
Economists' and Ecologists' Viewpoint about Sustainable Development

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Abstract

One who sinks a well lives in heaven for as many years as there are drops of water in it. But to dig ten such wells equals in merit the digging of ten such ponds was equal to making a lake; making of ten lakes was as meritorious as be - getting a virtuous son but begetting ten such virtuous sons had the same sanctity as that of planting a single tree. -Matsya Purana

Economic globalisation since 1991 has significantly increased rates of diversion of natural ecosystems for 'developmental' purposes, and rates of resource exploitation for domestic use and exports (Kothari, 2013). Most of the world level Conferences attended by Premiers and Presidents of different nations have not been able to cut much ice. Development must be environmentally harmonious, economically justified and targeted towards equity coupled with social justice. One must understand the implications of fast economic development and the consequences of rapid depletion of natural resources causing an ecological imbalance which may prove fatal for the civilization (Bhalla and Khanna). Knowledge Networks need to be created urgently so that scientific assessment can take place of all viable and effective traditional knowledge.

Key Words: *Ecological Development, Community Based Conservation Initiatives, Indian Green Initiatives, Hurdles on the Way.*

Introduction

Faced with the over exploitation of natural resources that accompanied economic and demographic growth, the think tank known as the club of Rome, created in 1968, advocated zero growth. This group unites scientists, economists, national and international civil servants, and industrialists from 53 countries. In 1971, this private international association sounded an urgent alarm by publishing the limits to Growth. The United Nations

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Conference on the Human Environment in Stockholm in 1972 gave birth to the first true notion of sustainable development, which was called 'Eco Development' in those days. Thanks to the support of personalities such as Maurice Strong, Professor René Dubas, Barbara Wart and Ignacy Sacks, the integration of Social equity and ecological caution were incorporated into the economic development models for north & south. This would result in the creation of the UN Environment Program (UNEP) and the UN Development Program (UNDP). In the 1980's, the international union for the conservation of nature (IUCN) published its world conservation strategy. The term 'sustainable development' remained virtually unnoticed until its revival in the Gro Harlem Brundtland report 'our common future' published in 1987. Since then, the concept of sustainable development has been accepted all over the world (Summer and Michael, 2008). Economic globalisation since 1991 has significantly increased rates of diversion of natural ecosystems for 'developmental' purposes, and rates of resource exploitation for domestic use and exports. Framed in 2000, the MDGs set ambitious targets for tackling poverty, hunger, thirst, illiteracy, women's exploitation, child mortality, disease, and environmental destruction. Elements of a new Global framework (UN Conference on sustainable development ('Rio+20') of 2012) were: Ensuring ecological conservation and resilience, Providing adequate and nutritious food for all, Ensuring adequate and safe water for all, safeguarding conditions for prevention of disease, and maintenance of good health for all, providing equitable access to energy sources, facilitating equitable access to learning and education for all, and ensuring secure, safe, sustainable, and equitable settlements for all (Kothari, 2013).

The Paris Agreement marks the latest step in the evolution of UN climate change regime, which originated in 1992 with the adoption of the framework convention. The 1997 Kyoto protocol took a more 'top-down' but highly differentiated approach, establishing negotiated, binding emissions targets for developed countries, and no new commitments for developing countries. Because the United States did not join, and some countries that did set no targets beyond 2012, the protocol now covers less than 15 percent of global emissions. With 2009 Copenhagen Accord and 2010 Cancun Agreement, parties established a parallel "bottom-up" framework, with countries undertaking national pledges for 2020 that represent political rather than legal commitments. The negotiations

towards a Paris agreement were launched with the Durban platform for enhanced action adopted at COP 17 in 2011. The Durban platform called for “a protocol, another legal instrument or an agreed outcome with legal force under the convention applicable to all parties,” to apply from 2020, But provided no further substantive guidance. COP 19 in Warsaw called on parties to submit “intended nationally determined contributions” (INDCs) well before the Paris conference, signalling an important bottom-up feature of the emerging agreement. Heading into Paris, more than 180 countries producing more than 90 percent of global emissions had submitted INDCs, a much broader response than many had anticipated. The Paris agreement articulates two long term emission goals: first, a peaking of emission as soon as possible; then a goal of net green house gas neutrality in the second half of this century (Sharma, 2016).

Sustainable Development: An Indian Perspective

The concept of sustainable development as defined by the Brundtland Commission in 1987 is “the ability to ensure that humanity needs of present without compromising the ability of future generations to meet their own needs”. It contains within it two key concepts: the concept of needs, in particular the essential needs of the world’s poor, to which overriding priority should be given; and the idea of limitation that is imposed by the state of technology and social organization on the environment’s ability to meet present and future needs in a sustainable manner (Gupta et. al, 2016).

India has a prestigious history on environmental fronts, be it the Stockholm conference in 1972 which was attended by Late Smt. Indira Gandhi, or the UN Conference on Environment and Development, 1992 at Brazil where India’s contribution and eco-concerns also figured in shaping the historic agenda 21. It was in 1991 that the honourable Supreme Court issued a directive for compulsory environmental studies in all undergraduate programmes in the country. India has a new water policy of 2012 now, but without subjecting it to a formal system of environmental assessment, despite having globally accepted tool ‘strategic environmental assessment’ in practice. The Millennium Ecosystem Assessment (2005) that emphasised livelihood and food security as key challenges of human vulnerability is an insight to understand the significant efforts of intergovernmental panel on climate change. A 4x4 assessment of climate change impacts on India,

organized by Ministry of Environment & Forests (2010) has concluded with serious concerns on impacts on agriculture, water security, health and forests, more particularly in Himalayan region and coastal areas (Gupta, 2013). In the Constitution of India, it is clearly stated that it is the duty of the state to “protect and improve the environment and to safeguard the forests and wildlife of the country”. The Environment (Protection) Act 1986 authorizes the central government to protect and improve environmental quality, control and reduce pollution from all sources, and prohibit or restrict the setting and/or operation of any industrial facility on environmental grounds. The Environment (Protection) Rules 1986 lay down procedures for setting standards of emission or discharge of environmental pollutants. The Water (Prevention and Control of Pollution) Act 1974 establishes an institutional structure for preventing and abating water pollution. This act establishes standards for water quality and effluent. The Central Pollution Control Board (CPCB) was constituted under this act. The Air (Prevention and Control of Pollution) Act 1981 provides for the control and abatement of air pollution. This act entrusts the power of enforcing this act to the CPCB. India’s National Action Plan on Climate Change (2008) points to building efficiency measures as essential to carbon emission reduction. Several national missions that focus on scaling building efficiency have also been initiated, such as the National Mission on Sustainable Habitat and National Mission on Enhanced Energy Efficiency. The bureau of energy efficiency launched the energy conservation building code (ECBC) for India in 2007. States such as Andhra Pradesh, Gujarat, Haryana, Karnataka, Maharashtra, New Delhi, Odisha, Rajasthan, Tamilnadu, Uttar Pradesh and West Bengal have all committed to advancing plans to make the ECBC operational in 2013 for new construction. Learning from the worst power crisis in history during the summer of 2012, the national and state governments are ramping up support of clean investment, to enable effective responses to India’s energy crisis (Khosla, 2013).

Dr. James D. Wolfensohn, President of the World Bank, describes the real essence of the Decentralization of power in his foreword to “Entering the 21st Century: World Development Report, 1999/2000”; Localization is praised for raising levels of participation and involvement, and providing people with a greater ability to shape the context of their own lives. Chinese experiences show that “communes” have played a very important role in

rural social transformation through the social process of rural institutional change, accompanied by technical changes as well (ESCAP, United Nations, 1996). There are numerous examples of CBC around the world. In Papua New Guinea, the Crater Mountain Wildlife Management Area project combines tourism, research and conservation with the development of alternative methods for improving economic returns from subsistence farming (Pearl, 1994). Examples from the Palqui community forestry experience in Bolivia show that community-based organizations can gain a lot from one another. In some cases, workshops and training initiatives lead to national level gatherings, as with the Pichasca case in Chile (UNDP, 2006). This revival is particularly relevant in Indian society. For example, some of these groups are hunter-gatherers (e.g., Sentineless islanders in Andamans who remain entirely isolated and self-sufficient); shifting cultivators (like many groups of north-eastern India); subsistence cultivators (small holders of rain-fed lands in semi-arid tracts of Karnataka and Andhra Pradesh in southern part of the country); nomadic herders (Gujjars of Himachal Pradesh or Bakarwals of Kashmir in the northern part of the country); practitioners of intensive, irrigated, chemical derived agriculture (many large farms in Punjab); and those in organized services industries sectors (industrial labour of Mumbai) (Kothari et al., 1998). There are a large number of conservation initiatives in India ranging from continuing traditional practices such as sacred groves, revived protection of areas which serve as natural resource catchments for the communities, and saving natural habitats from destructive commercial/ industrial forces. For example, on June 24, 1973 the first successful resistance (called the Chipko Movement) to forest felling at the Mandal forests in northern India was organized. A group of village women, led by one Gaura Devi hugged trees, challenging the brute power of hired sawyers about to cut down the trees for a sporting goods company. Gaura Devi quickly mobilized the other housewives and went to the forest. When the women refused to budge, the men were eventually forced to retire (Bandyopadhyay, 1999). The Chipko movement witnessed resurgence in Chamoli in Kumaon where, despite its early successes, commercial tree felling continued to threaten the ecological stability of the different habitations (Guha, 1999).

Case Based Discussion

1. From Alienation to Ownership: Hushey Valley Conservation Area, Pakistan

Hushey Community Conservation Area is in the Ghanche district of Baltistan in northern Pakistan. This area is famous for mountaineering and trekking in Karakoram. Its ecosystem is one of cold desert, where the average rainfall is less than 200 mm, most of the precipitation being in the form of snow (Raja et al., 1999). The Hushey village was selected as one of the pilot projects for this experiment under IUCN's Maintaining Biodiversity with Rural Community Development Project. In December 1995, sponsorship of the Hushey village and two other villages was auctioned at the annual convention of the Safari Club International in the United States for funding the said conservation by winning bidders (Ahmed et al., 1995).

2. Conservation of Coastal Biodiversity through Enterprise: Rekawa Lagoon, Sri Lanka

Resistance from the local community and an innovative program has prevented the picturesque lagoon of Rekawa on the south coast of Sri Lanka from succumbing to the destructive prawn farming. This has been made partly possible through the fisherman banding together to form the Rekawa Lagoon Fisherman's Cooperative Society (RLFCS). In 1995 the project - Enhancement of Rekawa Lagoon Prawn Fishery - was sponsored by the Department of International Development, United Kingdom and the Universities of Colombo and Millport (Scotland). Through awareness programs, the RLFCS members learned that good quality lagoon water and conserving ecological linkages were required for rapid shrimp growth (Ekaratne et al., 1997).

3. Forest Conservation and Water Harvesting at Bhaonta-Kolyala Villages, Rajasthan, India

Bhaonta and Kolyala are twin villages situated in the upper catchment of Aravari River which flows through the Alwar district in the state of Rajasthan. This region is characterized by dry weather and receives less than 600 mm of rainfall annually. Water conservation has traditionally involved trapping water during the short rainy period by constructing a series of small dams

and tanks (johads). In recent years, an overdependence on irrigation by the state has led to the villagers neglecting the maintenance of the johads. In addition, excessive felling of trees on hills has led to an increase in soil erosion, thus silting up the johads. As a result, the villages of this area have faced severe drought conditions during the past few decades. Over last 15 years, some 200 water harvesting structures have been built in the 70 villages in the Aravari catchment area by the villagers and a local NGO, Tarun Bharati Sangh (TBS). These structures have led to the replenishment of groundwater, increasing the water table and enabling the Aravari River (which had almost disappeared) to flow perennially again. The community of Bhaonta-Kolyala had a major role to play in this initiative by combining water harvesting with forest conservation and other rural reconstruction work. After ten years of successful forest protection and on the suggestion of TBS, the forest has been declared a Bhairon Dev Lok Van Abhayaranya (Bhairon Dev People's Sanctuary) in October 1998 (Shresth and Devidas, 1999).

4. Pelicans, Storks and Humans at Kokkare Bellur, Karnataka, India

Kokkare Bellur is a typical dry land village of southern India and has cultivated fields, fallow fields, cactus hedges and old and new trees in the village and fields. Spot-billed Pelicans and Painted Storks migrate from the lakes in southern Karnataka in the hundreds and make this village their home. Due to a growing human population, there has been an increased demand for trees for cooking, as animal fodder and using the fruits for sale, and the villagers inevitably have become less hospitable to the storks and pelicans. One villager estimated there used to be more than 1000 pairs of pelicans; today the number is about 160. During the early 1980s, a protection order on the nesting trees was put in force under the Karnataka Tree Protection Act by the Forest Department. Since 1994 a local environmental group, Mysore Amateur Naturalists (MAN), has been actively involved in the conservation of pelicans and their habitat in Kokkare Bellur (Manu and Jolly, 1999).

5. Community-based Conservation at Mendha-Lekha, Maharashtra, India

The Gadchiroli district and surrounding districts in Maharashtra are famous for its biological and cultural diversity. There was a proposal by the

government to build two dams in this region in the late 1970s (Bhopalpattanam on Godavari and Inchampalli on Indravati). Due to strong tribal opposition, this project eventually got shelved but it started a strong movement towards tribal self-rule in the region. Mendha-Lekha, inhabited by the Gond tribal people, was one of the villages where a process towards self-rule gained momentum. Up to the 1950s, this forest was largely under the management of local tribal landlords. Forests were under the management of the Forest Department after India gained independence under the Indian Forest Act of 1927. As the villagers were increasingly restricted from using the forest resources for their daily needs, a system to pay bribes to the lower staff to have access to the forest was developed. This was the turning point. The villagers united into a Gram Sabha. Permission is needed from the Gram Sabha to enable outsiders (government officials, researchers, NGOs) to carry out any activity in the village or adjoining forests. In addition, institutions such as the Van Suraksha Samiti (VSS), Mahila Mandal and Abhyas Gats (study circles) have been formed to act as a forum for frank and in-depth discussions ranging from immediate village problems to wildlife conservation. Soil erosion and excessive runoff has been arrested by water and soil conservation efforts. Forests are protected from commercial activities such as the extraction of bamboo by paper mills and villagers have managed to control encroachments in the surrounding forests (Pathak and Gour-Broome, 1999).

6. Case Study of Chakrashila Wildlife Sanctuary, Assam, India (in the Dubri district of Assam in Northeast India)

Chakrashila Wildlife Sanctuary (CWS) is spread over hilly terrain covered with dense semi-evergreen and moist deciduous forests, with patches of grasslands, scattered bushes and several water sources. Chakrashila Village is inhabited by ethnic tribes belonging mainly to the Rabha and Bodo communities, as well as a limited number of Garo and Rajbarshi families. The major threats to wildlife include smuggling, poaching, hunting, indiscriminate exaction of firewood by outsiders as well as villagers, and the poverty of the villagers. The thick forest along the periphery of Chakrashila got denuded, resulting in the villagers moving further into the forest and causing a drastic shrinkage of the forest area. The community involvement began with the efforts of an NGO called Nature Beckon (NB) which has

been involved with the Chakrashila Hills Reserve since the 1980s. The denuded forest regenerated as a result of these efforts along the periphery of Chakrashila. An office and training centre for youth and women of Chakrashila known as "Tapovan" was set up by the NB. Subsequently the Government of Assam declared Chakrashila forests a wildlife sanctuary under the Indian Wild Life (Protection) Act, 1972 (Kothari et al., 2000).

7. Community Development Project on Kali Bein in Punjab: the Seechewal Initiative.

The Kali Bein is a river flowing in Punjab in which Guru Nanak, founder of Sikhism, is believed to have taken a holy dip and attained enlightenment five centuries ago. Beginning its journey from Terkiana marshland in the Mukerian sub-division of Hoshiarpur, The 160 km long river, merges at the confluence of the rivers Beas and Satluj at Hari-ke-Pattan, with a catchment area of 945 square km (Nigah, 2007). Falling prey to urbanization, commercialization and industrialization, the river had turned into a virtual sewer. In year 2000, in a meeting of intellectuals held in Jalandhar, where Pollution of the Kali Bein was the main agenda, Sant Balbir Singh Seechewal announced that voluntary work would start at the Bein and called upon the intellectuals present to join him in the task (Nirmal Kuteya, 2004). The voluntary work (kar sewa) for cleaning the Kali Bein started in July 2000 at Sultanpur Lodhi near Kapurthala in Punjab by Sant Seechewal. From July 2000 to April 2003, the kar sewa mainly focused on the cleaning and renovation of the holy rivulet at Sultanpur Lodhi. To raise awareness amongst the people of the villages and towns on the banks of the Bein about the need to clean the Bein, a campaign was organized in March 2003 under the leadership of Sant Seechewal. An appeal was made to join this voluntary service and thousands of men, women and children from villages far and wide in the area came forward. Thereafter, for a period of one year from May 2003 to May 2004, the community of villages along the Bein did a massive amount of work cleaning the Bein from the village Dhanoa where the Bein originates to the Kanjli wetland. In January 2004, the construction of Ghats or banks on the Bein was started. This task was completed by April 2004. Afterwards the task of cleaning the Kanjli Lake was started. The Kanjli wetland is located on this lake (Souvenir, 2006). Due to cleaning the Bein, water logging problems in some areas upstream have been eliminated, which has

made 5000 acres of agricultural land fertile, and on the downstream side there has been considerable improvement in the water table level. Potable (drinkable) water is now available from hand pumps and water from the Bein is being used for irrigation purposes. With the cleaning of the river, the Kanjli wetland (a wetland on the Ramsar list) which is situated on the Kali Bein has been restored to its original glory. People from all religions and castes worked shoulder to shoulder during the 'Kar Sewa'. The social structure, cooperation and understanding of community members have increased and gender discrimination has been reduced in all villages with a community free of social problems emerging. Due to good roads in the area, access to nearby towns and business centres has increased. Farmers have good opportunities to sell their finished produce at increased prices (UNDP, 2006).

Conclusion

Economic globalisation since 1991 has significantly increased rates of diversion of natural ecosystems for 'developmental' purposes, and rates of resource exploitation for domestic use and exports (Kothari, 2013). Most of the world level Conferences attended by different nations have not been able to cut much ice. Here, the warnings given by the noted environmentalists, viz. Sunder Lal Bahuguna, Medha Patekar, Pirta and Bhagat Puran Singh and his successor Inderjit Kaur besides others should be taken seriously. Development must be environmentally harmonious, economically justified and targeted towards equity coupled with social justice (Bhalla and Khanna). Summer and Michael (2008) recommend that to be sustainable, development must combine three main elements: fairness, protection to environment, and economic efficiency. Knowledge Networks need to be created urgently so that scientific assessment can take place of all viable and effective traditional knowledge. A renewed focus on the management and conservation of natural resources by communities is emerging. Grass root environmental movements are emerging in Japan, Malaysia, Philippines, Indonesia, and Thailand (Centre for Science and Environment, 1982).

The present study is a case based discussion on the community-based conservation initiatives for saving greenery around the globe base. It suggests that the development must be environmentally harmonious, economically justified and targeted towards equity coupled with social

justice. One must understand the implications of fast economic development and the consequences of rapid depletion of natural resources causing an ecological imbalance which may prove fatal for the civilization (Bhalla and Khanna). Knowledge Networks need to be created urgently so that scientific assessment can take place of all viable and effective traditional knowledge.

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