# SOCIAL DEVELOPMENT: ENVIRONMENTAL SUSTAINABILITY AND SOCIAL WELL BEING

**P. V. Baiju**

## Abstract

*Significant changes have taken place in the discussion and direction of development during the last two decades. A major shift which occurred, as a result of various dialogues, was towards the non-economic spheres of development. The international conventions on various themes convened by the UN have shed light on human, social and existential dimensions of development. The less developed nations have had an influential role in bringing in the non-economic factors in the discussions of development. Sustainability as well as social well being have been established as norms in development policies and practices. But the latter, it seems, has not been adequately absorbed into the whole discussion. An amalgamation of sustainability and social well being is essential in devising an appropriate strategy of development that ensures the existence of the environment and decent living of all for the present and future generations.*

## DEVELOPMENT – THE DISCUSSION CONTINUES

The concept of development has been explained in numerous dimensions. But the crux of the concept, it seems, lies in the positive improvement in the lives of all the people. World leaders articulated the core impulse of development in terms of the enlargement and enrichment of the range of choices at the disposal of the people. The General Assembly of the UN in December 1986 passed a declaration on development as the inalienable right of individual and peoples. The

P. V. Baiju, Lecturer in Social Work, Sree Sankaracharya University of Sanskrit, RC, Tirur, Thirunavaya Post, Malappuram - 676 301, Kerala. Email: tobaiju@gmail.com

preamble of the declaration states development "as a comprehensive economic, social, cultural and political process, which aims at the constant improvement of the well being of the entire population and of all the individuals on the basis for their active, free and meaningful participation in development and in the fair distribution of benefits resulting there from."

Joshi (2001) states that the purpose of development is to build an enabling environment, so that people can enjoy a long, healthy and creative life. But it is a fact that often this objective is lost in pursuit of economic growth and material well being. Development is to be measured in terms of the improvement of the lives of the people and the families or the individual's capacity to deal with the rest of the society and of the nation's capacity to deal with the other nations in the world. Development is not just restricted to the mere uplift of the economic status of a nation, but involves a whole gamut of issues related to the well being of a group of individuals and the society at large. On the whole the term development suggests some level of improvement, self-reliance, uplift and progress, and also self-awareness and independence to an extent.

## SUSTAINABLE DEVELOPMENT

Sustainability is the key word centred on development in the recent period. In the Earth Summit of Rio de Janeiro in 1992, the World Commission on Environment and Development (WCED) reported: "Sustainable development implies meeting the needs of the present without compromising the ability of future generations to meet their own needs" (Joshi 2001: 47). It would need improving the quality of life through actions focused on educational attainment, nutritional status and access to basic freedom and spiritual welfare. Sustainable development implies a policy aimed at making these development achievements last well into the future.

According to Hanson and Gabriel, "sustainable development links environment, economy and the well being of people within the centre of decision making in government, industry, the home and the community. The challenge of sustainable development is to bring environmental issues, social requirements and economic necessities

under the same umbrella of decision making" (cited in Joshi 2001: 49).

Sustainable development focuses on people and societies, their needs, goals and economic activities contributing to economic development and their environmental consequences. It has become a forceful way to acknowledge the tensions between industrial development, social justice and environmental protection. It aims at harmony between natural environment and human actions.

Any agenda on sustainable development must be concerned with intergenerational equity which ensures that the future generations have the same capability to develop as the present generation. Development is sustainable only if it ensures the stock of overall capital assets including manufactured capital (such as machines and roads), human capital (knowledge and skills), social capital (relationships and institutions) and environmental capital (forests and coral reefs) are available to the next generations.

While discussing the Kerala model of development, Franke and Chasin (1996) comment that a development model is sustainable to the extent that it:

- Improves or at least maintains the material quality of life of the population.

- Expands or at least maintains access to any entitlements necessary for economic security and personal dignity, particularly of vulnerable groups.

- Expands or at least maintains the number of people obtaining access to production resources adequate for a decent life or employment at reasonable wages.

- Reduces the level of social and economic inequalities, or at least does not exacerbate them.

- Expands or at least maintains basic political and individual rights.

- Improves or at least maintains productive resources including land, water, flora and fauna.

Joshi (2001) finds a consensus emerging on the elements of

future development policy. He summarises the following points of future development policy:

1. Sustainable development has many objectives. It includes improving people's living standard, bettering people's health and educational opportunities, giving everyone the chance to participate in public life, helping to ensure a clean environment, promoting intergenerational equity and much more.

2. Development policies are interdependent. The policies require complementary measures in order to work best, and a policy failure can occur because these complements are not in place.

3. Governments play a vital role in development, but there is no simple set of rules that tell them what to do. Development should adhere to the policy fundamentals, but beyond that, the part that the government plays depends on its capacity to make effective decisions, the country's level of development, external conditions and a host of other factors

4. Processes are just important as policies. Sustained development needs institution of governance that embodies transparent and participatory process and that encompasses partnerships and other arrangements between the government and the private sector (the NGOs and other elements of civil society).

Sustainable development also includes promotion of values for maintaining consumption standards within the ecological limits. According to WCED, "this path of development also requires economic growth in places where essential needs of people are not being met. This would involve increase in the productive potential as also ensuring equitable opportunities for all" (cited in Joshi 2001: 50). Therefore sustainable development should aim at production of goods and services for people to live comfortable and happy life, conservation of natural resources, maintenance of biological diversity and enhancement of quality of life.

Sustainable development implies that the various components of the system are interwoven in such a way that all inputs necessary to secure the needs and aspirations of the population can always be procured at a rate corresponding to the rate of population increase so

that the production system, the responding market and political system are not threatened. The raw materials in the living countries, therefore, need to be protected and their population growth curtailed so that resources would remain easily available. What is desired is the right mix of development and environment to enable people to produce, protect and sustain resources so as to raise their quality of life.

## SOCIAL DEVELOPMENT

Sustainable social development is identified as a realistic means of maximising human benefit without significant environmental costs, and without threatening economic growth. The Social Development Summit in Copenhagen (1995) came up with alternative visions of development under the umbrella 'Social Development'. They give a centrality to non-economic dimensions of development and effectively challenge the supremacy of the economic growth model that has held sway for long. This new thinking, along with sustainable development, revolutionised the thinking on development across the world and a rethinking was initiated. This is being trickled down to the development workers at the grassroots.

M.S. Gore, a visionary and former Director of Tata Institute of Social Sciences, Mumbai wrote in 1975: "The re-examination of the concept of economic development has led to its broadening into the concept of social development. The United Nations and its many associated agencies had a great deal to do with the gradual adoption of this new concept by the developing countries. The concept of Social Development is inclusive of economic development but differs from it in the sense that it emphasises the development of the totality of society in its economic, political, social and cultural aspects or there are many areas, apart from social or welfare services, wherein the social perspective has relevance. Social development is thus not a plea for a larger allocation for social and welfare services, though such allocations may be justified on other grounds. It is really a plea for an integrated view of the scope of development which should embrace development in all its varied facets. Such a view would not result in a plan for economic development which is expressed only in terms of financial and raw material allocations but would indicate simultaneously the political, social, structural and cultural goals and infrastructure that are

necessary both as a means to achieve economic development, and as ends in themselves. As social development perspective cannot permit propositions in which economic development comes first and is later followed by steps to ensure distributive justice through a modified incomes policy or through provision of an extended network of tax supported social and welfare services. In this sense social development - as distinct from economic development - involves planning for simultaneous development on many different flanks" (Gore 1973). Unlike economic development, which is largely conceived in terms of the idea of "more and more", and hence amenable to quantitative analyses, social development implies the idea of "better and better" which is hard to quantify.

Sharma (1993) observes difference between social development and societal development. Societal development refers to overall progress of society. There are four key factors in it, which are part of the arrangement made by the society for its fulfilment, namely material, structural, normative and integrative. The material dimension refers to improvement in the physical, environmental, ecological and economic conditions of living. The structural dimension is concerned with the efficiency and complementarities of social institutions for the fulfilment of basic needs of not just a few individuals but all the people. The normative dimension is concerned with the set of norms and values, their upgrading, their vigour and their efficacy. The integrative dimension implies strengthening of social bonds and human fraternity. Sharma defines "social development as normative and integrative upgrading of the social order." In the Indian context he identified three conceptions of social development: "social development as increase in social well being; social development as transformation in egalitarian direction; and development as normative and integrative upgrading of social order." Sharma thus conceives of social development as improvement in two of the key factors (normative and integrative) of societal development.

There are two identifiable usages of social development in planning circles: (i) social development as provision of social services like health, education and housing for all, and (ii) social development as provision for social justice for the socially disadvantaged and deprived sections such as the scheduled castes and scheduled tribes, other

backward classes, women, children and old people. It may be noted that both the conceptions project social development in terms of provisions rather than in terms of its constituents. There are two corresponding conceptions of social development in academic circles. These are (i) social development as improvement in the social well being of the people and (ii) social development as progressive structural transformation in the direction of attaining an egalitarian social order. These are conceptions framed in terms of the constituents, i.e. what constitutes social development, rather than in terms of the provisions, i.e. what leads to it (Sharma1993: 32).

Mukherji (cited in Sharma 1993) has advanced an analogous egalitarian conception of social development. He identifies three sets of asymmetrical relationships between groups, namely, discrimination, exploitation and oppression (DEO). Discrimination signifies asymmetry of relationships, exploitation asymmetry of economic exchanges, and oppression asymmetry of power relations. He conceptualises social development as 'progressive diminution in DEO.'

Another dimension of social development is concerned with a sense of fraternity. Society is not just an assembly of individuals. It is a manifestation of human craving for reaching out to others. Seen in this way social development means development of a sense of belonging, a sense of communion with others. The right to freedom from police detention and searches on homes without warrants, from torture or coercion by the state; freedom of expression, religion, and movement, and freedom of press, other media and judiciary, etc. are true indicators of a civil society enjoying the sense of fraternity.

The above views on the various aspects of social development show that social development means something more than merely economic, political, social or environmental development. Most of the national developmental plans provide for economic, physical, infrastructure, educational, health and welfare targets of growth or expansion. Social development planning requires the perception and delineation of the nature of interrelationships between the different sectors. Social development is an integrative concept and this integration depends upon clear enunciation of the values and the type of society toward which planning is to be undertaken. ASSWI (Association of

Schools of Social Work in India) defined social development as a process of systematic change (in values, attitudes, institutions and practices) purposefully initiated through the instruments of social policy and planning for the enhancement of the levels of living and quality of life of the mass of people especially the weaker section in an eco friendly socially just and participatory environment (cited in Kumar 1997).

Gore (1973) affirms that the pursuit of economic growth without any reference to its social determinants is self-defeating because experience over the period of a decade and a half showed that economic growth could not be achieved without social change and the creation of the necessary social infrastructure. Economic growth was sought to be achieved through a programme of rapid industrialisation and improved agriculture. Even if the goals of industrialisation and improved agriculture could be achieved, they could not be regarded as ends in themselves unless they resulted also in a better quality of life for all citizens. The fact, however, is that economic growth cannot be achieved in isolation and without reference to social values and social goals.

The measures to achieve social development, therefore, may consist of services to provide equal opportunities to all sections of people for employment and to enable them to take advantage of social services like education, health, food security, clean drinking water and sanitation, income generating activities for the poor (especially women), small scale credit facilities, work guarantee programmes, agricultural extension programmes, and support to small-scale agricultural products. Such services may also include strengthening organisations of grassroots level, such as farmers' associations, co-operatives and human rights organisations. In other words, social development should empower people and give them purchasing power, aspirations and access to social development services.

## AMALGAMATION OF INTERGENERATIONAL AND MULTI SOCIETY EQUITY

There was a time, particularly during the Stockholm Conference on Environment and Development in 1972, when it was fashionable to argue that development is the primary concern of developing countries which have to fight poverty and unemployment on an urgent basis, and

that environment, therefore, should have low priority. The economic realms ruled the process of development in those periods. The two international conferences (Earth Summit in Rio de Janeiro in 1992 and Social Development Summit in Copenhagen in 1995), triggered by parallel discussions, have brought desirable impressions to think in terms of 'better and better' than 'more and more'. It is now recognised widely that development without regard to environmental consequences and social well being cannot be sustained and defeats the very purpose.
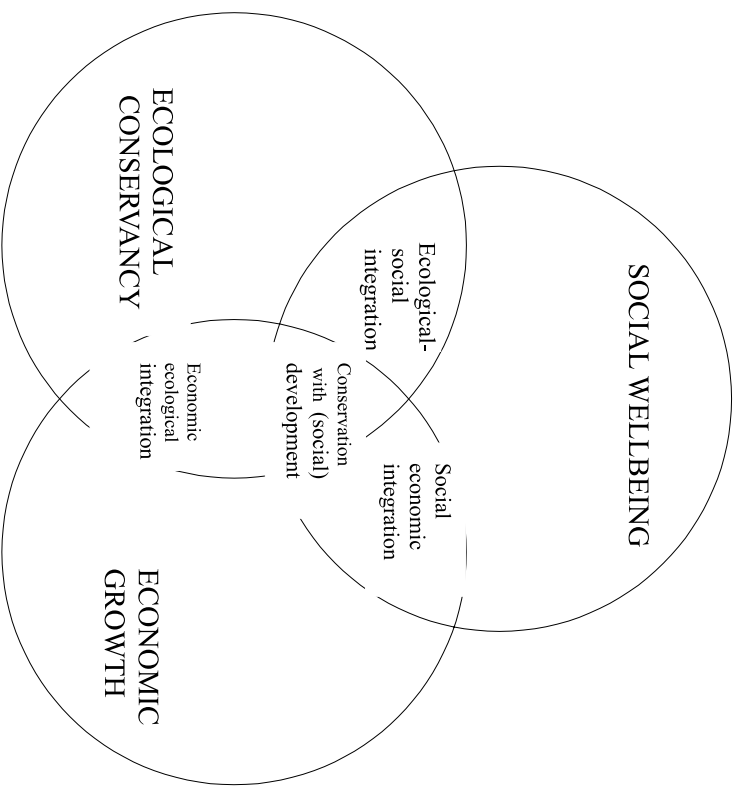
Sustainable development, which has established itself as a norm in development, has environment as its leading concern. Drawing a social development paradigm from this predominantly environment and development premises, the intrinsic and presumed social factors would emerge. The question of intergenerational equity coupled with (present) multi society equity (equitable distribution of resources to all) leads us to think of the physical stock of resources, the same amount of resources per capita and the potential for being at least as well-off in an economic and social sense for the future as well as the present generations (Ratnesh 2004:109). Sustainable development, as it has been discussed, often talks much about retaining the resources for the future, but endorses less on the distribution of the existing resources equitably to all the people, which is also fundamental to social development. The paradigms of sustainable development and social development, if they could be shelved into single frames, could be as follows:

Sustainable development          -   Intergenerational equity

Social development               -   Multi societal equity

Sustainable social development   -   Intergenerational equity along with multi societal equity

The question of intergenerational equity is at the core of the definition of sustainability and prompts debate on what societies value and how to transfer what they value to future generations. Paths viewed as economically optimal for development today may not be sustainable for future generations. If welfare considerations are taken into account, economically optimal path may not be sustainable in the long-run. Moreover, sustainable paths may not necessarily be economically optimal. Sustainable and economic paths need to intersect at social junction.

A structural depiction of the relationship between economic growth, ecological conservation and social well being is developed acknowledging UNESCO-UNEP (United Nations Environment Programme) construct (cited in Riddel 2004: 22). It finds three dimensions in development: economic, social and environmental. There are spaces where the economic and the social interact, the economic and the environmental interact, and the social and the environmental interact. The space where the overlapping of all these interactions happens is the place of sustainable and social development.

**Diagram 1**
**Economic, Social and Environmental Dimensions of Development**



SOCIAL WELLBEING

ECOLOGICAL CONSERVANCY

ECONOMIC GROWTH

Ecological-social integration

Conservation with (social) development

Social economic integration

Economic ecological integration

Source: UNESCO-UNEP (cited in Riddel 2004: 22); the (social) in the centre of the diagram is not in the original reference.

Drawing on similar lines Kumar (1997) suggests certain prerequisites for sustainable development. They include, apart from environmental concerns, an international distribution system based on justice and equality between developed and developing countries, a social system which cares for the poor and down trodden, promotes all the sections of the society and does not create unnecessary rift among them, an economic system, which is not selfish, greedy or short sighted, and a strong family system, where individual's freedom is also appreciated to a great extent.

These fundamentals urge for an amalgamation of economic and environmental agents of development with those of social well being. Sustainability, understood solely in environmental terms, does not complete the circle. The academic debates of sustainable development focus largely on conservation and those of social development on social well being. A harmonious blend of both of them is essential – sustainable development with social well being, and social development with environmental conservation along with their manifold dimensions – which could be rightly described as intergenerational equity along with multi societal equity.

## STRATEGIES AND INDICES OF SUSTAINABLE SOCIAL DEVELOPMENT

The discussion on sustainable social development necessarily leads to strategies and indices of measuring sustainable social development. Strategies for development are plenty available in development literature and in various development models. The conservative methods of assessing development, though would give an apparatus of measurement, need modifications in the changed perceptions and perspectives.

Relying on the available methodologies, one of the ways to measure social development is to assess it in terms of life expectancy, infant and child survival rate and literacy rate. Another way to do so is to measure it in terms of an index of social services. For example, index for the purpose of measuring health situation could be number of hospital beds and/or doctors per population of thousand persons. Similarly index for measuring educational status could be number of educational

institutions, number of students and/or teacher-student ratio at different levels of education.

The Millennium Development Goals (MDG) universally accepted by the UN puts forward the guideline and direction on the path of development of the world order. The formation of the MDG itself was the result of different conventions and discussions. In 1996, the Development Assistance Committee (DAC) of the OECD (Organisation for Economic Cooperation and Development) selected an integrated set of goals for sustainable development which aim to provide indicators of progress. These goals were based on targets formulated and agreed by the international community over the last decade through the UN conferences which addressed subjects important to sustainable development. They are education (Jomtein, 1990), children (New York, 1990), environment (Rio de Janeiro, 1992), human rights (Vienna, 1993), population (Cairo, 1994), social development (Copenhagen, 1995) and women (Beijing, 1995). In line with it, the 147 heads of nations, initiated by the UN, signed the MDG in September 2007. The MDG gives a comprehensive guideline and priority sectors in development on social and sustainable footings as follows (Clayton and Bass 2002: 25):

Goal 1: Eradicate extreme poverty and hunger

Goal 2: Achieve universal primary education

Goal 3: Promote gender equality and empower women

Goal 4: Reduce child mortality

Goal 5: Improve maternal health

Goal 6: Combat HIV-AIDS, malaria and other diseases

Goal 7: Ensure environment sustainability

Goal 8: Develop a global partnership for development

The MDG deems to be a universally acceptable guideline in the path of achieving sustainable social development.

The Human Development Report published by United Nations Development Programme (UNDP) gives another universally agreeable assessment of development of countries with sustainability and social well being. The Human Development Index (HDI) of the UNDP assesses

development in three important aspects, viz. economic growth, health care and education. Following this several countries have started to develop independent HDI ranks. Moreover certain allied development indexes like Gender Development Index (GDI) have been developed to assess the development in certain sections of society (UNDP 1998).

Clayton and Bass (2002), while discussing the National Sustainable Development Strategies (NSDS), propose certain key principles of it. These are principles of strategies for development efforts. All of them are important and no order of priority is implied. They do not represent a checklist of criteria to be met, but encompass a set of desirable processes and outcomes which also allow for local differences. Following are the key principles of development strategies proposed by Clayton and Bass:

1. People-centred: An effective strategy requires a people-centred approach, ensuring long-term beneficial impacts on disadvantaged and marginalised groups, such as the poor.

2. Consensus on long-term vision: Strategic planning frameworks are more likely to be successful when they have a long-term vision with a clear timeframe upon which stakeholders agree. At the same time, they need to include ways of dealing with short-and medium-term necessities and change.

3. Comprehensive and integrated: Strategies should seek to integrate, where possible, economic, social and environmental objectives. But where integration cannot be achieved, trade-offs need to be negotiated. The entitlements and possible needs of future generations must be factored into this process.

4. Targeted with clear budget priorities: The strategy needs to be fully integrated into the budget mechanism to ensure that plans have the financial resources to achieve their objectives, and do not only represent 'wish lists'. Conversely, the formulation of budgets must be informed by a clear identification of priorities.

5. Comprehensive and reliable analysis: Priorities need to be based on a comprehensive analysis of the present situation and of forecasted trends and risks, examining links between local, national and global challenges. The external pressures on a country – those resulting from globalisation, for example, or the impacts of climate change – need to be included in the analysis. Such analysis depends on credible and reliable information on changing environmental, social and economic

conditions, pressures and responses, and their correlations with strategy objectives and indicators. Local capacities for analysis and existing information should be fully used, and different perceptions among stakeholders should be reflected.

6. Incorporate monitoring, learning and improvement: Monitoring and evaluation need to be based on clear indicators and built into strategies to steer processes, track progress, distil and capture lessons, and signal when a change of direction is necessary.

7. Country-led and nationality-owned: Different from past strategies, which have often resulted from external pressure and development agency requirements, it is essential that countries take the lead and initiative in developing their own strategies, if they are to be enduring.

8. High-level government commitment and influential lead institutions: Commitment on a long-term basis is essential if policy and institutional changes are to occur, financial resources are to be committed and clear responsibility for implementation is to be assumed.

9. Building on existing mechanism and strategies: A strategy for sustainable development should not be thought of as a new planning mechanism, but instead should build on what already exists in the country, thus enabling it to be convergent, complementary and coherent between different planning frameworks and policies.

10. Effective participation: Wider participation helps open up debate to new ideas and sources of information. It exposes issues that need to be addressed, enables expression of problems, needs and preferences, identifies the capabilities required to address them and develops a consensus on the need for action that leads to better implementation. Central government must be involved for providing leadership, shaping incentive structures and allocating financial resources. But multi-stakeholder processes are also required for involving decentralised authorities, the private sector and civil society as well as marginalised groups.

11. Link national and local levels: Strategies should be two-way interactive processes within and between national and decentralised levels. The main strategic principles and directions should be set at central level. But detailed planning, implementation and monitoring would be undertaken at a decentralised level, with appropriate transfer of resources and authority.

12. Develop and build on existing capacity: At the outset of a strategy process, it is important to assess the political, institutional, human,

scientific and financial capacity of potential state, market and civil society participants. Where needed, provision should be made to develop the necessary capacity as part of the strategy process. The strategy should optimise local skills and capacity both within and outside government.

In addition to the above principles given by Clayton and Bass, focus on multi societal equity may be introduced as another principle in order to make the strategy more socially bending. This shall consist of two important concerns: (i) central level planning for institutionalised equitable distribution of resources to all sections of the nation and all people, and (ii) special attention and preferential allotment of resources for the deprived groups and communities.

These principles shall largely help in devising the strategy for sustainable social development. They can also be utilised to measure sustainable social development in the planning and implementation levels. The NSDS have been suggested by the UN. But many of the member countries have not yet drafted such a plan of action which would have been a milestone in their effort on sustainable development.

L. S. Singh (2004) proposes the following conditions for achieving the goals of sustainable development:

1. Ensure that human demand on the environment does not exceed the capacity of the environment to support it, bearing in mind the environmental demands of other species in future generations.
2. Provide for human needs by increasing the productive potential through sustainable development and by ensuring equality of economic opportunity for all.
3. Promote values that encourage sustainable rates and types of resource utilisation through proper managing of the waste, preserving the habitats of other species and ensuring that any use of other species is sustainable.
4. Enable people to meet the above conditions in ways of their choosing without hampering the development of others.

Singh gives a wider dimension to sustainability by stating the principles of sustainable development as ecological sustainability, social

sustainability, economic sustainability and cultural sustainability. These give a comprehensive understanding of sustainable development. Adoption of sustainable social development will require a positive synthesis of economic, social and environmental policies, programmes and their implementation.

Verma (2004) argues that both economic and social changes should be taken into account by any indicators of sustainable development. He suggests the following indicators of sustainable development.

1. *GDP growth rate*: High growth rate is a precondition for providing employment, price stability and material welfare of people.

2. *Population stability*: Increase in population effects pressure on land, environmental conservation and economic growth of a nation. There is an urgent need to control population growth.

3. *Water use*: Availability of adequate quality water for drinking, and for various agricultural and industrial needs is to be ensured.

4. *Soil degradation:* Soil is the basic resource for meeting the needs of people. Hence soil erosion and loss of soil fertility need to be reduced to the minimum.

5. *Forest coverage ratio*: Destruction of forests means loss of watery soil and even life of several animals, birds, etc. So maintenance of appropriate forest coverage ratio in the land for future sustainability of economic development is a must.

6. *Human development index:* The human resource development index, which combines the human development aspects of economic condition, health care and education, gives a comprehensive assessment of social development.

7. *Clean air index:* Clean air is a must for life and vegetation to survive. The adverse effects of air pollution are to be eliminated for sustainability of the development process.

8. *Energy intensity*: The energy output measured by energy/GNP ratio should be lower for greater sustainability.

9.    *Renewable energy proportions*: If the renewable energy proportions are in greater ratio then longer will be sustainability.

10.   *Transport intensity*: The intensity of transport (transport expenditure/GDP ratio) and thereof transportation technology should be consistent with the sustainability.

The pragmatic approach to sustainable social development underlies that it cannot be achieved without improving the efficiency of investment and enhancing the quality of life in ways that minimise the use of material inputs (Verma 2004: 100). One has to link national and international policies for revitalising economic growth with sustainability. Combating poverty, improvement in demographic structure, change in consumption patterns, health, human settlement, pollution control, energy management, treatment of industrial wastes and control of hazardous materials are the vital requirements for overall sustainable development of nations. Agenda 21 of the first International Conference on Sustainable Development at Stockholm in 1972 draws a practical approach to it in its action plan for linking national and international policies for integrating environment and development as shown in the following diagram.

**Diagram 2**
**Integrating Environment and Development through**
**National and International Policies**
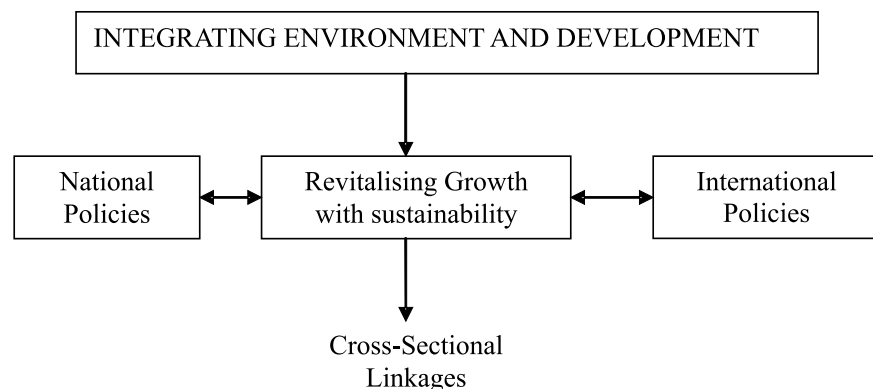


Source: UNCED (cited in Verma 2004: 95)

To preserve intergenerational equity, the total amount of capital that is passed on to the next generation should not be less than the capital the current generation has inherited. The proportion of different kinds of capital that is passed on may vary, but the capital that is passed on should include the capital that cannot be substituted. Ratnesh (2004:114) proposes the following package of policy recommendations for sustainable development:

1.    *Correcting prices, which is the responsibility of markets and governments:* Inefficient interventions like subsidies, price-control, exchange control and ownership control are common examples of policy failure, keeping prices below market prices. This generates inefficiency and can lead to excessive or wasteful use of natural resources. The very low price of irrigation water and the availability of highly subsidised electricity for pumping water for agriculture have led to over extraction and depletion of the ground water.

2.    *Introducing a green budget:* Government imposed regulations constrain or encourage many activities. Certain environmentally focused policy instruments are pollution tax, rationalisation of subsidies and fiscal incentives. Such green budget should impose a tax on pollution that would lead to abatement at minimum cost. Green budget should also impose the differential pricing or differential excise duties for outdated and efficient technologies. Differential pricing/duties are encouraging the choice of cleaner technology by making dirty technology more expensive thereby checking pollution.

3.    *Mainstreaming environmental considerations:* At a minimum, it requires increased education and information about environmental issues so as to make the environment a central focus of decision-making across all levels of government, private sector activities, communities and individuals.

4.    *Institutions supporting participation:* Institutions have an important role to play in supporting local participation. After decades of top-down policies, local people have become passive and do not expect to be involved in designing solutions to development problems. This state of apathy should change.

Ramaya (2002) suggests that sustainability may be assessed by the use of indicators. He refers to international guidelines on acceptable or desirable levels for some indicators, for example, for air or water pollution.  For construction projects and real estate developments, indicators can be used to measure debits and credits of factors relevant to environmental sustainability, such as the use of land or water, transportation and movement, energy (heating and ventilation), and the choice and use of building materials. The precise levels of consumption of resources that are deemed acceptable or desirable are likely to vary from place to place, depending on existing levels of development, consumption or pollution. The impacts of past or potential development on specific aspects of sustainability can therefore be estimated or measured. However, there is no common denominator of sustainability to use for an overall assessment of the effect on the environment of proposed or actual development. He suggests the use of a sustainability matrix.

In the construction of sustainability matrix, the first step is to identify key themes or natural resources such as land, water, air and energy. Associated with each of the themes, relevant indicators of aspects of sustainability are identified, such as energy consumption or air pollution. For each, the change likely to be caused by a proposed development can be assessed.  The approach is illustrated in table 1 on sustainability matrix (Ramaya 2002).

## Table 1
## Sustainability Matrix: Evaluation

| Theme | Factor | Evaluation* | Weight** | Sustainability |
|---|---|---|---|---|
| Energy | Heating | Very good (5) | Important (5) | 5 x 5 = 25 |
| | Construction | Average (3) | Important (5) | 3 x 5 = 15 |
| | Transport | Poor (2) | Very important (6) | 2 x 6 = 12 |
| Land | Agriculture | Average (3) | Very important (6) | 3 x 6 = 18 |
| | Housing | Average (3) | Very important (6) | 3 x 3 = 09 |
| Water | Industry | Good (4) | Essential (7) | 4 x 7 = 28 |
| Total Sustainability Score | | | | 107 |

* Score of each factor on a five point scale is given in brackets.
** Weight of each factor is given in brackets.

Here the key themes or natural resources needed have been identified as energy, land and water (column 1). For each, the main factors (existing or proposed uses) that place demands on the resources are identified (column 2). An assessment is then made of the extent to which the existing or proposed development satisfies sustainability requirements with respect to each indicator. Specific indicators are used in this stage, but in order to derive comparable evaluation scores a more subjective approach is needed, based on a ranking from 1 to 5 (column 3). Each is weighted according to its perceived importance (column 4). The scores for each weighted indicator (column 5) can be totalled to provide an overall estimate of the impact or likely impact of a proposed development on the achievement of environmental sustainability and to provide a basis for comparing alternative proposals. In the example shown here (in table 1) the particular development proposals being evaluated score well in terms of energy consumption for heating and use of water by industry, but poorly with respect to energy consumption for transport.

The second stage in evaluating the impact of development is based on before-and-after studies using a sustainability matrix. Table 2, similar to the above (table 1 on sustainability matrix: evaluation), is prepared to establish the degree of change effected by the development effort on each of the key factors (Ramaya 2002).

## Table 2
## Sustainability Matrix: Evaluation of Effect of Development (Notional Values)

| Factor | Evaluation | | Percentage | |
|---|---|---|---|---|
| | Before Development | After Development | Enhancement | Degradation |
| Heating | 25 | 20 | _ | 20 |
| Construction | 15 | 20 | 33 | _ |
| Transport | 12 | 15 | 25 | _ |
| Agriculture | 18 | 18 | _ | _ |
| Housing | 9 | 12 | 33 | _ |
| Industry | 28 | 24 | _ | 14 |
| Total | 107 | 109 | 2 | |

The results of the illustrative example given in the above table 1 are transferred to column 2 (before development) of table 2; a similar analysis is carried out for the post-development situation (column 3 on after development); and the percentage change in each individual factor is shown in columns 4 (on enhancement) and 5 (on degradation). An increase in the post-development score indicates enhanced sustainability, whereas a decrease shows degradation in sustainability terms. Difference in the totalled values of columns 2 and 3 is the overall notional value for the impact of a proposed development on sustainability. In the example given in table 2, the post-development situation shows approximately 2 per cent improvement.

This demonstrates how a proposed development may enhance or degrade the environment, and provides an overall assessment which should be positive for the development to proceed. It provides a tool for better-informed decision-making and a basis for dialogue on further enhancing the positive or reducing the negative effects of a proposed development project.

## PARADIGM RESETTLED

A recapitulation of the concepts of development, sustainable and social development challenges their practice versions by the national governments and local self-government and institutionalised bodies of social development. A comprehensive re-examination of the contemporary development norms is vital for ensuing liveable earth and comfortable human life. Sustainable social development as a single parameter, if recognised in understanding societal changes, shall broadly include the following.

1.     The concept of 'development', the most widely used term among politicians, bureaucrats, social activists, voluntary sector, civil society organisations and who else not, need total reframing and constant updating. The predilections of development towards material progress and infrastructure growth be relearned to be qualitative changes in human life penetrating health, education, decent living, communal harmony, social security, freedom and hopeful future for the present and future generations.

2.     Basic amenities of life shall reach all human beings. Sustainable social development of a society is incomplete (and biased) unless and until every member of it enjoys basic minimum facilities for food, shelter, clothing and right to life establishing the normative justice of governance.

3.     Sustainable development in terms of intergenerational equity implies factors of social development as well. Nevertheless a deliberate inclusion of social well being through mechanisms for multi societal equity is essential in the making of an egalitarian society. Such perception shall work as a basis for achievement of the "millennium development goals."

4.     Intergenerational equity ensures the fair distribution of available resources for future generations as well. This shall be possible by a firm conviction at the macro platforms and individual realms that uninterrupted luxury burns considerable amount of resources and adherence to use of minimal resources only can save the planet and human-kind.

5.     The human development factors of education, longevity of life, security and freedom reside in sustainable social development. This stands close to the right based approach in development and takes the development of a society ahead.

6.     The assessment of development in sustainable and social development is a challenge. The available indices offer a variety of means for the same. A multi mode approach in assessment of sustainable social development can bring better results.

7.     The efforts of sustainable social development would be effective only with a special focus on vulnerable sections of society. This lies in enhancing the "three As" - *awareness* on their rights and potential, *accessibility* to increased choices of life and *affordability* of their decisions - through deliberate measures of government and other public institutions.

8.     The nature of civil society created through sustainable social development is significant. The fraternity and collaborative

attitudes and the social values shall provide an encouraging and pleasant life for all human beings on earth.

9.  Sustainable social development draws attention to the processes of change with their results. A participatory process, that empowers the stakeholders and is transparent in nature, remains as precondition to sustainable social development.

10. The role of the national government is significant in directing its own and other interventions towards sustainable social development of a society. The planning, legislative and regulatory measures (PLR) should penetrate into every sphere of activity to lead to sustainable social development.

There is growing worldwide concern over the ecological conservation, the resource availability for future generations and the maintenance of a life in harmony with nature. A fundamental prerequisite for a world order in this direction is equitable distribution of resources to all human beings and thereby a decent life for all. Sustainable development with a focus on social well being draws out a more desirable picture of development. The human being needs to be the central part of the development. The strategies and indices of development can facilitate policy formulation and programme implementation in development guaranteeing ecological conservation and well being of all human beings. The efforts of UN through the MDG and HDI provide concrete platforms on defining and guiding development in a desirable direction. They need to be materialised through vigorous policies, concerted action and effective monitoring from the nation states.

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