

Brief for GSDR 2015

The Concept of Sustainable Development: Definition and Defining Principles

Rachel Emas, Florida International University*

Introduction

In 1987, the Brundtland Commission published its report, *Our Common Future*, in an effort to link the issues of economic development and environmental stability. In doing so, this report provided the oft-cited definition of sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (United Nations General Assembly, 1987, p. 43). Albeit somewhat vague, this concept of sustainable development aims to maintain economic advancement and progress while protecting the long-term value of the environment; it “provides a framework for the integration of environment policies and development strategies” (United Nations General Assembly, 1987). However, long before the late 20th century, scholars argued that there need not be a trade-off between environmental sustainability and economic development.

Economics of Sustainability

By utilizing economic tools, early theorists offered that policies to protect the environment could also promote innovation and turn a profit. In 1920, Arthur Pigou noted that the presence of incidental, uncharged services act as a barrier to achieving equilibrium in the market. In his work “The Economics of Welfare”, Pigou noted that the divergence between marginal private costs and benefits and marginal social costs and benefits create what we now call “externalities” (Pigou, 1920). These externalities are conceived as transaction spillovers, or costs and benefits unaccounted for in the given price of a good or service. In order to correct the market failure, Pigou proposed a tax on those activities that produce negative externalities at a rate equal to

those external costs. By levying this charge, called a Pigouvian tax, the market price will more accurately reflect the comprehensive costs and benefits of the activity.

From this, Michael Porter and Claas van der Linde theorized that pollution is a sign of inefficient resource use. Therefore, win-win opportunities for the environment and economy can be captured through improvements which reduce pollution in production processes (Porter & van der Linde, 1999). These authors argue that competitive advantages rely on the capacity for innovation; thus, “by stimulating innovation, strict environmental regulations can actually enhance competitiveness” (Porter & van der Linde, 1995, p. 98). As the Porter Hypothesis states, properly designed environmental policies that make use of market incentives can encourage the introduction of new technologies and reduce production waste. The tests of this theory have yielded mixed results, but scholars generally agree that policy design and public support are crucial elements to the success of these incentives. Nonetheless, market-based environmental tools are generally perceived as more “business friendly” than traditional command and control policies (Cooper & Vargas, 2004).

The appreciation of our natural resource constraints is also in our best interest. Truly rational and “effective governance requires a nation to consider and protect the environment and natural resources on which its current and future development depend. Any other approach is self-defeating. The connections between the environment and development thus provide a powerful rationale for environmental protection: enlightened self-interest” (Dernbach J. C., 1998, p.

20). This inherent interdependence between the long-term stability of the environment and the economy is the foundation of the field of sustainable development. Similar to Porter's win-win hypothesis that a trade-off isn't necessary, sustainable development policies look to tackle the sources of environmental degradation, not just the symptoms, while still providing opportunities and creating incentives for economic advancement (Porter & van der Linde, 1995).

Components of a healthy environment, such as clean air and water, are considered public goods in that they are non-rivalrous and non-excludable. Thus, it is up to the public sector to maintain the provision of these goods and services. More recently, nations have moved towards the implementation of these market-based mechanisms to internalize the complete costs of pollution and ensure long-term stability of the environment; in other words, to ensure sustainable development.

Sustainable Development: Definition and Principles

Although many definitions abound, the most often used definition of sustainable development is that proposed by the Brundtland Commission (Cerin, 2006; Dernbach J. C., 1998; Dernbach J. C., 2003; Stoddart, 2011). This broad definition, which will be used in this dissertation, does not limit the scope of sustainability. The explanation does, however, touch on the importance of intergenerational equity. This concept of conserving resources for future generations is one of the major features that distinguish sustainable development policy from traditional environmental policy, which also seeks to internalize the externalities of environmental degradation. The overall goal of sustainable development (SD) is the long-term stability of the economy and environment; this is only achievable through the integration and acknowledgement of economic, environmental, and social concerns throughout the decision making process.

In the application of this definition of sustainable development, one issue concerns the substitutability of capital. There are several types of capital: social, natural, and man-made. The definition of weak sustainable development explains that only the aggregate level of capital matters: man-made, or manufactured, capital is an adequate alternative to natural capital. Strong sustainability, on the other hand, recognizes the unique features of natural resources that cannot be replaced by manufactured capital. Most ecologists and environmentalists are proponents of the strong sustainability definition (Stoddart, 2011).

In addition to substitutability, this definition of sustainability is also founded on several other important principles. Contained within the common definition of sustainable development, intergenerational equity recognizes the long-term scale of sustainability in order to address the needs of future generations (Dernbach J. C., 1998; Stoddart, 2011). Also, the polluter pays principle states that "governments should require polluting entities to bear the costs of their pollution rather than impose those costs on others or on the environment" (Dernbach J. C., 1998, p. 58). Thus, government policy should ensure that environmental costs are internalized wherever possible; this also serves to minimize externalities.

The precautionary principle establishes that "where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measure to prevent environmental degradation" (United Nations Conference on the Human Environment, 1992). Therefore, the proponent of an activity bears the burden of proving that this action will not cause significant harm. Explicitly stated in the Rio Declaration, the notion of common but differentiated responsibilities recognizes that each nation must play their part on the issue of sustainable development. This principle also acknowledges the different contributions to environmental degradation by developed and developing

nations, while appreciating the future development needs of these less developed countries (Brodhag & Taliere, 2006; Dernbach J. C., 1998; United Nations Conference on the Human Environment, 1992). Developed nations, therefore, bear greater responsibility in light of the resources they require and the pressures they exert on the environment.

The key principle of sustainable development underlying all others is the integration of environmental, social, and economic concerns into all aspects of decision making. All other principles in the SD framework have integrated decision making at their core (Dernbach J. C., 2003; Stoddart, 2011). It is this deeply fixed concept of integration that distinguishes sustainability from other forms of policy.

Institutionally, government organizations are typically organized into sectoral ministries and departments. This works fairly well until the system encounters something very comprehensive and highly integrated in nature, such as sustainable development. In practice, sustainable development requires the integration of economic, environmental, and social objectives across sectors, territories, and generations. Therefore, sustainable development requires the elimination of fragmentation; that is, environmental, social, and economic concerns must be integrated throughout decision making processes in order to move towards development that is truly sustainable.

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