BRIEFING PAPER

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Facilitating Sustainable Development in the Developing World

Ensuring that Economic Growth is Inclusive and Environmentally Sustainable

This paper emphasises that a meaningful concept of sustainable development necessarily has to be holistic in nature as the economic, environmental and social aspects of human behaviour and quality of life are closely linked. Therefore, sustainable development necessarily involves inclusive growth that is also environmentally sustainable. This paper critically reviews the literature on sustainable development concepts that explicitly recognise this linkage and uses this review as well as the recent development experience of India and China to develop an operational definition and indicators of sustainable development.

Introduction

The term 'sustainable development' is probably the most frequently used piece of terminology in current discourses on development. Much of the use is from a specific point of view: the user's intention is often to focus on a specific type of sustainability – for instance, sustainability of the environment, of financial systems or of economic growth[1].

However, the mainstreaming of the objective of 'sustainable development' into overall macroeconomic strategy the world over requires the formulation of a standard definition that is universally accepted. It is only then that countries can learn from each other in furthering a common objective. A holistic definition is also imperative for operational purposes as economic, social and environmental aspects of behaviour are intertwined. Economic growth can go on in the long run only if social equality in the satisfaction of essential human needs and the capacity of the natural resource base to sustain such growth remain undiminished. Thus, economic growth and its inclusiveness and environmental sustainability are all needed to ensure the sustainability of economic progress.

This paper is structured as follows. First, we critically review the literature on holistic definitions of sustainable development and their refinements. An attempt is made to elaborate on the underlying rationale with focus on behavioural and policy aspects, which is aided by discussion of country specific development experiences. This critical review sets the stage for the concluding section – development of an operational definition, which emphasises that sustainability of development is based on synergies among economic growth, inclusiveness and environmental sustainability of economic activity; and facilitates the qualitative/quantitative measurement of sustainability in development trajectories as well as formulation of enabling policies.

Holistic Definitions of Sustainable Development: A Forward Looking Review

A look at Early Definitions and their Refinements: Sustainability as a Function of Inclusiveness and Environmental Sustainability

While recent years have led to a proliferation of specialised definitions of sustainable development, a survey of the early literature offers hope as it points to the holistic origins of the term.

It is generally accepted that the modern usage of the term 'sustainable development' evolved from its definition by the Bruntland Commission:

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their needs[2].

This definition is an attempt to develop a broad concept of development with the objective of enabling countries to embark on a path of progress unencumbered by peaks, slippery slopes and reversibility. In other words, the intention was to stimulate the formulation of development strategies such that progress/success would be characterised by self sustaining dynamics, i.e. the unleashing of forces to ensure its permanence.

Yet the definition is fairly general and abstract and gives policy makers and commentators a remarkable amount of freedom to develop their own operational definitions/ measures of sustainable development. As mentioned, such freedom has often been overused or misused and we are often left with formulations that do lip service to sustainability.

It is quite obvious from this definition, as is also clarified by the report, that 'sustainable development' involves the evolution of an ability to meet the basic needs of the present generation such that the level of satisfaction of these needs never declines over any significant period of time in the future.

Such holistic approaches to the concept were further elaborated on by the Venn diagram formulation by Edward Barbier[3] presented in Figure 1. The figure conveys that development is said to be sustainable if the level of satisfaction of each type of need – environmental, economic and social – does not go down over time and the level of satisfaction of at least one type of need increases.

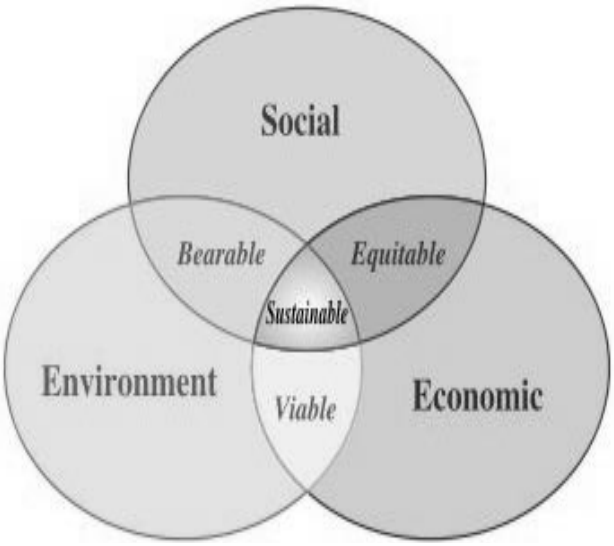
To elaborate, for development to be termed 'sustainable' it is essential that there is no long term tendency for the natural resource base, with its ability to provide environmental amenities (clean water and air) as well as material inputs into production, to shrink; for people's economic ability to meet their physical needs such as food, clothing and shelter, and their capabilities, as reflected by literacy, life expectancy etc., to diminish; and social capital in the form of peace and order as well as mechanisms for community mobilisation and governance to contract through generation of social tensions fuelled by economic inequalities or other factors. The satisfaction of these essential conditions accompanied by significant progress in at least one of the three mentioned spheres constitutes sustainable development.

Given that economic growth for purposes of poverty alleviation and an increase in the quality of life is always an objective of economic policy, the development trajectories of developing countries are often characterised by such growth. When such growth is accompanied by inclusiveness and measures to ensure that the resource base does not depreciate (environmental sustainability), its momentum is preserved, ensuring that it does not die out.

Rationale for Holistic Definitions of Sustainable Development

What is the rationale for such definitions? The irreversibility of human progress rests on the undiminished satisfaction of all three needs. For example, all economic progress depends on the capacity of the natural resource base to support it. Access to food, clothing and shelter is constrained by the availability of material inputs (water, wood, chemicals and minerals etc.) while the generation of human capabilities is dependent on the availability of environmental amenities such as clean water and air, with their implications for human health and productivity, and that of energy inputs which facilitate the speedy dissemination of knowledge bytes. At the same time, the level of economic activity, which provides the economic

Figure 1: The Venn Formulation of Sustainable Development



means for satisfaction of these needs and capabilities, is crucially dependant on social capital needed to maintain peace and order and the coordination of diverse economic actors. Of these, peace and order is critically dependant on the extent/balance of/in satisfaction of essential individual needs across social strata. This is in turn dependant on the existence of effective social mobilisation and governance mechanisms. The development of such mechanisms through the use of modern technology and generation of human capital is dependant on the availability of economic resources and, therefore, on the level of economic activity. Similar linkages can be drawn between the satisfaction of environmental and social needs.

To summarise, long term and irreversible progress in the quality of human life has to be accompanied by progress or at least the absence of deterioration in the economic, environmental and social spheres, given the interrelationships among these.

Use of Definitions for Evaluation of Sustainability and Reactive Policy Formulation

How do we evaluate the current or potential sustainability of development processes? In the economic sphere, progress is conventionally and conveniently measured by the per capita gross domestic product (GDP) of a country. While critics of that concept exist, the use of this concept as the barometer of economic progress will in all probability continue as other concepts till date have proved to be difficult to apply.

However, the pace of such increase in incomes is often not proportional to that in satisfaction of essential human needs and capabilities. To illustrate, in the last two decades, Indian per capita income has been growing at an impressive rate of around five percent per annum. At this rate, Indian per capita GDP would reach US$12,000 (at purchasing power parity) by 2040 which would give her 'high income country' status. However, rapid economic growth has not been accompanied by the same progress in meeting basic human needs. Over the period 1991-2007, while per capita income doubled the adult literacy rate increased by only 14 percentage points from a very low 52 percent to a still unsatisfactory 66 percent. Developed countries by contrast are characterised by universal literacy. To add to the grimness of the Indian picture, the level of education of a large proportion of the population of literates remains very low. Similarly, life expectancy has limped from around 60-64.7 years, still very low compared to developed countries where it ranges from 76-83 years.

The mentioned lack of proportionality can be explained by a number of factors – the important ones being the non involvement of the poor in dynamic sections of the economy; inadequacy in the design of development schemes in terms of targeting of the poor; and leakages in implementation of these schemes, again partially due to ill designed and poorly manned coordination mechanisms. More significantly, such skewed increase in incomes where large sections of the society remain deprived of the benefits of economic growth result in increasing economic and hence social inequality which often fans socially disruptive forces. These, in turn, threaten the sustainability of economic growth itself by adversely affecting the climate within which economic activity is conducted.

In short, rapid growth in incomes, if it is not inclusive might result in the deterioration of certain kinds of informal social capital (social harmony etc.) which can endanger the continuation of such rapid growth. Of course, such non inclusiveness is also objectionable from a social justice point of view. The Indian government realises this and over the last five years or so developmental schemes have been given a boost in terms of an overhaul of design, increase in allocations and the incorporation of social accountability mechanisms.

The Chinese growth story is probably even more impressive than that of India. There is enough empirical evidence here as well of increasing inequality accompanying economic growth. However, in this paper we draw attention to the severe impacts of the break neck speed of Chinese economic growth on the physical environment as brought out by a 2007 article[4].

Much of this economic growth was fuelled by massive increases in energy inputs, mostly from dirty sources such as coal. Pollution had made cancer China's leading cause of death by 2007 and was being blamed for hundreds of thousands of deaths. Only one percent of its 560 million urban inhabitants were breathing air considered safe by Euro norms while 500 million people lacked access to safe drinking water. Environmental woes were commonplace – cities where people rarely saw the sun; children sickened by lead poisoning or other forms of local pollution; algal tides rendering large sections of the ocean incapable of sustaining marine life; the Gobi desert expanding at the expense of 3600 sq kms of grassland every year[5]. Such environmental fall outs of rapid economic growth were obviously associated with rising health care costs and decline in health and productivity – a rebound effect with adverse implications for the long term sustainability of economic growth itself.

In a manner similar to India, China has reacted positively to quell these rebound effects – numerical targets for reducing emissions and energy complemented by the development of clean energy sources such as wind and solar power. In 2009 alone US$34.6bn of investments in clean technology made China the world's leading investor in renewable energy technologies[6]. The country at the present produces more wind turbines and solar panels than any other country.

In Conclusion: An Operational Definition of Sustainable Development and Indicators

Operational Definition

Truly sustainable development not only involves the leveraging of potential for growth through regulatory alleviation of structural and man made market failures, generation of human capital and trade facilitation efforts but also the equitable distribution of returns from such growth for the satisfaction of human needs and generation of capabilities through well designed governance and social accountability mechanisms; as also avoidance of growth constraining environmental bottlenecks through the development of effective regulatory measures, adoption of clean technologies facilitated by innovations and incentives, and a conscious effort to increasingly meet energy needs from renewable sources.

Such sustainable development is different from green development[7] which prioritises environmental sustainability over economic and cultural considerations. In other words, sustainable development involves sustained increase in incomes and satisfaction of human needs. But the very sustained nature of this increase is preconditioned on lack of depletion in the natural resource base and equitable distribution of growth benefits. Sustainable development results from the synergies among environmental sustainability, inclusiveness and economic growth. There is no prioritisation of environmental sustainability in the process, as is the case with 'green development'.

Indicators and Uses

Sustainability of development trajectories can thus be characterised in terms of groups of input and outcome indicators. A list of appropriate input and outcome indicators follow from the operational definition presented above:

- Outcomes: levels/changes of/in per capita income, literacy, life expectancy, various kinds of pollution, proportion of energy use from renewable resources, energy and efficiency intensity
- Facilitating inputs: economic and environmental regulations; expenditures on human capital generation, social development schemes and renewable energy sources; leakages in such expenditures

The outcome indicators measure sustainability in the *ex-post* sense while the input indicators constitute an *ex-ante* measure. The former would be used mostly for review of past development experience and the latter for projections of outcomes.

Endnotes

1 The multiplicity of uses and concepts which fall under the broad umbrella of sustainable development has been stressed by the United Nations Division for Sustainable Development (http://www.un.org/esa/sustdev/documents/docs_sdissues.htm)

2 United Nations, 1987, *Report of the World Commission on Environment and Development*

3 Barbier, E.,1987, "The Concept of Sustainable Economic Development"*, Environmental Conservation*, 14(2):101-110

4 Joseph Kahn and Jim Yardley (August 26, 2007), "As China Roars, Pollution Reaches Deadly Extremes", *New York Times*

5 Alex Steffen, 2003, The Fall of the Green Wall of China (http://www.worldchanging.com/archives/000252.html)

6 Lisa Steffen (March 25, 2010), "China Leads Major Countries with US$34.6bn Invested in Clean Technology", *New York Times*

7 Alex Wilson, et al., 1998 *Green Development: Integrating Ecology and Real Estate,* Wiley

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