

A Study on Economics of Regularfunds and Sustainable Development

Rajkumar .K

MBA, Department of Management Studies
Bharath Institute of Science and Technology,
Selaiyur, Chennai, Tamil Nadu 600 073
Bharath Institute of Higher Education and Research

1. ABSTRACT

Within the field of environmental economics, it is now widely recognized that the goal of sustainable development is principally an-equity, rather than an efficiency issue (Howarth and Norgaard, 1993). This is not to say that economic efficiency is irrelevant to sustainable development, as reducing the quantity of natural resources used up per unit of human satisfaction will clearly help reduce demands on the environment. Achieving Sustainable Development involves achieving equity both within generations (intra-generational equity) and across generations (inter-generational equity). Sustainable development is a requirement to our generation to manage the resource base such that the average quality of life we ensure ourselves can potentially be shared by all future generations (Asheim, 1991). Early work in neoclassical growth theory which incorporated natural resource constraints on economic activity (Solow, 1974; Hartwick, 1977) implicitly modeled SD as non-declining consumption over time, and was concerned with inter-generational efficiency rather than equity. Individuals derive utility directly from the environment, and not just from the consumption goods that are produced partly with natural resources, non-declining consumption has been replaced by non-declining utility as a goal of policy in economic models (Pezzey). There are good reasons why the world 'sustainability' has become. It emphasizes a subject that had become too nearly forgotten in economic theory, as well as in much economic behavior (including both corporate behavior and public policy). Sustainability is about the possibility that the things, we value in present will continue to exist in the future. Sustainable development is the concept of a relationship between economic growth and the environment. It is a term widely used by the politicians all over the world, but lacks a uniform interpretation. Its main components are the economic, social and environmental factors. An understanding of sustainable development involves disciplines such as ecology, biology, ethics, economics, chemistry, physics, statistics, and engineering. Economics has a crucial role to play in the societies, but critical for poor ones, which depend more heavily on natural resources such as soils, rivers, fisheries, and forests than do the richer nations. It is argued that environmental problems in developing countries are predominantly driven by poverty. While those of wealthier nations are driven by affluence and over consumption (Perkins, Radelet, Snodgrass, Gillis and Roemer, 2001). Are there trade-offs between the goals of achieving high and sustainable rates of economic growth and attaining high standards of environmental quality. The global community today is working towards a potential double dividend: meeting essential needs of economic growth and fighting poverty, while at the same time leaving a smaller environmental footprint. In this background, this paper addresses some pertinent issues concerning economics of sustainable development in the present context through literature.

CONCEPT OF SUSTAINABLE DEVELOPMENT

Sustainable development means to use advanced technology for the conservation and promotion of natural resources in the environment to sustain the eco-system. The World Commission on Environment and Development, “WCED” (popularly known as the Brundland Commission) 1987, laid down the foundation for a debate on the meaning as the Brundland Commission) 1987, laid down the foundation for a debate on the meaning of “Sustainable Development” and the role of environment on development. The Commission has defined the term ‘sustainable development’ in six different ways which were found to be conflicting to each other. However, the consensus has emerged on “meeting the needs of the present generation without compromising the needs of future generations” as a basic definition of ‘sustainable development’.

The Brundtland Commission in 1987 has brought the concept of ‘Sustainable Development’. It is also called ‘the World Commission of Environment and Development’. It has published a report of ‘Our Common Future’. We can say:

“Sustainable Development is a process in which the exploitation of resources, the direction of investment, the orientation of technological development and institutional change to meet the needs of the present generation without compromising the ability of future generation to meet their needs.”

Sustainable development can also be called ‘Durable Development’ and ‘Bearable Development’. The sustainable development can be explained as the objective of fulfilling needs of the present generation without damaging the resources for the future generation. So, the main goal of sustainable development is to bring co-ordination among the population, resources, environment and development.

In conclusion, we can say that sustainable development means satisfying the needs of the present generation without affecting the efficiency of satisfying the needs of future generations.

Thus, sustainable development has thrown out a challenge to economics, academics and other fields like ecological system. For sustainable development following point must be kept in mind:

- Healthy and productive life in harmony with nature.
- Exploit resources but without causing environmental damage.
- Environment protection shall constitute an integral part of development process.
- Eradicating poverty and reducing disparities in living standards in different parts of the world are essential to achieve sustainable development.
- The polluter should, in principle, bear the cost of pollution.
- Sustainable development requires better scientific understanding of problems.

Major socio-economic trends like population growth, urbanization and industrialization, changes in land use and land cover has given rise major consequences as poverty, resource depletion, global climate change, deforestation, soil loss, loss of biodiversity and loss of cultural diversity. For sustainable development, these trends need to be identified area wisely and necessary measures are to be taken.

DIFFERENT CONCEPTS OF SUSTAINABILITY

For the purpose of analyzing sustainable development, we may recognize three types of resources:

Global resources such as the atmosphere, oceans, and bio-diversity which are essential to all life and the degradation of which is irreversible. The cost of depletion of the resources are impossible to estimate.

Renewal Natural Resources include forests, soil fertility and the quality of regional air, rivers, lakes and wet lands, in many cases, costs of both depletion and renewal can be determined. In most cases, destruction and damage to the quality of the resources may be reversed.

Non-Renewable Natural Resources consisting of minerals, fossil fuels and plant and animal species that become extinct or whose number decline overtime. Social values can be estimated for minerals and some progress has also been made in valuing wild life.

AIMS AND OBJECTIVE OF SUSTAINABILITY

Sustainable development aims at the creasing of sustainable improvements in the quality of life for all people. The World Conservation Strategy, while indicating the requirements for sustainable development, focuses on three main aims of natural living resources conservation:

- To maintain essential ecological processes and life support system on which human survival and development depend.
- To preserve genetic diversity on which depend the functioning of ecological process and the support system.
- To ensure the sustainable utilization of resources and ecosystem which support million rural communities as well as major industries.

Another related global problem is establishment and preserving peace in all regions and all the countries. War, as well as poverty, is inherently destructive of all economics as well as social and environmental goals of development (OECD, 2001). Thus, the objectives of sustainable development can be put as follows.

OBJECTIVES OF SUSTAINABLE DEVELOPMENT

Economic Objectives	Social Objectives	Environmental Objectives
Growth	Full employment	Healthy Environment for Humans
Efficiency	Equity	Rational use of Renewable Natural Resources
Stability	Security	Conservation of non-renewable Natural Resources
Other factors	Education	
	Health	
	Participation	
	Cultural Identity	
	Other factors	

Source: Soubotina (2004) & Nurse (2006).

The United Nations 2005 World Summit Outcome Document refers to the interdependent and mutually reinforcing pillars of sustainable development as economic development, social development and environmental protections.

SUSTAINABLE DEVELOPMENT AND CAPITAL STOCK

Sustainable development analysis differs from the standard economics of growth and development (Aasefa 2005). It incorporates natural resources as a form of natural capital, defined as the value of the existing stock of natural resources viz., forests, fisheries, water, mineral deposits, and the environment in general. Natural capital provides goods and services to people, a kin to financial capital, manufactured capital, and human capital) created through investments in education and health). The depletion of natural capital can be compensated partly by investments in manufactured and human capital. As a concept, sustainable development can be measured by taking a country's Gross National Product (GDP) and subtracting Depreciation of Manufactured Capital (Dm) and Depreciation of Natural Capital (Dn) to find sustainable Net National Product (SNNP) (Asefa 2005):

$GNP - Dm - Dn = SNNP$ or

$SNNP = GNP - Dm - Dn = C + S - Dm - Dn$

Where C-Consumption and S-Total Savings

So, the basic sustainability criterion – Net Savings (NS) is

$NS = S - Dm - Dn > 0$

When Depreciation of Human Capital (Dh), whether in the form of brain or in the form of deterioration in the quality of education and health is included, SNNP becomes

$SNNP^* = GNP - Dm - Dn - Dh = C + S - Dm - Dn - Dh = SNNP - Dh$

And $NS^* = S - Dm - Dn - Dh = NS - Dh$

And $NS^* = S - Dm - Dn - Dh > 0$

MEASURING SUSTAINABLE DEVELOPMENT

Measuring sustainable development is a difficult task which involves the valuation of environmental damage and comparing it with the costs of prevention. There are also the problems of measuring the capital stock needed for sustainable development of natural resource accounting and the use of an appropriate discount rate for maintaining an optional balance between the use and preservation of natural resources. A few methods and their implications on sustainable development are being discussed under the following subheads

MEASURING NATURAL CAPITAL STOCK

The stock of natural resource assets or of environmental assets includes "soil fertility, forests, fisheries, the capacity so assimilate waste, oil, gas, coal, the ozone layer and biogeochemical cycles.

GREEN ACCOUNTING

Another measure of sustainable development is green accounting. It permits the computation of income for a nation by taking into account the economic damage and depletion in the nature resource base of an economy.

ENVIRONMENTAL VALUES

Another problem of measuring environmental damage is to evaluate it and compare it with the cost of preventing. It concerns comparing the benefits of environmental protection with the costs incurred on it. In this connection, several indicators are being computed by economists. World

Development Report 1992 suggests the following four approaches for economic valuation of environmental damage which are as follows: Market Prices, Costs of Replacement, Surrogate Markets, and Survey.

SOCIAL DISCOUNT RATE

Environmental degradation leads to costs and environmental improvements confer benefits on resource users. The problem is how measured costs and benefits of environmental effects on the present and the future generations.

ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

Originally, the concept of sustainable development refers to the impact of the activities on the life support system (the environment). It has essentially identified and mapped out the biophysical limits of the human ecosystem, which are near and real. The Brundtland Report, the original blueprint for sustainable development and the result of an independent three-year investigation, adopted a comprehensive and dynamic definition of sustainability, phrased follows: Sustainable development meets the needs of the present without compromising our ability to meet those of the future. It includes two key components: the concept of needs, in particular the essential needs of the world's poor; and the idea of limitations that are imposed by technology and society on the environment to meet those needs. Sustainable development is best understood as a process of change. The report identified a broad range of measures, grouped under seven strategic imperatives for sustainable development: Reviving growth; Making economic growth less energy-intensive and more equitable in its social impact; Meeting the essential needs of an expanding population in the developing world for employment, food, energy, water, sanitation and health care; Ensuring a sustainable and stabilized population level; Conserving and enhancing the resource base; Reorienting technology and managing risk; Merging environmental and economic concerns in decision-making.

INDICATORS OF SUSTAINABLE DEVELOPMENT

Indicators are to be compared with their sustainable limits. The other set of indicators should reflect the progress towards the broader goals of sustainable development in the national context. Both economic and social changes should be captured by such indicators.

CONCLUSION

The sustainable development is a wider term that depicts the interdependence between the economics and environment. It is long been argued that economic growth causes environmental damage and impede the course of development in the future. The economic prosperity at the cost of the environment i.e. various types of pollution, acid rain, ozone layer depletion, etc. damage the ecosystem which are necessary to sustain living organism. The economic theory suggests that increasing preference for the environmental consideration, automatically lead to the right of preservation. More, generally, the preference for even having an equal consideration of environmental concern is taken to be exceptionally rather than the rule.

2. REFERENCES

- [1] Ahmad, Y., S. El Serafy & E. Lutz (eds.) (1989). *Environmental Accounting for Sustainable Development: A UNDP-World Bank Symposium*, Washington, D.C.: World Bank.
- [2] Barbier, E.B. (1990). "Endangered Species and Uncertainty: The Economics of a Safe Minimum Standard", *American Journal of Agricultural Economics*, 60:10-18.
- [3] Bishop, R.C. (1993). "Economic-efficiency, Sustainability and Biodiversity." *Ambio*, 22(2-3): 69-73.
- [4] Common, M. & C. Perrings (1992). "Towards Ecological Economics of Sustainability," *Ecological Economics*, 6(1): 7-34.
- [5] Daly, H. (1990). "Toward Some Operational Principles of Sustainable Development," *Ecological Economics*, 2:1-7.
- [6] Klammer A. (1984). *The New Classical Macroeconomics*, Hamel Hempstead: Harvester-Wheatsheaf.
- [7] Norgaard, R.B. (1989). "Tree Dilemmas of Environmental Accounting," *Ecological Economics*, 1:303-14.
- [8] Pezzey, J. (1992). *Sustainable Development Concept: An Economic Analysis*, Environment Paper No.2, Washington, D.C.: World Bank.
- [9] Lutz, E. (1993) *Towards Improved Accounting for the Environment*, Washington, DC.: World Bank.
- [10] Norgaard, R.B. (1989). "Tree Dilemmas of Environmental Accounting," *Ecological Economics*, 1:303-14.
- [11] Pezzey, J. (1992). *Sustainable Development Concepts: An Economic Analysis*, Environment Paper No.2, Washington, D.C.: World Bank.