



Environmental Sustainability in the Americas



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Policy Brief on Environmental Sustainability

Introduction

Ever since the Bruntland Commission introduced the concept of Sustainable Development in its seminal report, *Our Common Future*, Governments and their development partners at the national, regional and international level have struggled to operationalize the concept in development policies, programs and plans. Part of the reason for this struggle is because sustainability is a highly complex concept that over time has come to mean different things to different people.

Despite these differences in opinion, there is broad consensus that the earth's resources are being consumed at a faster rate than the rate at which they are being replenished. This realization has led to a growing appreciation of the importance of ensuring that the contribution that natural resources make to the development process is sustained over time. Encouraging progress has been made in developing "smart" indicators to alert natural resource users to instances when resource thresholds are being exceeded and when remedial action is required. Governments are now armed with a wide array of policies, laws and strategies to bring about some degree of equilibrium between resource use and replenishment. The growing participation of the private sector and civil society organizations in the quest for sustainability is noteworthy. Throughout the hemisphere, there are signs that voluntary compliance with and monitoring of environmental and trade laws are increasing.

Still, numerous challenges remain in promoting access to water and land; in managing climate-related risks and generally in improving environmental governance. This policy brief examines some of these challenges and proposes some policy responses. Also, the Brief examines the implications of a worsening global financial crisis for efforts at improving environmental sustainability.

I. Challenges to Environmental Sustainability

Issues of access

Issues of access arise at all levels of the push for environmental sustainability, but more especially in terms of access to technology and know-how and access to natural resources (land, water) and credit. It is still the case that poorer countries and peoples are being left behind in what should be a global march towards sustainability. It is an established fact that the richer countries are over-exploiting the world's resources and in the process are placing at risk increasing larger numbers of livelihoods, notably those of the poor. And there is now irrefutable evidence, in the phenomenon of global warming, that mankind may have created a crisis for which there is no immediate remedy.

While considerable knowledge has been generated, globally, there is much inequity in the way such knowledge is shared between the rich and the poor. The poorer countries in the Hemisphere are at a distinct disadvantage as they are unable to acquire, at market prices, critical technology that could improve their development prospect in areas such as communications, renewable energy, water production and wastewater disposal, biotechnology, and climate change adaptation. The situation is slowly improving through international agreements such as the UN Conventions on the Law of the Sea, Climate Change and Biodiversity respectively. But much remains to be done to bridge the "equity gap" and the "sustainability gap" among countries and citizens of the world.

At the national level, the issue of lack of access by the poor to land, water, credit and sanitation poses a serious challenge for policy makers. The perception among the poor that these key resources are more accessible within cities has led to rapid urbanization, which in turn has increased the stress on an already inadequate urban infrastructure.

Policy Responses

Issues of access identified are highly complex and require a concerted response at the global, regional and national level. The international community must recommit to honoring the commitments given in international agreements, to improve access by developing countries to technology and know-how. At the hemispheric level, greater support should be given to technical cooperation programs that help to move surplus skills among countries that have urgent need of such skills. At the national level, attention should be given to the redistributive aspects of social policy to spur additional or more balanced economic growth, to finance social welfare reforms and improvements; and to enhance the productivity potential of members of a society. While the rural-urban drift is unlikely to end, it can be slowed by innovative and targeted rural development policies and strategies that address the causes of urbanization. This approach must be complemented by measures that utilize the opportunities that urbanization provides and that create sustainable cities. A city that moves towards sustainability improves public health and well-being; lowers its negative environmental impacts; increasingly recycles its materials and uses energy with growing efficiency (Lee, 2007).

II. Ensuring the Sustainability of Water Resources

Contamination of water basins and aquatic habitats due to urban, industrial and agricultural wastes, overexploitation and pollution of groundwater aquifers and the impacts of extreme events, coupled with the longer-term prospects of water scarcity triggered by climate variability and climate change are among the dominant issues and concerns in the water sector in the Americas – a region that is unevenly endowed with water resources¹. Water stress conditions prevail in most countries in the Caribbean, with the exception of Dominica and Jamaica. However, even in those countries that are not water-stressed there are significant variations in water availability across regions, driven in part due to physiographic conditions, urbanization, deforestation and use.

A major concern for all countries in the Hemisphere emerges from the link between climate change and water. Climate change is projected not only to increase precipitation in some areas but also to increase the severity of droughts in others. Both conditions will affect the lives and livelihoods of millions of people, especially the poor. Recent estimates by the United Nations Development Program indicate that climate change is already making the achievement of the Millennium Development Goals more difficult². Prolonged flooding episodes are expected to generate an increase in vector-borne diseases while drought and extreme temperatures are expected to cause heat stroke and respiratory illnesses. Over time, it is possible that large numbers of climate refugees will be forced to abandon pasturelands parched by drought, devastated by forest fires and rendered unusable because of flooding. Disruption in agriculture and food production will present additional social and economic hardship especially for marginal farmers and fishers who already have to contend with unfavorable market conditions and declining commodity prices. The greatest areas of vulnerability will be in unmanaged systems and systems that are severely stressed or poorly or unsustainably managed due to policies that discourage efficient water use and protection of water quality, inadequate watershed management, failure to manage variable water supply and demand.

Policy Responses

Given the magnitude of the water related impacts of climate change, there is an urgent need for Government and development partners to in the Hemisphere to:

- Sharpen their understanding of climate change impacts on the critical hydrological characteristics of freshwater basins;
- Build capacity to better understand climate vulnerabilities and risk
- Support the mainstreaming of adaptation to climate change in national and sectoral planning;
- Establish effective and timely forecasting and early warning systems to support the implementation of coping mechanisms;
- Implement public education and awareness for drought and flood preparedness;

¹ Climate change as defined by the Intergovernmental Panel on Climate Change (IPCC) refers to any change in climate over time whether due to natural variability or as a result of human activity. This definition differs from that used in the UN Framework Convention on Climate Change (UNFCCC) where climate change refers to a change in climate that is attributable directly or indirectly to human activity that alters the composition of the global atmosphere and that is in addition to the natural variability observed over comparable period (IPCC, 2001). Climate variability is normally associated with multi-year, climate-ocean regimes and switches from one regime to another.

² IPCC 2007, Summary for Policy makers in Climate Change 2007: the physical science basis, contribution of Working Group 1 to the Fourth Assessment Report of the IPCC, Cambridge and New York, Cambridge University Press.

- Adopt integrated water resources management principles and approaches that promote the coordinated development of water, land and related resources;
- Improve crop varieties that produce more drought resistance varieties or varieties of crops that yield more mass per unit of water consumed;
- Encourage improved farming practices that increase water intake after rainfall and improve the retention capacity of the soil;
- Improve crop and livestock management; and
- Improve primary health care and public health facilities.

III. Mitigating Natural Hazard Risk

The Americas are highly prone to natural disasters due to their geography³. Systematic increases in natural disasters and unprecedented levels of disaster losses are being observed that continue to undermine the region's economic and social well being. The observed and anticipated impacts of climate change (including more intense hurricanes, change in rainfall patterns and sea level rise) increase the region's vulnerability and threaten to further retard its economic and social development.

This growing vulnerability is of particular relevance to small island developing states, low lying coastal regions, and Arctic regions and habitats where the incremental disaster risk due to climate change threatens economic viability. For the majority of countries, the economic losses associated with extreme events exceed economic resilience; i.e. they do not have the resources to finance reconstruction. High, annual disaster losses suggest that countries are not sufficiently and appropriately addressing disaster risk in a manner that reduces vulnerability and builds resilience at national and local levels. Five of the ten countries most affected by extreme weather events between 1997 and 2006, are OAS Member States (Honduras, Nicaragua, Dominican Republic, Haiti and Venezuela).⁴

Policy Responses

Governments and their development partners will need to allocate a significantly greater proportion of energy and resources to address the root causes of vulnerability - such as rapid urbanization, high poverty levels, weak institutions, inadequate land use planning and environmental management and the lack of enforcement of building standards. Actions to address these problems will also help to build environmental sustainability and sustain the livelihoods of those who are most vulnerable to natural disasters such as the poor.

Against this background, Governments and their development partners should take immediate action to:

- Strengthen national and local capacity for disaster risk management;
- Adopt a more proactive approach to integrated disaster risk management (IDRM) in the Region, emphasizing ex ante disaster risk management (risk analysis, prevention and mitigation, and the ex ante financing of disaster risk); including *strengthening of national legislative and institutional systems for IDRM and integrating IDRM in development planning*.
- Build effective and sustained synergies between disaster risk management and climate change adaptation policy and programming agendas;
- Support and implement strategies for disaster-related adaptation planning that utilize existing best-practice, disaster risk management policy instruments and tools.
- Support disaster risk knowledge creation and enhancement at community, national and regional levels which incorporate climate-related risk; including harmonized risk information systems that incorporate disaster risk into development decision making;

³ Natural disasters refer specifically to those events whose impacts exceed local or national capacity to address them thus requiring outside emergency assistance. (Is it only a natural disaster if it requires outside emergency assistance?)

⁴ Source: Global Climate Risk Index 2008 – Sven Harmeling - GermanWatch

- Mobilize new and additional technical and financial resources to support integrated disaster risk reduction and climate change adaptation.
- Strengthen disaster risk management in vulnerable countries through effective partnerships with the relevant agencies at the national, regional and international level.

IV. Reducing Land Degradation

Land is one of the most critical factors in the development process, alongside labor, capital and technology. Its multifaceted character is reflected in its multiple uses, including: resource extractive activities (forestry, agriculture, grazing and mining); infrastructure for human settlement (housing, transportation, and industrial centers); recreational activities; services provided by ecological systems (e.g flood control, water supply and filtration); support of aesthetic, religious and cultural values; and sustaining the composition and diversity of ecological systems (ESA 2000)⁵. Land differs from other factors of production in that it is fixed in its supply and specific in its location (Dawson, 1984)⁶. These features hold special significance for all countries in the hemisphere, but more especially for small, island developing states (SIDS) that do not have the full range of options that are available to larger, more developed states to raise the productivity of land, intensify land use, and raise farm output at a rate that is faster than the rate of population growth, and generally to sustain high population densities and standards of living. Further, land in SIDS is far more vulnerable to land degradation, whether from human-induced actions or natural factors.

Land Degradation is recognized as a global phenomenon that affects agricultural productivity and social livelihoods in over 110 countries on all continents except Antarctica. It is estimated that US\$42 billion in income and 6 million hectares of productive land are lost annually to land degradation and declining agricultural productivity (UNDP/GEF, 2004). The Food and Agriculture Organization (FAO) and the United Nations Environment Program (UNEP) estimate that: approximately 25,000 million tons of soil are lost annually as a result of water erosion alone; 220 million hectares of tropical forests were degraded between 1975 and 1990 mainly for food production; and 680 million hectares representing 20 percent of the world's pasture and rangelands have been degraded (FAO/UNEP).⁷

The Barbados Program of Action on the Sustainable Development of SIDS⁸ recognizes land degradation land area as one of the major long-term management issues in SIDS. While the full extent of the problem in SIDS in the Caribbean has not been scientifically determined, UNEP estimates that over 300 million hectares of land have been degraded and almost 30 percent of reefs in the Caribbean are considered to be at risk of destruction. Thirty percent of the more than 400 hectares of natural forest lost worldwide over the past 3 decades was in the Caribbean region (UNEP/GEO).⁹

Land degradation has special significance for SIDS given the many disadvantages deriving from their size, including a narrow range of resources, a limited land resource base, relatively small watersheds and threatened supplies of freshwater. In addition, SIDS, often have high degrees of endemism and unique ecosystems that are at high risk of extinction and in need of protection. The small size of these countries means that environment and development are closely interrelated and interdependent. Further, the economies, societies and ecosystems in SIDS are known to be highly vulnerable to internal and external shocks that are rapidly transmitted spatially (from terrestrial to marine spaces), ecologically (between and within ecosystems) and sectorally (from economic to social and environmental spheres).

⁵ Ecological Society of America's Committee on Land Use (ESA) 2000

⁶ Andrew Dawson (1984): *The Land Problem in the Developed Economy*- Croom Helm, London and Sydney

⁷ *Our Land Our Future*, Rome and Nairobi, Food and Agriculture Organization and UNEP

⁸ The Program of Action on the Sustainable Development of SIDS was adopted by the United Nations General Assembly in 1994.

⁹ Source: www.grida.no/geo/geo3/index.htm

Against this background, land degradation poses a multiplicity of threats to sustainable development. These threats are manifested in accelerated deforestation and soil erosion, a decline in the fertility and productivity of land, and in water quality and the destruction of ecosystems in lagoons and reefs. Deforestation is also linked to a decline in water quality and supply, the depletion of genetic plant resources, and the disruption of social livelihoods. Further, ecosystem degradation can directly impact coastal and marine resources through increased sedimentation and can exacerbate the effects of floods, high winds and soil loss associated with extreme weather events.

Policy Responses

The most effective policy response to land degradation is sustainable land management (SLM), defined as an integrated approach to natural resources management comprising environmentally-sound policies and techniques that reduce and/or prevent long-term land degradation and promote ecosystem health, alleviate poverty and attain sustainable development¹⁰. It entails: (a) integrating technical responses of improved land management with social, economic and policy responses to address the immediate causes of unsustainable land management and to remove barriers to improved land management; (b) reconciling conflicting land use pressures with land/ecosystem suitability; and (c) coordinating approaches, partners and stakeholders involved in land management with a view to altering the pattern of land use that causes land degradation. Noting that natural resources supported by land can vary over time depending on management conditions and uses, Agenda 21 (suggest you provide a footnote to explain “Agenda 21”) advocates that all land uses be examined in an integrated manner to minimize conflicts, to make the most efficient trade-offs and to link social and economic development with environmental protection and enhancement, thus helping to achieve the objectives of sustainable development.

Against this background, Governments and their development partners should take immediate action to:

- integrate SLM practices into their national sustainable development frameworks such as national sustainable development plans and poverty reduction strategy papers;
- switch from the “sector by sector” approach to the implementation of land degradation programs, to the adoption of scientifically-sound and cross-sectoral approaches to land management that integrate ecological, economic and social dimensions of land degradation issues into program design;
- promote effective participation of key stakeholders especially women at all stages of the planning process; and
- establish an appropriate enabling environment including policies, regulations and economic incentives to achieve an effective local, regional and global response to SLM

¹⁰ Modified after GEF: Sustainable Land Management Approach – Training Handbook

V. Reducing Economic, Social and Environmental Vulnerability

The deepening global recession and accompanying financial crisis has exposed the vulnerability of those countries with: poorly diversified economies; excessive dependence on strategic imports such as fuel; and excessive dependence on a narrow range of exports. At the same time, the crisis has shown that those countries that have invested in building resilient economies and societies have by and large been able to cope and to bounce back from external shocks. The small island states in the Caribbean and countries of Central America are inherently vulnerable to a wide variety of external shocks by virtue of the small size of their land area, thin markets, openness characterized by product and market concentration and export concentration engendered by a narrow resource base. The heavy dependence of the islands on tourism has made them particularly vulnerable to shocks in source markets. The dramatic decline in the tourism arrivals in all countries caused by the ongoing crisis has already unleashed a cycle of hotel closures, job losses, and steep declines in national income and foreign exchange earnings. In the face of declining revenue, some governments in the OECS have been forced to reduce or eliminate subsidies on basic food items, and cooking gas, that formed an essential part of the social safety net for the poor. A continuation or worsening of the crisis is likely to force Governments to delay investments in disaster risk reduction measures which in turn will deepen their vulnerability to climate change and other natural hazards. There is a very real fear that the ongoing crisis will cause a roll back of the gains that have been achieved over the past 3 decades through external assistance, preferential market access and other favorable conditions that are unlikely to return. Further there is deep concern that rising employment and underemployment will engender a cycle of poverty, crime, social conflict and environmental degradation that will overwhelm the capacity of Governments to cope.

Policy Responses

The crisis does not remove the need for sound governance; it only emphasizes the need for it. Now, more than ever, Governments and their development partners will have to work to ensure that their decisions do not wittingly or unwittingly exacerbate the shocks created by the crisis. Building economic, social and environmental resilience must take centre stage. Governments will have to establish and use appropriate decision-support systems and integrated development planning frameworks that ensure: (a) early and comprehensive analysis of risk; (b) careful analysis of the knock-on effects of social, economic and environmental policy, in time, space and degree of impact, to ensure that the desired results are achieved and that any unintended consequences are quickly addressed if and when they do arise. Moreover, Governments will have to establish governance systems and procedures that allow for active participation by citizens in the resilience building process. This must include regular information exchange and communication flows between Governments and citizens that allow them to build their own resilience. Moreover, Governments and their development partners must move swiftly to build their resilience in areas in which their vulnerability is not “inherent” but “acquired”. One such area is energy, where urgent investments in renewable energy are required to build resilience to energy price shocks.