

Sustainable Development

Part I - What is to be Sustained

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Human beings have always had an impact on the natural environment. The cumulative ecological impact has reached an unprecedented height. The Earth's life-support systems that sustain organic life forms are under threat. It must be recognised that the path that has led us to this state can no longer be maintained. *Sustainable development* (SD) has been proposed as an alternative pathway for human development. However, the term "sustainable development" is fraught with misunderstandings and misconceptions. Part I of this article will show that despite the fact that SD is a value-laden concept it provides a powerful platform for us to review our beliefs and values concerning "development".¹ The discussion will show that the concept of an "ecologically sustainable development (ESD)" can be clearly defined. ESD can be used to guide policy making, and the conduct of businesses, non-governmental organisations and individuals. Whether ESD will be used is up to the reader!

Sustainable Development – The Concept

Ever since the publication of the "Brundtland Report" (Our Common Future, 1987) by the World Commission on Environment and Development (WCED) in 1987, SD has been on the political agenda of nations worldwide. In light of the extent to which detrimental changes to the natural environment and life-support systems had taken place through the prevailing "economic growth" paradigm, as well as the rising inequity between rich and poor countries, the "Brundtland Report" called for an alternative approach to development, namely SD, which is defined as "...development that meets the needs of the present without compromising the ability for future generations to meet their own needs."²

Although the definition of SD appears to be simple, there are widely differing interpretations of the concept - even within the "Brundtland Report" itself. For instance, the "Brundtland Report" at times substitutes SD for "economic growth", the latter having already been identified as the cause for the current stresses on our ecology and the inequity between developing and developed countries. Furthermore, "needs" is a vague term that may mean either "vital needs" or "peripheral needs". The *apparent failure* of the above definition, therefore, begs for an answer to the question "*What is to be sustained*" in SD?³

Sustainable Development and Environmental Mindsets

The article entitled "*Environmentalism: Mindsets and Implications*"⁴ introduced the three broad categories of environmental mindsets: *the conservation, the social justice, and the deep ecology*. The first mindset supports the economic growth paradigm (i.e. economy), while the other two mindsets are concerned with equity and ecology, respectively. SD can be discussed in light of the interplay between the 3 E's, i.e. Ecology, Equity and Economy. Since SD is directly related to the differing mindsets we hold about our relationships with other human beings and with nature's eco-systems, the sustainability debate is inevitably value-laden. There are three basic forms of interplay between the 3 E's.⁵

¹ Part II of the article will discuss the obstacles to sustainable development.

² Our Common Future (Oxford University Press, NY, 1987), p.43.

³ Some critics consider SD as a foregone or useless concept, and hence a failure. However, SD has the vital capacity to make us ask pertinent questions about our belief systems and values regarding the interwoven nature of development and ecology.

⁴ See Business Magazine, Issue 622, May 26 – June 1 (Week 26), p.45.

⁵ *Environmental Decision-Making: the roles of scientists, engineers and the public*, Editor R. Harding (The Federation Press, Sydney, 2002), pp.37-38.

The first configuration is depicted in Figure 1(a) and the sustainability domain is the intersection between the 3 E's. One characteristic of this configuration is the absence of an outer boundary or constraint making the overlap between the 3 E's dependent on forces that operate on the individual E's. More often than not, dominant market forces uphold Economy at the expense of Equity and Ecology. A free market approach tends to decouple Economy from Equity and Ecology (shown by arrow and the economic domain in dashed line). In this view, nature is valuable only to the extent that it provides resources that drive the economy (i.e. human/nature duality). The economy converts natural capital into manufactured capital (and in the process destroys some natural capital) through the use of human and financial capital.⁶ Some economists believe that manufactured capital is a substitute for natural capital, and that economic growth should be favoured as long as the sum of natural and manufactured capital does not decrease. This concept is known as "weak sustainability". Robert Solow, who won a Nobel prize for economics, has declared that probably "the world can, in effect, get along without natural resources".⁷ Further, since market forces ensure the efficient allocation and use of resources, results of market-related processes are optimal. In this respect, some libertarians go as far as saying that "Inequality is natural, inevitable and may even be a good thing".⁸ Those who favour the status quo, therefore, equate "sustainable development" to "economic growth".

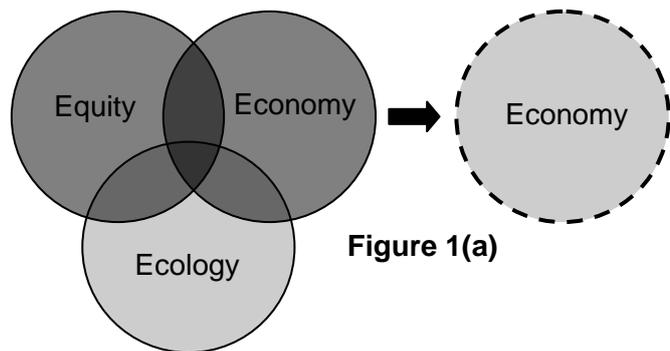


Figure 1(a)

The economic growth paradigm is highly coveted by policy makers, and is sold to us on the basis that the "trickle down effect" of the economy will allow the lower strata of society to benefit from an ever growing pie – i.e. wealth generated from economic growth. Despite all the rhetoric that may be used to legitimise the growth paradigm, the configuration shown in Figure 1(a) is inherently flawed. Whether we like it or not, society and the conduct of human affairs are contained within the biosphere. Hence, Economy and Equity are bound and constrained by Ecology, and the interactions of the 3 E's are meaningful only when described by the configurations shown in Figures 1(b) and 1(c).

The sustainability domain in Figure 1(b) is the overlap between Equity and Economy. This configuration is underpinned by the *conservationist mindset*, without necessarily leading to an

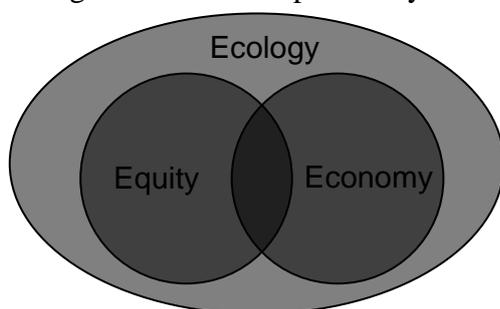


Figure 1(b)

overwhelming measure of social justice or redistribution of wealth within society. For example, businesses could "green" their operations by say, the use of efficient production and service delivery processes and/or by applying the principles of "reduce, recycle and reclaim (3 R's)", while still favouring the bottom line – i.e. profit maximisation (Natural Capitalism, 2001).

⁶ P. Hawken, A.B. Lovins, and L.H. Lovins, *Natural Capitalism: The Next Industrial Revolution* (Earthscan, London, 2001), p.4.

⁷ David Reid, *Sustainable Development: An Introductory Guide* (Earthscan, London, 1996), p.33.

⁸ The New Internationalist, Issue 364 (Jan/Feb 2004) is devoted to the topic of "Equality" (www.newint.org).

The widest form of SD would seek the maximum overlap between the 3 E's. This is achieved by the configuration shown in Figure 1(c), where our social framework is constructed within nature and where economic factors are fully located within this social framework. Hence, the sustainability domain corresponds to an Economy that is designed to serve an equitable society in an ecological way. Figure 1(c) in no way implies that economic factors should be our main concern, but rather demonstrates that economy is a subset of our social framework which, in turn, is a subset of nature. This model provides a clear answer to the question "What is to be sustained?" in SD, namely "our natural capital and the stocks of natural resources and ecosystems" which sustain all types of life forms on our planet. Hence, the central element to be considered during any social and economic decision-making is our natural environment and its life-support systems. This form of development can be termed ecologically sustainable development (ESD), and can be defined as "using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and the total quality of life, now and in the future can be increased".⁹ ESD calls for natural capital stocks to be held constant, and better still increased. ESD favours "strong sustainability" where the unaccounted ecological services and life-support functions performed by nature are recognised, as well as the risks associated with their irreversible loss. Applying the principles of ESD requires reassessment of human relationships with other sentient beings and the natural environment – i.e. a shift from an anthropocentric to a biocentric view of nature as proposed by the *deep ecology mindset*. A few tenets of ESD are:

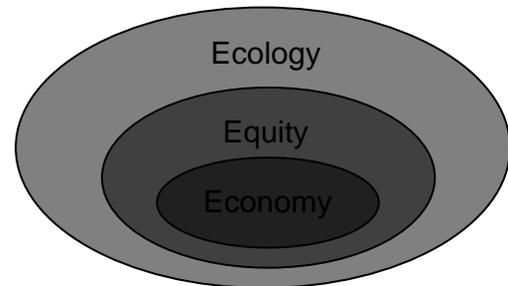


Figure 1(c)

- To utilise renewable resources at a rate no faster than they can be renewed;
- To produce waste (pollution) at a rate no faster than nature's sinks can absorb/recycle;
- To initially reduce our use of non-renewable resources through more efficient technologies (3 R's), and to ultimately find substitutes for them;

The above will depend heavily on changes to individual consumption patterns, ecologically accountable policy making, and the application of the "triple bottom line" by business as a strategic vision (i.e. profit through social and environmental responsibility). Sceptics will dismiss ESD as unpractical or worse damn it for bringing chaos to the current world order. As with any paradigm shift, resistance to change the status quo is a knee-jerk reaction. For example, businesses operating in the tobacco or military industry can easily pursue a "growth" objective by being more efficient and competitive. However, they cannot be ecologically sustainable and will, therefore, try to maintain the status quo. There are indeed many political, institutional, structural, and ideological challenges to ESD, which will be discussed in Part II. In the final analysis, we ought to ask ourselves whether it would be wiser for us to willingly change our mindsets now or whether to wait until we or future generations are forced to do so (in traumatic circumstances!).

⁹ Commonwealth of Australia, *National Strategy for Ecologically Sustainable Development* (Australian Government Publishing Service, 1992), p.6.

