and Pollution.

### INTRODUCTION:

#### ***The Emergence of the Sustainable Development Paradigm:***

Economic growth became a subject of topical interest in the second half of the 20 century. Nations vied with each other to occupy more space in the expanding global economy. Not all of them could succeed in equal measure. The More Developed Countries (MDCs) could record consistently high growth. As a result they could scale unprecedented heights in material affluence. The Less Developed Countries (LDCs), as a group, also grew at rates exceeding the trend values of the immediate past (World Bank, 1998). But, for them, growth was not accompanied by significant development.

Growth of varying magnitudes, in the MDCs and LDCs, resulted in a widening of the development gap. The per capita Gross Domestic Product (GDP) of the North which was 11 times that of the South in 1960 reached more than 22 times of the latter in 1993. Meanwhile, the affluent societies began facing a unique set of problems – *the problems of plenty*. Historically unprecedented growth, brought in its train, a variety of new issues connected to environment, resources, and social management. The truth that growth was not an unmixed blessing was evident.

The dark side of growth did not go unnoticed for long. Galbraith's seminal volume, *The Affluent Society* (1958), was a prognosis for future problems. Mishan portrayed the physical, psychological, and social problems related to modern growth in his famous book, *The Costs of Economic Growth* (1967). Another notable contribution came from the great visionary E. F. Schumacher, in the form of the classic, *Small Is Beautiful* (1973). However, the credit for bringing the problems associated with economic growth to the centre stage of popular debate goes to the 'Club of Rome' – a group of 75 intellectuals from 25 nations and founded by Aurelio Peccei in the late 1960s. The Club financed a study by the M.I.T. team that was headed by D. H. Meadows. The report of the study published under the title, *Limits To Growth* (1972) contained gloomy predictions regarding the future of humanity, particularly about the long-term non-

viability of economic growth. It was held that, if the then prevailing trends in population, industrial production, and pollution were sustained for some more time, matters would get out of hand. A catastrophic collapse of the economic system within some hundred years (from 1970) was forecasted (Baumol and Oates, 1979). The message: something had to be done urgently to reverse the trends.

In early 1970s, the United Nations (UN) initiated action against the anticipated breakdown of the systems supporting growth. The environment was chosen as the area for urgent action. Member nations of the UN assembled at Stockholm, in 1972, for the historic Conference on Human Environment. Deliberations centred on the question, 'how to stop the rot of global environment?' The decade following the Stockholm meet was a period of heightened action in this respect. Different institutions at the global level and a large number of Non-Governmental Organisations (NGOs) joined hands with the UN in its efforts to improve the situation. New bilateral and multilateral agreements were concluded aiming to tone up the environment. Major issues like the persistence of poverty in LDCs and the widening of the development gap, however, remained outside the ambit of such agreements. The South Nations felt that they were being short-changed by the MDCs. To the former, the protection of environment had no meaning, so far as the socio-political issues remained unattended.

A notable change in the approach of the UN came with the report of the World Commission on Environment and Development (WCED), titled *Our Common Future* (1987). Appointed by the General Assembly in 1983, the WCED was briefed to prepare a long-term environmental strategy for achieving sustainable development, by the year 2000. Majority of the 21 members of the Commission belonged to the LDCs, a factor, which had an important bearing on the final outcome. In its report, the WCED emphatically stated that environmental issues and social issues couldn't be seen in isolation. "A world in which poverty and inequality are endemic will always be prone to ecological and other crises. Sustainable development requires meeting the basic needs of all and extending to all the opportunity to satisfy the aspirations for better life," (WCED, 1987).

While holding the MDCs more accountable for the present environmental problems, the WCED noted the fact that sustainable development required the promotion of values that encourage consumption standards within the ecological bounds, which all could reasonably aspire. It exhorted nations to take a long-term view of development. Sustainable development (SD) was defined as a process that enables societies to meet the needs of the present, without compromising the ability of the future generations, to meet their own needs.

Few other ideas in the recent period had such a ready and universal appeal as the concept of SD. It had become the buzzword at conferences and debates that touch on the theme of development. In spite of being popular, the concept remains vague. According to Sukhamoy Chakravarty, the lack of precision ensured its 'success' (Agarwal, 1995). In the opinion of Daly, in order to prevent it from becoming an 'empty shibboleth', the notion of SD has to be clarified further by offering a few working norms (Daly, (1991). The present study is an attempt in this direction. Examination of the theoretical and practical implications of the sustainable development paradigm, in the context of environmental planning in India, is the focus of the study.

#### **RELEVANCE OF THE STUDY:**

In 2001, planning in India completed fifty years. At this juncture, stocktaking of its achievements and failures is a worthy exercise. With the change in macroeconomic environment following the policy shift in 1991, (referred, hereafter, as the New Economic Policy), the Planning Commission (replaced by National Institution for Transforming India – NITI Aayog) is faced with new challenges, particularly in the environment frontier. In the present study, the Indian Plans are subjected to a sustainability check.

**OBJECTIVES OF THE STUDY:**

The current study has set the following objectives:

1. Defining sustainable development in the context of a developing country like India.
2. Subjecting Indian Plans to a 'sustainability check', and
3. Suggesting measures to improve the performance of the planning system in India along a sustainable path.

**SCOPE OF THE STUDY:**

An economy-wide study is involved. However, only one crucial area of planned development of the Indian economy is selected for detailed scrutiny i.e., the environmental management system – as applicable to the period, 1951-1997, viz. First Plan through Eighth Plan. The selection of the above area was inspired by the UN 'Declaration on the Fourth International Development Strategy'. The prominent areas identified for urgent action were eradication of poverty and hunger, control of population, improvement of environment and human resource, and institutional development (Bartelmus, 1994).

**METHODOLOGY:**

The study is based on secondary data, for which official and non-official sources have been utilised. While evaluating the Indian Plans the familiar method of deductive analysis is applied. Critical conditions of sustainability are stated as major premises. Simple statistical tools of analysis and interpretation are employed at appropriate points.

SD models are broadly divided into two – 'strong sustainability models' and 'weak sustainability models'. The norms of sustainability adopted in this study belong to the latter version of SD. The researcher's considered opinion is that a strong model of SD can be applied, only at the end of a period of 'clearing of the ground'. In fact many visualise the transition process towards sustainable development, a gradual one (Pearce, 1995).

**DATA SOURCES:**

Literature on SD has already grown to voluminous size. Effort was made to review all the important works in the field. These included books from individuals as well as periodic reports from institutions. The latter sources are mainly: the World Bank (The World Development Reports), the United Nations Development Programme (The Human Development Reports), and the World Resources Institute (reports under the title 'World Resources'). The World Bank, has in the last five years, published a number of books under the 'Environmentally Sustainable Development Series'.

On Indian planning the basic reference consisted of the plan documents issued by the Planning Commission, Government of India. All the volumes related to Five Year Plans up to the Ninth Plan were reviewed for a proper analysis of the official policy. For critical evaluation of the policy, books, periodicals, and media reports of all type were used. Special mention may be made of the series titled 'The Citizens Reports' of the Centre for Science and Environment, New Delhi, dealing with the environmental issues of India. The 'Fifth Citizens Report', published in 1999, proved very helpful for an understanding of the latest state of environment in India. The annual publication of the Department of Family Welfare (Year Books) contains detailed information on population dynamics. Year Books from 1992 were made use of. Data on some frontier areas of policy were accessed through the Internet.

**LIMITATIONS OF THE STUDY:**

The present study is entirely based on secondary data and the scope of the study is limited to the selected issue in the sustainable management of the Indian economy i.e., the environmental management system. This was necessary to pay adequate attention to the details, and to adjust to the various constraints of an individual exercise in research. The study is of a descriptive nature and, hence, no hypotheses were put forth in the beginning. Secondary

data from different sources are used. The methodology of deductive reasoning is adopted to draw conclusions.

#### **A CRITIQUE OF THE DOMINANT GROWTH MODEL:**

Modern growth was made possible by technologies that bestowed on humans the power to interfere in the mechanics of nature's process, by excessively drawing on resources and significantly altering environment. For a while many took pride in having 'conquered' nature. But the euphoria was short lived. Dis-amenities of growth appeared on different fronts. This section deals with the adverse impact of economic growth on resources and environment. The global issues that complicate the above problems are also mentioned.

***The Economics of Non-Sustainability:*** The economic theory behind modern growth is obviously flawed. Two centuries of economic thought, both capitalist and socialist, are based on the concept of 'economy as machine' rather than economy as ecosystem. Nonetheless, history has demonstrated that no economy behaves like a simple, cyclical machine," (Rothschild, 1992). Due recognition was not given to the intimate and intricate relationship between the economic system and the wider ecosystem, and, hence, the general disregard for the limited nature of 'natural capital'.

There are some historical reasons for the disregard, in conventional economic theory, for the limits posed by shortage of natural resources. Most of the MDCs developed during the colonial era. Cheap import from colonies augmented domestic resources. Further, the global scale of activity was much smaller than what it is now. Consequently, natural capital regeneration was regarded automatic. Capital seemed to include only the human-made items in the form of tools and machines. There was also an implicit assumption that physical capital could substitute natural capital in most cases (Daly, 1991). Many of the undesirable trends related to modern growth process, may be directly or indirectly attributed to the kind of economic theory that guided major nations as they attempted to scale new heights in material affluence.

***Global Spread of the Western Model of Growth:*** The process of modern growth, which started in Europe, spread to the rest of the world, though in differing magnitudes. Colonial rule, so to say, 'exported' the model to new territories. Even though the colonial system got disbanded after World War II, the new governments in erstwhile colonies left the basic foundation that determine the economic process, untouched at the core. This was the result of two factors. *First*, the weak administrations that replaced the highly authoritarian colonial setup had neither the will nor the means to carry out credible structural reforms. *Secondly*, for all practical purposes, they still clung on to their former masters, for advice and finance. Many of the multilateral agencies that cropped up in the meantime, were heavily dependent on the financial and political patronage of the imperialist powers so much so that the latter could set the agenda of these institutions. Using this leverage and under the cover of the apparently neutral institutions, the western model of growth, which suited the immediate interest of the MDCs was made the framework of economic policy in the newly independent nations. "At the end of World War II, the United States was a formidable and incessant productive machine, unprecedented in history. It was undisputedly at the centre of the world. It was the master. All the institutions created in those years recognised that fact: even the UN Charter echoed the United States Constitution," (Sachs, 2010). Poor nations were egged on to compete for development. The critical problems arising from the competition for growth are mentioned below.

#### **A. THE RESOURCE DEPLETION PROBLEM:**

Natural resources, according to the ecological perspective, are to be regarded as capital. An investor who is sensible will live on the interest on capital and leave the principal intact. Applying the same principle to the use of resources, the sensible thing for a society is to draw on resources, at such rates that the process leaves the base quantity untouched. In fact, the

opposite happened. Modern technology was employed for large scale and 'fuller exploitation' of natural capital. Human societies, which closely followed the biological process and its speed in the past, now got transformed. 'Economy' was conceived, for all practical purposes, as an entity distinct from ecology. The pursuit of economy's ends, at rates larger than that permitted by natural process is at the core of resource problem. Rothschild (1992) summarises the issue thus: "The chief distinction between the biologic and economic forms of evolution is speed. Technological change happens roughly one million times as fast as genetic change."

The resource problem manifests itself in different ways:

- (a) There are only finite quantities of certain resources [non-renewable (NRR)]; others are renewable (RR), but exploitation beyond a level will push them to the category of NRR.
- (b) Large-scale exploration, mining, transportation, processing, and consumption of resources generate a number of environmental problems.
- (c) Even if some resources are abundant relative to current demand, their exploitation has to be regulated, in the interest of leaving enough of them for future generations.

All the same, the resource problem is treated under a number of heads, viz.:

1. The Decline in the Area of Cultivable Land;
2. Depletion of Mineral Resources;
3. Deforestation;
4. Emerging Water Scarcity; and
5. Loss of Biodiversity.

#### **B. ENVIRONMENTAL THREATS TO SUSTAINABILITY:**

All environmental problems can be directly or indirectly attributed to pollution from production or consumption. Economic growth typically involved an exponential growth in pollution and thereby caused severe stress on environment. Both economic development and the lack of it generate this problem (Todaro, 1994). While the rich pollute the environment due to wasteful use of resources, the poor degrade it by surviving at its expense.

Pollution consists of consumption and production of by-products which either adversely affect the senses or physical wellbeing of a significant proportion of a given population or act to reduce the real or potential output of goods. It is generally seen that pollution increases at a more rapid rate than the increase in output. As per one estimate, the volume of debris and pollution in the US doubled every ten years or by roughly twice the rate of increase in the GNP (Savage et al., 1974). In the traditional society, major activity was farming in which inputs as well as outputs were biodegradable. Low productivity of agriculture ensured that population was small and sparsely dispersed. In contrast, modern industrial society produces many items that are non-biodegradable and progress in agricultural technology permits large populations, which often live in close proximity, generating enormous waste in the process. With more countries stepping up growth efforts global pollution is bound to go up. What follow are the important types of pollution connected to economic growth: air, water, land, thermal, radiation, and noise.

#### **C. OTHER ISSUES OF NON-SUSTAINABILITY:**

Apart from the aforesaid problems, there are a number of global issues, which threaten sustainable development such as:

1. Rapid Growth of Population;
2. Excessive Consumption;
3. Global Warming and Climatic Change;
4. The Ozone Hole Mess; and
5. Social Limits to Sustainability – Existence of Extreme Inequality and Widespread Poverty.

#### **NORMS OF SUSTAINABLE MANAGEMENT OF THE ENVIRONMENT:**

1. Economic growth, by itself, will not put a break on environmental deterioration. A proactive social intervention system is a *sine qua non* for environmental stability and safety.

2. Vital components of environment have a synergic interrelation, and hence, the need for a comprehensive approach.
3. Only a long-term management of environmental problems, based on a sound strategy can minimise deterioration.
4. There are limits to governmental action. Participation of the community is an important component of a successful programme of environmental management.

#### MAJOR FINDINGS OF THE STUDY:

The broad conclusion emerging from the study is that in the area studied there were important shortcomings as far as achieving the goals set forth in the plans were concerned. Even in the 'conventional sense' the plans made only moderate gains. When the norms of sustainability are applied, the picture becomes bleaker.

Early plans displayed a limited awareness on the environmental implications of economic growth. There was a change in this, from the period after 1970. The seventh plan anticipated many of the central themes of the WCED report. The Eighth Plan dealt at length on resource protection and improvement of the environmental condition. The general conclusion on plan programme – in terms of plan documents – is that planners succeeded in incorporating elements of policy in tune with the growth of knowledge about environmental factors.

A survey of the major environmental problems faced by India reveals a gloomy picture. Some of the present problems are rooted in history. But even after independence, it took more than two decades to change the colonial legislations. Major problems noted are: degradation of more than 50 per cent of available land, low level of forest cover, a decline in biodiversity (especially in variety of seeds for cultivation) and widespread pollution of water and air. Rough estimates put the cost of environmental degradation at about 5 per cent of GDP.

Investigation into the causes for the bad state of environment shows the following to be significant:

1. **Failure to React to Emerging Problems at the Proper Time.** The Constitution of India, originally, contained very little on matters related to protection of environment and the government was slow in making appropriate amendments.
2. **Unsatisfactory Coverage of Pollution Problem.** In the industrial sector, the small-scale sector is largely left out of regulatory network.
3. **Absence of Comprehensive and Consistent Policy.** Until recently, environmental issues and growth issues were taken to be mutually exclusive.
4. **Poor Implementation of Legislations.** The staff in departments related to environmental management does not have specialised training, and their number is insufficient for the task. Though the central government frames laws, it is the states that implement many of these. The latter are not so serious in this task.
5. **Involvement of People in Environmental Protection Not Given Sufficient Attention.** Even where the decisions directly affected them, like declaration of protective zones, there is very little consultation with people. This led to lack of cooperation from them. The government failed to respond positively to the concerns of the public and well informed NGO groups, leading to high tension and conflicts.
6. **Real Support from the Government to Protective Measures is Inadequate.** Political exigencies, not the long-term interest of protecting environment, guide authorities at the top. Government departments extensively violate regulations. The Ministry of Environment and Forests remains a low-key establishment and the budgetary allocations for its programmes are highly inadequate.

#### SUGGESTIONS FOR IMPROVEMENT:

This section concludes with some recommendations aimed at revamping the planning system in the country so as to make it an effective tool for sustainable development.

1. **Serious and Sustained Effort:** To control pollution of all types and if possible reverse the damage already done to the ecosystem. Ideal measures comprise:
  - (a) **Land:** Reclamation of degraded land should receive great importance. Developing low cost technologies to tackle soil erosion, salinity, and water logging. Through a more disciplined use of chemical fertilisers and pesticides and an increased reliance on organic farming, land productivity has to be maintained.
  - (b) **Air:** Equal attention has to be paid to both outdoor and indoor pollution. Each needs specific set of solution. Automobile pollution being the main source of outdoor pollution, the major focus here should be on control of production and use of automobiles. There is a case for raising the cost of private vehicle use, by fiscal means. But this should be done only after ensuring that public transport system is made efficient and cheap. Other remedies for automobile pollution include the supply of better quality fuel, fixing higher standard for auto-emissions, insisting on the use of catalytic converters, and streamlining of traffic. Road development lagged behind the increase in vehicle population by a huge margin leading to frequent roadblocks. Each of the stranded vehicles generates more than normal pollution. So, urgent attention needs to be given to development of roads.

In the case of pollution from factories, putting better standards on exhausts and applying them on all units are vital steps. There is an urgent need to extend pollution control regulations to the small-scale sector. Some of the terms can be made less stringent in their case and cost involved may be partly met by the government.

Indoor air pollution can be reduced considerably by supplying clean fuels like LPG and solar power to households at a subsidy. A short-term measure would be to popularise the use of efficient stoves that burn fuelwood completely.
  - (c) **Water:** Reduction of water pollution demands the setting up of elaborate control systems embracing practically all the sectors of the economy. Excessive use of chemicals in agriculture has to be discouraged by doing away with the subsidy on fertilisers and pesticides. Effective steps are to be taken to completely stop the practice of direct pumping of untreated water by factories to water bodies. Local governments should be made financially stronger and then held accountable for any lapse in collecting and disposing waste.
  - (d) **Reduce Subsidies:** Availability of subsidy is a leading cause for the overuse of resources and subsequent increase in pollution. Electricity and water are typical examples. There is a strong case for phasing out subsidy on these items, with provision for exemption to weaker sections.
2. **Promote Recycling:** The scope for recycling of metals, glass, and paper is substantial. Technologies for these are available internationally. Recycling has to be promoted by offering subsidies on recycled products as well as on import of capital items for setting up recycling units.
3. **Environmental Impact Assessment (EIA):** It is to be made mandatory for all projects that have a significant impact on environment. Presently this applies to major projects only.
4. **Ensuring Peoples Participation:** It is possible to involve people in a better way in programmes meant for maintaining environmental health. There is great scope for integrating traditional and modern systems of management of ecological resources. Participation of people is especially relevant in areas where a problem is created by the multiplicity of sources, as in the case of automobile pollution and indoor air pollution.
5. **Environment Database:** Creation and maintenance of a sound database on environment is very essential. This is needed for effective planning on environment and timely correction of problems. In the general discussions on environmental problems, issues are often not properly focussed. Emotions, rather than objective facts, guide such discourses. Hence, there is a need to induce the scientific spirit through production and dissemination of qualitative

data. Having a number of satellites in space, the country is in a better position now than in the past, to produce the data of requisite quality.

6. **Government Approach:** A change from reactive to proactive mode is a very crucial requirement for efficient environmental management. The monitoring and enforcement systems need substantial reformation. For effectively playing the role of a corrective agency, the government needs to clear itself of the charge of being one of the main violators of regulations. Put simply, it has to play by the rules, in order to be able to ascent the high moral ground required of an impartial arbitrator.
7. **Environmental Fund:** The fund for environmental improvement programme has to be increased. The Ministry of Environment and Forests, presently receives one of the lowest allotments among the various wings of the Government of India. Most advanced nations spent around 2 per cent of their GDP on environment-related programmes. India has to devote a similar amount so as to tide over the difficult issues that the country presently encounters.

#### CONCLUSION:

Our greatest stumbling block to SD has been inadequate political commitment – the tendency to go for short-term gains was always a bane of Indian plans. All the same, the role given to state governments and local bodies at present is minimal. Grassroots level planning mechanisms have to be created and nurtured. This would, evidently, involve wide ranging changes that touch the very core of Centre-State (financial) relations.

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