SUSTAINABLE DEVELOPMENT AND NATURAL RESOURCES : AN OVERVIEW.

Tukaram S. Thorat

Sociology Department ,Kamala College, Kolhapur.

Abstract:

The term Sustainable Development is having broader area, there are number of things which are related with the sustainable development. The idea of SD is not new for India and other countries of the world. Gandhian Philosophy of natural resources and village development is much more connected with the concept of sustainable development which is going to use in the modern era of liberalisation, privatisation and globalisation.

Key words: Sustainable Development , Natural Resources , liberalisation, privatisation and globalisation.

INTRODUCTION:

The issue of development is growing phenomena among the people, because people always need change in terms of development and growth. Until 1980s the prime objective of the developing countries was to exploit the natural resources to the maximum extent for achieving rapid economic growth and increase in per capita consumption (PCC) of people. But the UN convention on environment and development there is increased awareness among countries and people on the sustainable issues, hence the emergence of concern for environmental protection.

Framework of Natural Resources and Sustainable Development :

Generally the term Sustainable Development is linked with environment and natural resources, entire socio-economic life and materialistic objectives existed within the sphere of natural resources and the ecological system. Human life is influenced, affected and governed by the surrounding environment and depends on the maintenance of the ecological system.

Natural Resources are available for man as a "Gift of Nature" and natural resources are the living and non-living endowments of the earth, which are exploited by man as source of food, raw material and energy i.e. they are the stocks available in the environment from which economic activity draws flow of input (Common 1996 : 231)

The role of natural resources in economic development was recognized and made explicit by classical economists. They considered natural resources as basic to economic development (Heal Geoffray 1993). Resources are seen as the basis for national prosperity, power and wealth (kneese 1995) Natural resources include water, forests, minerals, aquatic species, wild flora and fauna. Natural resources consists of renewable and non-renewable resources. Renewable

resources are self-renewing at a limited rate depending on the size of the stock in existence at any given time.

Natural resources namely land, forest, water and air support life and economic process under the umbrella of eco-system. Soil is the source of agriculture supporting food production on the earth, hence it is directly or indirectly the livelihood source for the entire population. Forests helps in attracting rainfall, protect water sources, help in preventing soil erosion, floods sustain bio-diversity. Natural resources are factors of production inputs. Which combined with labour, capital and materials produce goods and services.

To meets the goals of sustainable development it is necessary to address environmental problems arising both because of resource depletion negative externalities caused by development processes and projects.

Meaning of sustainable Development

Until 1980's the objective of the developing countries was to exploit the natural resources to the maximum extent so as to achieve rapid economic growth and increase in per capita consumption of the people. But, with the UN convention on Environment and Development there is increased awareness among countries and people, hence the emergence of concern for environmental protection.

The Term SD was first used in 1980 by the world conservation strategy presented by the International Union for conservation of nature and natural resources. The term became popular after the 1987 report entitled "Our Common Future" furnished by the world commission on Environment and Development of the United Nations. The report is generally referred to as the "Brundtland Commission Report" in honour of the chair person Dr.Gro Harlem Brundtland, who was the Prime Minister of Norway.

Brundtland's Commission Report defines "Sustainable Development as the development that meets the needs of the present without compromising the ability of feature generation to meet their own needs." (World Commission on Environment and Development 1987 :43)

The need for SD emerged with the concern for present vs. future. Environmental friendly economic growth has emerged as a necessity and environmental resources such as clean air, clean water and atmosphere are no longer free. The impact of environmental degradation is already visible. The global warming, acid rains, drough, polluted water are some of the illustrations of increasing environmental degradation due to unregulated use of natural resources without combined effort to restore it and protect it from human activity induced pollution worldwide growth in Material Production an much of human wellbeing is based largely on the use of natural resources and loss of bio-diversity (Perring 1997) in achieving material welfare we forget that the protection of lakes, rivers, streams and ground water from pollution is fundamental to food production, public health and health of all living species (Simpson 1990)

To overcome and meet, the challenges of environmental resources degradation Herbert (1994) outlines six levels of intervention. On the technical level, the substitution of non-renewable energies by renewable energies like solar, wind-and biomass, recycling practices for water and other waste products and cleaner technologies are proposed.

To achieve sustainable development protection of environment is necessary. To protect the environment has become the main ajenda of every nation, due to the overexploitation of natural resources the earth has become imbalanced. Land degradation, Soil erosion, industrial pollution, water resources degradation, deforestation and loss of bio-diversity are serious

environmental problems. To protect environmental resources we should stop the overexploitation of nature, social plantation, participatory approach, create maximum renewable energy sources, reuse of waste through this we can protect to the environment.

Existence of Natural Resources In India

Land :

Agriculture constitutes the major use of land in the country. Nearly 70% of the population is dependent on agriculture for the livelihood. It contributes about 25% of Grass Domestic Product (GDP). The land under agricultural use has increased to the extent of 9% during the period 1958-59 to 1999-00. The area under non-agriculture use has also increased to a larger extent. There is a significant decline in the area under barren and uncultivable land, miscellaneous trees and groves, cultivable waste permanent pasture and grazing and other follows. The increasing population of human and livestock, poverty and rapid economic development are exerting heavy pressure on the land. This has led to very significant land degradation.

Forest :

India is having 675538 Sq.km. of forest cover and it constitutes 20.55% of its geographical area. The dense forest constitute 416809 Sq.km. (12.68%) and open forest 258729 Sq.km. (7.87%). It is surprising that the forest cover has increased to an extent of 38245 Sq.km (6%) during the year 1999 and 2001 (Government of India, 2004) According to the state of forest report 1997, India has lost 0.548 million hectares of forest cover during 1993-1995. Again during 1995 and 1997, forest cover went down from 63.89 million hectare to 63.34 million hectare. Dense forests decreased by 1.78 million hectare during 1991-95. On December 12,1996, the supreme court baned felling of trees in all natural forests to prevent illegal felling of trees. According to the state of forest report 1995, Jhum cultivation and non-regeneration of degraded forests are the main cause of depletion of forests in the country. But the 1997 report does not analyse the cause of forest destruction (Aggrawal et.al 1999)

Water Resources:

Indias land and water mass account for about 2.4% and 2.5% of those in the entire world on which 1.08 billion (2001 sensus) people constituting 16% of the world population are dependent for domestic and non-domestic purpose. In India the average run-off of water in the river system is 1869 km^3 (cubic kilometers) Whereas its utilizable portion is about 690 km^3. The potential is estimated at 432 km^3. The annual percapita availability of water fell from 6008 cubic meters in 1947 to 2464 cubic meters in 1990 to 2266 cubic meters in 1997 (Pachaun and Sridharan 1998 : 44) and 1869 cubic metres in 2001 with great variation in water availability in different river basins (Government of India 2004) At the end of the 9^{th} plan India's irrigation potential had been increased to about 93.98 million hectare from 22.6 million hectare in 1951. (Government of India 2004) an increased of 316% during a period of about 50 years. All the rivers in India are polluted with toxic items (Agarwal et al 1999). The main cause of water pollution are, Urbanisation, Industrialisation, over utilization of irrigation water leading to water

logging and Salization, agricultural runoff with accumulation of pesticides and discharge of domestic untreated waste including religious and social practices such as disposal of corps and waste materials in to the rivers.

Minerals :

Sustainable Development aims at meeting the needs of the present without compromising with ability of future generation to meet their own needs. Thus the SD requires that the rate of depletion of new renewable resources should foreclose as few further options as possible. SD requires that the adverse impacts on the quality of air, water and other natural elements are minimized so as to sustain the ecosystem's overall integrity." In order to achieve a harmonious equilibrium between the imperatives of mineral development and those of preservation of the environment, India's National Mineral Policy, 1993 has spelt out protection of environment as one of its major objectives (Sari and Rawat 1996)

Currently, 20000 known deposits with as many as 87 minerals (including 4 fuels, 11 metallic, 50 non-metallic and 22 minor minerals) are exploited in the country. Mineral activities necessarily lead to land degradation.

Biodiversity :

In India, many plants and animal species are threatened by a destruction of their habitat and an over-exploitation of resources. A large number of species are either endangered or on the verge of extinction, both of which can be attributed to a lack of policy and institutional mechanism. Biodiversity supports human survival through health, food and industry and it has social, ethical cultural and economic values (Joshi, 2004). India ratified the international convention of Biological diversity (CBD) on 18th February, 1994. The CBD is an international legal instrument for the conservation and sustainable use of biological diversity taking into account the need to share cost and benefit between developed and developing countries and the ways and means to support innovation by local people." It was resolved to evolve an international regime on access to genetic resources and benefit sharing with the aim of adopting an instrument to effectively implement the provisions of CBD. The Biological Diversity Act 2002, implemented by the Indian Government incorporates provisions laid down for the conservation and protection of our rich biological diversity.

Collective Action for Sustainable Natural Resources Management

Natural resources cannot be managed and preserved property without involving the rural communities, which derive their sustenance from the natural resources (Mishra and Bajpai) Participatory natural resource management was a part of community life in the past. The community maintained and preserved 'Sacred groves'. Village tanks or wells, though these are traditionally owned by the state. But, later the increased governments intervention added by its failure to presence the natural resources and their exploitation for the sake of development projects and unregulated use as free good by the commons led to environmental degradation.

Degradation of Natural resources and impacts

Health Impacts :

Management and conservation of natural resources is important for the maintenance of health in addition to the needs of food production and ecological considerations. Water pollution due to untreated sewage contributes to high coliform counts resulting in high infant morbidity and mortality.

Economic Impact :

Loss of availability of natural resources for the population, which is dependent on them for their livelihood. There could also be loss of productivity or reduction in crop production due to pollution or closure of industries to comply with air quality standards.

Ecosystem Impacts :

Contamination of ground aquifers, land degradation due to water logging, intrusion of sewater into ground aquifers, loss of water bodies etc.

Displacement impact :

Environmental degradation and non-availability of natural resources forces dependent livelihoods to migrate in search of alternate subsistence living.

Policy Issues For Sustainable Development

The action plan for SD should be based on environmental acceptability, technical feasibility and economic viability (Jayhari 2002) subsidies, which encourage inefficiencies in resources allocation and sub optimal use of natural resources should be reduced or removed or rationalised (Gadgil and Guha 1995)

To internalize the externalities of pollution, collection of pollution tax from both the produces as well as the consumer is advocated for environmental protection in the spirit of social justice. Sustainability of natural resources for development can be assured in by regulating the use through administration of various kinds of instruments and imitation of measures for conservation for example,

- Removal of subsidies.
- Conferring property rights on commons to community and panchayats.
- Market intervention for fixing the value of natural resources.
- Population stabilization.
- Insuring food security to all
- Meeting housing, water supply, sanitation and health care needs and planning for future needs.
- Proper technology in production system and development of natural resources.
- Use of renewable energy sources.
- Peoples participation

- Institutional reforms and support.
- Technology improvement.
- Mixed role of government, private sector, NGO's and people.

For achieving sustainable development we need to rely on renewable as well as non-exhaustible resources such as solar energy and wind in areas and sectors wherever it is feasible to extract and use them. The consumption of these resources by one does not reduce the magnitude of resource flow to others using or non-using these resources. This would reduce the burden on non-renewable and renewable resources.

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