

# An Evolutionary View of the Concept of Sustainable Development

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## Mini Review

The genesis of the notion of sustainable development can be traced back to historical context. Western modernist ideas and faith in progress of economies and societies can be considered as synonymous and reinforcing each other. In the latter part of seventeenth century French scientist Fentenelle first advocated the tremendous potency of the notion of progress and presaged that the mankind through the idea of science and technology, was on the threshold of stepping foot on a road of necessary and limitless growth. During the enlightenment period and subsequently through the extension of the writings of Condorcet, Turgot, Marx etc, the view of advancement reached the pinnacle. The synergy between the idea of progress and modern science began to be upheld and it was recognized that human mastery over nature and natural resources can be possible by treading the avenue of science and reasoning. In the nineteenth century, August Komte's elaboration of positive philosophy espoused the laws of progress and its prospective benefits. Subsequently Hegel, Marx, Spencer etc. depicted the inescapable and inexorable progress of mankind through successive stages towards a golden era on earth. According to Donald Worster (1993), since the onset of industrial revolution, systematic changes gradually occurred in the mindset and outlook of people by goading them to believe that it is their usufruct right to rule over the natural order by transforming resource into consumable goods. It also transpired to be necessary and tolerable to plunder and ravage the resources by impoverishing mother earth and that only goods produced in industry and having a market for disposal presumably earned price or exchange value. The notion of exchange value has long been elaborated by the classical economists who were contemporary during the period when industrial revolution was swaying the western world. Driven by capitalist spirit the idea of accumulation of capital and production of tangible goods reigned supreme during the era of industrial revolution. It was supposed that the more the production, the more is the wealth accumulation and corresponding progress of an economy. Say's law (supply creates its own demand) was in vogue and hence demand was supposed to automatically assert itself. In the earlier times the mercantilist thought put stress on earning of surplus through trade which indirectly emphasized on exportability of excess production left after consumption, having exchange value in the international market. Later on, Smith, Marx etc. also vividly analyzed the notion of exchange value apart from use value. The underlying reason of the emphasis placed on value is that classical economists were deeply interested in the growth process of economies and to measure the extent of growth they needed an index. Hence, they put stress on the analysis of exchange value as an index or measuring rod of diverse types of goods in terms of either labour embodied or labour commanded version. They believed in the power of unstoppable growth process and in Smith's writings it is found that he emphasized on the aspect of long run continual growth through unwavering capital accumulation and enhanced savings.

The twentieth century experience regarding the prospect of continued human progress has vacillated between optimism and pessimism. The beginning of the century was marked with tremendous possibilities of persistent progress, unfolding because of unrelenting

advance in the field of science and technology, but the turmoil and the scale of destruction of material objects with the onset of world war during the latter part of 1st half in the last century, shattered the optimism that primarily surfaced at the beginning. However again after the end of the war the emergence of an unparalleled economic prosperity since 1950 restored the optimism about increased output and high consumption prospects and this prevailed till the middle of 1960s. It is notable that the mainstream neoclassical economists did not put specific concern about resource constraint. This is because either they considered the natural resources to be available in plenty with nil marginal cost of extraction or although the possibilities of resources becoming scarce were recognized, they considered them replaceable because of technological breakthroughs. However, even if this reckless extraction of resources gave rise to the potential of enhanced human pleasure, doubt began to be raised from different quarters about the tenability of this sort of progress specially because of the scale of environmental degradation and plundering of raw materials associated with rampant industrial and commercial expansion. So, an environmental crisis was looming large in the horizon with mounting concern for sustainability.

However, the worry for sustainability issues was not unrecognized during the earlier time period. According to Van Zon (2002) demand for raw materials and its untoward impact on the environment have remained a regular issue with suppressed state of concern throughout the human history. For instance, during the Egyptian, Roman and Mesopotamian civilization environmental problems were witnessed in the form of deforestation, salinity and of soil and loss of fertility. Plato in 5th century BC, Pliny the elder in 1st century AD pointed towards environmental problems arising out of human activities like farming, mining and forest clearing. George Agricola, a mining engineer during 16th century, articulated about the adverse impact of logging and mining on biodiversity and wildlife. The German forester Hans Carl Von Carlowitz first used the term sustainability in 1713 in German forestry circles. He put stress on maintaining a balance between harvesting old trees and replanting saplings so that a synchronized forest resource be maintained for continued supply of wood. In the latter part of 18th century, the constraints in consumption possibilities because of depleting resources arising from rising population growth, began to be recognized and it found serious concern in the writings of Malthus in 1798. He apprehended that rising numbers might soon outstrip the rate of food production and as a result scarcity of food might ensue. In the nineteenth century, Jevons (1866) wrote the 'Coal Question' putting concern at the rapid rate of depletion of coal reserves in the UK. According to him unless the profligacy in coal consumption be stopped, the coal deposits might soon come down and result in loss of the dominant power of UK in the world economy. Alfred Russell Wallace (1898) in his book 'Our Wonderful Century', provided a verbose description about the wanton destruction of the stored up products of nature, and considered the unconstrained depletion of coal, oil, gas, minerals and logging of rainforest as a blow to the future generations. In the middle 20th century, H. Osborn in his book 'our plundered planet' (1948) and

W. Vogt in his book 'Road to Survival' (1948) vividly described the aftermath of reckless exploitation of natural resources and pleaded that people should behave responsively so as to ensure the thriving of a civilized society.

In 1968 Aurelio Peccei, an Italian industrialist, along with Alexander King, a Scottish scientist formed an organisation called Club of Rome consisting of people from the fields of academia, civil society, diplomacy, and industry. Peccei floated the concept of the problematic. According to this view the diverse problems of mankind including poverty, widespread ill health, urban affliction, corruption, criminality as well as environmental degradation should be considered as an integrated whole and not in isolation. In the same year Ehrlich articulated the IPAT equation through which he showed that the impact on environmental resources can be expressed as the product of population, affluence and technology. The first report of Club of Rome termed as 'The Limits to Growth' (Meadows, 1972) attracted considerable public notice. It involved 1000 equations covering different aspects of economy and resource. Based on results found from computer simulations, it was advocated that continued economic growth was hardly possible because of resource depletion. The apprehension was further strengthened by the oil crisis in 1973. Concerned about growing diversity of environmental problems, experts from various disciplines assembled at a conference in 1972 in the city of Stockholm. As in upshot of the conference there happened to be a merger of the concern for preserving the nature together with concern for continuing development which finally gave rise to the notion of sustainable development.

Barbara Ward is remembered as one of the great intellectuals and internationalists of the 20th century. She is one of the first champions of sustainable development and greatly contributed to the formative years of the Sustainable Development agenda. Her role in building the International Institute for Environment and Development (IIED) is unforgettable. Dennis Pirage published a book Anthology of a Sustainable Society in the year 1977. In the year 1987 the Brundtland commission gave the first comprehensive definition of sustainable development which happened to be popular all over the world. Gradually the essence of this concept began to be attuned with the goals of macro- economic policy. Since unregulated markets are unpredictable and often socio-environmentally upsetting, an ecologically oriented macro policy requires govt intervention by use of fiscal, monetary and other policy device. Further equity in the society needs to be an order of sustainable society. In a world where ecological limits prevail, the enhanced consumption possibilities for the poor may depend on the exercise of frugality in consumption by the rich. This calls for policies that might prepare the ground for macro- economic stability with limited growth in consumption. Again, the unrestrained provision of consumption goods through market needs to be controlled through modified macro policies. This requires investment in social provision of goods and services in spheres like health and education by redirecting resources from market based production to the aforesaid areas. The traditional IS-LM model is also not considered

sufficient to include the environment related outcome. Heyes (2000) proposed to append an EE schedule implying environmental equilibrium to the IS-LM framework. The EE schedule rests on the introduction of an environmentally cleaner technology assumed to be linked to real interest rate and on the level of environmental regulation in the economy. Apart from this, conventional GDP needs to be replaced by very broad measures like DALY (Disability Adjusted Life Years) or index of sustainable economic welfare (ISEW) or Genuine Progress Indicator (GPI). Traditional macro-economic system of national income accounting should also be

modified by incorporating the depreciation of environmental resources and bringing in the notion of green accounting in wide practice. Thus, gradually the concern for preserving the natural resources and staving off environmental degradation came to be integrated with practicable macro-economic policies across almost all the countries of the world.

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