Environmental sustainability within the Americas

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Abstract

Since the Rio de Janeiro Summit in 1992, environmental sustainability has been a topical subject because of the recognition that it is intrinsically linked to social conditions. These social conditions vary throughout the Americas in the same manner which the type and extent of environmental degradation varies. Environmental degradation centres on access to land and sanitation, biodiversity, natural disasters and climate change as effected by processes such as urbanization, industrialization and mechanization. The draft declaration of the Summit of the Americas while providing some solutions needs to ensure that sustainable development is redefined, other approaches are taken to cut emissions, a disaster and climate change database is created and governance takes into consideration the multifaceted linkages between the environment and the society.

Introduction

Environmental sustainability is dependent on the ability of policies and frameworks to negate what Valentin et al refers to as our "insatiable consumptive environmental footprint" (Valentin et al 2008). This theology was thrust into the global headlights during the 1992 Rio de Janeiro Summit, aptly known as the Earth Summit, which emerged out of a growing concern that the earth's resources were being utilized at a rate that would lead to the inevitable alteration and destruction of the environment. The state of the environment has however remained problematic while some may argue that it has grown in severity, as many aspects of development fail to take into consideration concepts which are hinged on the ideologies of environmental sustainability.

The problematic nature of environmental sustainability is as a result of the intertwining complexities that are created when considering the social conditions of those areas predominantly affected, cemented by the UNDP (UNDP 2006) declaration that no long-term strategy of poverty eradication can succeed in the face of environmental degradation just as no program that seeks to protect the environment can succeed without alleviating day-to-day pressures of poverty. The result is a realization that any discussion on environmental degradation cannot occur outside of the context within which this degradation is occurring.

Context

The Summit of the Americas was conceived out of the need to ensure that each individual, irrespective of where he/she falls on the geographical, social, historical or cultural spectrum; is given an equal opportunity to develop economically and socially within the context of personal, national and regional objectives. The intricacies of these objectives lie in the fact that the Inter-American region is a mosaic of disparate economic and social conditions generated by historical and cultural differentiations in the process by which respective countries have been and continue to be developed. Consequently, our main challenge lies is developing an intellectual framework that would seek to assess and formulate policies on a collective basis, with the aim of adapting these policies in the contexts of the different levels of environmental degradation experienced by the various stakeholders.

Environmental Degradation

The environmental systems concept is one which can be divided into the human, industrial/commercial and nature aspects. As a result, assessment of this issue shall focus of environmental degradation with respect to nature. Embedded within this category are a number of inherent environmental problems that affect the Americas, caused largely by the processes of urbanization, industrialization and mechanization.

Urbanization according to Braun (Braun 2005) is the transformation of nature, as it involves the alteration of many aspects of present infrastructures that lends itself to the alteration of the environment and the achievability of sustainable cities. This concept of sustainability is one that was not the central focus during the industrialization and mechanization processes which were largely economically driven without much emphasis on sustainability amidst economic stability. It is indeed not only a problem for the Americas but rather the world, as globalization has shown we are intricately interwoven. Some of the manifestations of environmental destruction have been through issues relating to land tenure, sanitation, biodiversity, natural disasters and climate change.

In relation to land tenure and sanitation, the key is access. A clear example can be seen in the Caribbean, where this emanates from the condition of being Small Island Developing States (SIDS), inherently limited to boundaries and smaller carrying capacities. The term ‘carrying capacity’ is defined by Cunningham et al (Cunningham et al 2007) as “the maximum number of individuals of any species that can be supported by a particular ecosystem on a long term basis.” This definition engenders an important ideology of sustainable development; intergenerational equality. Access to sanitation is a problem that in many instances results from carrying capacities being infringed, especially in highly urbanized areas where the necessary infrastructures are inadequate or absent. Though the Global Water Supply and Sanitation Assessment Report (WHO and UNCF 2000) reiterates, access to a basic water supply and sufficient sanitation is a human right, it is increasingly being recognized that rural populations are least afforded this right.

Meanwhile, Thrupp (Thrupp 2000) notes that worldwide, there is a growing realization of the importance of biodiversity to environmental conservation and agricultural production with the two being co-dependent. The biodiversity debate is especially sensitive in the Americas which contains the Amazon Basin; the world’s most extensive tropical rainforest with at least 20 different rainforest types and the

world's richest ecosystem. The FAO also reports however that over the past 30 years, 418 million hectares of natural forest were lost worldwide, 190 million of which were in Latin America.

Humans have further complicated the biodiversity complex through the introduction of natural disturbances. While a discussion on biological disturbances may aptly ensue, Savage (Savage 1993) summarizes a key element of the argument as she says, "by altering the scale of disturbance or intensifying the severity, humans can homogenize the landscape by reducing the number and variety of biotic elements" making it clear "that development must be guided by ecological understanding if degradation of natural systems is to be avoided" (Savage 1993).

Increases in the level of understanding relating to natural disasters have however been unable to curb its effect on both people and the environment. In Latin America and the Caribbean the resultant disasters are mainly hydrometeorological in origin, while Changnon and Easterling (Channon and Easterling 2000) notes that in the North America, 90% of disasters are as a result of weather and climate extremes. One of the chief factors contributing to this is that of climate change.

The Intergovernmental Panel on Climate Change (IPCC) predicts that world temperatures could rise by between 1.1 and 6.4 °C during the 21st century. The side effect of this rise in temperatures is particularly important for the Americas as a region since it relates to increases in present sea levels (between 18 to 59cm), more warm spells, heat waves, heavy rainfall, increases in droughts, tropical cyclones and extremes in high tides (WMO/UNEP 2007). These effects are controlled by depletions in the ozone layer, which according to Bright (Bright 1999) has presented one of the most difficult challenges to the international community over the past 30 years; spanning into multiple disciplines that not only include the environment but also international cooperation, trade and sustainable development.

Addressing the Problem

With respect to managing these environmental problems in the region, the Fifth Summit of the Americas seeks to establish a number of agreements that are intrinsic to the sustainability of future developmental objectives.

We are fast approaching two decades since Rio de Janeiro and the wave of commitments to sustainable development that followed. It is therefore apt that commitments to these declarations are necessary

reminders that the task is far from being completed. What is more necessary however is a redefinition of what is needed to attain sustainable development as many new challenges to sustainability have arisen over the years, warranting a redefinition along the lines of sustainable human, physical and technological developments with quantitative and qualitative research into how specific aspects are interrelated; focusing on the how rather than the why. While the Millennium Development Goals have come a long way in achieving some aspects of this, more emphasis needs to be placed on tailoring these goals on an individual basis, according to the dynamics experienced within individual countries. Re-examination therefore needs to precede reaffirmation.

It is in this same vein that a commitment to the stabilization of greenhouse gas concentrations needs a reinjection of research that drifts away from the quantitative assessments previously purported to a qualitative analysis of how persons in the region have been affected. This research can be doctored so as obtain valuable information on adaptations to the changes the region have faced since historically, indigenous technical knowledge has been used as a foundation for the development of technical innovations. Such technical innovations include the use of renewable sources of energy such as solar heating systems which can be critical in reducing gas emissions. It is therefore logical that commitments to the stabilization of greenhouse gas emissions would be more achievable through a commitment to research, develop and introduce sources of renewable energy in the region based on countries' geophysical characteristics.

Another necessary introduction is a database on disasters within the region so as to provide a basis for holistic disaster planning, preparedness and response. In order to ensure that this database is comprehensible to the entire Inter-American region, standardization of definitions and terms used are of top priority with one such example being the many ways in which casualties are interpreted by disaster personnel throughout the region, with meanings ranging from injury or damage to death. Nonetheless, such a database should include an inventory of actions taken and their effects at specific disaster thresholds. This would act as a critical element in the management of future disasters and the development of mechanisms that are proactive rather than reactive; addressing susceptibility reduction and mitigation rather than alleviation. An essential ingredient in susceptibility reduction would be the proposal to introduce stronger planning and zoning measures that ensure persons are not submitting themselves to avoidable risks. The same approach can be applied to climate change review in conjunction with the much needed national reviews to help in the development of a regional strategy.

A sordid element of the environmental sustainability problem lies in the debate over environmental governance and whose responsibility it should be to ensure that targets and goals are met by the strict implementation of policies and laws. The fact remains that in many situations, especially in the Inter-American region which consists largely of developing countries, alternatives are not available. While institutional strengthening and empowering is quintessential, at the end of the day a greater dilemma exists in ensuring that persons are equally empowered and strengthened and thereby not forced to resolve to measures that are environmentally destructive. An understated link between to human prosperity, energy security, public security and democratic governance must therefore be clearly defined.

Establishing the Link

This can be seen in the case of a poor farmer (human prosperity) farming on the edge of a river bank (public security), forced to use a gas stove in his home due to no electricity (energy security) because he is 'squatting' on government lands which is forbidden by law (democratic governance). Because of all these mitigating factors he is forced to use excessive amounts of pesticides to ensure that his profits are enough to afford to buy a piece of land before he is evicted. These pesticides in turn pollute the stream and biodiversity is lost with a host of ripple effects (environmental degradation). Within this scenario, the successful treatment of any one aspect is dependent on careful consideration of how the other would be addressed as failure in one aspect would translate into imminent failure in the other.

Conclusion

Consequently, one can therefore see that the concept of environmental sustainability, though a considerably old one with many different facets, is not one that can be easily solved. The troublesome task of trying to achieve this sustainability nonetheless is one which we must undertake but not without considerations for its links to other aspects of society and the context within which environmental degradation is occurring.

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