Sustainable resource management (SRM) in Latin America and the Caribbean (LAC) region

Sonia Valdivia[1,*], Elisa Tonda[2]

[1]SCP Branch, UNEP DTIE Paris, 75441 Paris Cedex 09, France

[2]PNUMA ROLAC, Ciudad de Panamá, Panamá

*sonia.valdivia@unep.org

Abstract The Latin America and the Caribbean (LAC) region is a major source of renewable and non-renewable resources for the world market. This region is rich in minerals reserves and includes 23 % of the world's potential arable land. However, water quality problems are common to the whole region. As such, improving resource management in LAC promises to have important benefits for its inhabitants. This paper introduces the 2-year project "Strengthening National Capacities for Sustainable Resource Management (SRM)" which aims to strengthen capabilities and promote SRM practices in LAC. The project focuses on actions and organizations within a system that help facilitate a sustainable use and continuous provision of natural resources. With an integrated approach for resource management, SRM avoids the transfer of productive chain impacts to another, of a category impact to another, and from one region to another.

1 Introduction

Latin America and the Caribbean (LAC) consist of many developing and transition countries, characterized for their rapid development, which risk mimicking industrialized countries' 'throw-away society' model [1]. The LAC region is a major source of renewable and non-renewable resources for the world market. LAC shares around 50-60% of global iodine lithium production, around 20-40% of zinc, silver, molybdenum, aluminum, copper, silver and tin [2]. Also, this region includes 25.5 % of the world's potential arable land [3], and 14% of cultivated area [4]. Yet, forest cover in LAC declined from 992 million hectares in 1980 to 933 million hectares in 2010 [5]. A recent study covering the period from 2000 to 2005, shows Latin America´s annual deforestation rate at 1.2 per cent (excluding Brazil), while revealing that 47.8% of worldwide deforestation is happening in Brazil, yielding a 3.6 percent deforestation rate for this South American country[6]. Not only has Latin America lost more than 4 per cent of its

tropical forests during the 1990s, but also the degradation of about 20% of its mosaic lands with trees [7]. Additionally, water quality problems are common to the whole region and are subject to several pressures, such as increased pollution, degradation of watersheds and the depletion and unsustainable use of aquifers resulting from population growth, the threat of climate change, social and economic development and increased anthropogenic interference in the hydrological cycle [8]. As such, improving resource management in the region promises to have important benefits for both the inhabitants of LAC and the world at large. Thus, to ensure continual development of today's industrializing countries it is crucial to promote the sustainable use of their resources by establishing lifecycle economies as a cross-cutting strategy [1]. The efficient management of the resource base is essential for industrial and human development in order to eradicate poverty in line with the Millennium Development Goals.

LAC's key stakeholders, such as political decision makers, government agencies, and the scientific community, lack of appropriate knowledge about needs, local experiences about SRM, and resource efficiency; results in poor coordination efforts and weak linkages with providers and users of resources (e.g. the private sector and consumers). Hence, it is necessary to address these concerns in order to lead LAC countries toward more sustainable patterns of consumption and production.

The causes of these problems are multiple and data available until recently does not meet LAC's specific needs, since neither regional SRM assessment reports nor resource efficiency activities have been developed. Accordingly, current knowledge and data on SRM and life cycle are available almost exclusively based on research in Europe, Japan and North America and in foreign languages, which further limit the access for Spanish or Portuguese speakers from the LAC region. This lack of knowledge and experience is coupled with limited opportunities for regional experts to develop practical SRM experience and training, evidenced by the few universities, business schools and technical education centers that offer courses on this topic. In some LAC countries, National Cleaner Production Centres (NCPCs) on resource management are in the early stages of development, but, with only limited support from policy makers and few experienced experts, they have difficulties to take off. Although, some government policies have been implemented to address resource efficiency, they have not taken a coherent approach to the larger issue of sustainable resource management. In general, the lack of awareness of the issue, adds to the limited political will to include SRM on the political and economic agenda.

Furthermore, governments in the region – although not exclusive to this region – tend to allocate resources unevenly between ministries restulting in inconsistent

levels of regulation and policy development. The environment as a transversal issue should be addressed accordingly, and not as an issue relegated to agencies with very limited resources or even approached on an ad-hoc basis with limited coordination between agencies and ministries.

In order to address the problems mentioned above, the 2-year project "Strengthening National Capacities for Sustainable Resource Management (SRM)" [1] (GESRE, for its Spanish abbreviation) is being implemented since 2010. GESRE focuses on building the necessary institutional capacity in LAC to implement SRM policies based on life cycle thinking, that contribute to the understanding of how to achieve decoupling (breaking the links between economic growth and environmental degradation), taking all relevant environmental and social impacts into account in an integrated fashion. These effects include specific considerations to impacts, vulnerability and adaptation to climate change.
The organization of the paper is as follows: A description of the project and its objectives, followed by its results and next steps, followed by conclusions and finalizing with references.

2 Project description

The Project “Strengthening National Capacities for Sustainable Resource Management (SRM)” has been developed in the framework of the United Nations Environment Programme (UNEP) and answers to diverse interlinked initiatives and processes that create synergies between them, such as activities on the International Panel for SRM (Resource Panel), the UNEP/ the Society for Environmental Toxicology and Chemistry (SETAC) Life Cycle Initiative and the Marrakech Process.
GESRE includes actions and organizations within a system that help facilitate the use and continuous provision of natural resources in order to cover the needs of present generations without compromising the capacity of future generations to cover their own needs. This integrated approach for resource management avoids the transfer of impacts of a productive chain to another, of a category of impact to another, and from one region to another.
Outcomes expected at the end of the project are:

- Established SRM networks of public officials and relevant stakeholders.
- National action plans launched and opportunities identified for SRM in the LAC region.

- A knowledge management system including training materials on the critical natural resources identified by the region.

The project will help to pinpoint the needs of the region, increase coordination and understanding of sustainable resource management among key stakeholders in the scientific community and government administrations and improve their skills on these topics. In this way, governments and stakeholders will have the tools they need to improve coordination between agencies and develop consistent cross-cutting policies for SRM of their resources.

Also, two pilot projects in sustainable resource management of two different natural resources will be implemented.

2.1 Pilot projects

Different critical natural resources productive chains and resource scarcity were selected by countries in a survey. The two selected pilot projects will deal with fishery and forestry activities in Barbados and Peru, respectively. In both countries, the government participated directly on the survey. Also, the capacity of local stakeholders in supporting the future implementation of the pilot projects was recognized.

The criteria for the selection of pilot projects included:

- Consideration of a national critical natural resource whose reserves are under risk in the next decades
- Resource use reduction
- Water use and GHG reduction along the life cycle
- Social co-benefits for local communities around the areas of resource extraction
- Employment creation possibilities
- Increased or new income for workers, shareholders, suppliers or the local community around the resource extraction activities
- Supply chain involvement

In Barbados, the pilot project will promote the sustainable management of resources of the coastal area and of the sustainable fishing and agro-tourism practices at the Consett Bay within the Scotland District of Barbados. The responsible agency is the Ministry of the Environment, Water Resource Management and Drainage

In Peru, activities will foster the neutralization of agribusiness (coffee, cocoa, nuts) emissions through afforestation and reforestation projects. The implementing

organization will be the Eco-Efficiency and Social Responsibility Centre (CER for its Spanish acronym).

These pilot projects can foster public policy design that moves the region towards more robust and consistent sustainable development processes. Efforts targeting governmental representatives and experts can help build regional knowledge clusters from which sustainable resource management techniques can spread evenly after project completion.

3 Results and next steps

As a result of the ongoing implementation of this Project, GESRE has created a platform based on public expressions of interest of approximately 170 stakeholders from 30 countries including participants from governments, private organizations, NGOs and academia. This network is serving the project development, both for understanding regional and national priorities as well as for disseminating results of GESRE.
An important product of this project is the report on "Critical Resources Evaluation Report in LAC region" which has been finalized. The report identifies six critical resources related to the following sectors: Agricultural land (agro-industry), wood (forestry), landscape (tourism), metals (mining), fisheries (fishing), water (all sectors). Substantial input for the report was provided through the project's launch event, two stakeholder consultations and two training events that took place in 2010.
Through the adoption of sustainable patterns of consumption and production, the project will contribute towards assisting countries in achieving the MDGs 1, 7, and 8 of reducing extreme poverty, promoting environmental stability and building global partnerships for development and MDG 4 of promotion of gender equality and empowerment of women.

Next steps are the implementation of the two national SRM pilot projects including training activities for the selected countries and for the region. Results of the 2-year project will provide recommendations for national strategies and plans in LAC countries, SRM opportunities as well as lessons learned and highlights to be disseminated in the region.

4 Conclusions

Waste societies are increasingly producing shorter product life cycles with an intense consumption of natural resources. Considering natural capital as foundation of our economy and society, as a pre-condition for growth and development, sustainable resource management practices in our production models are needed. This project offers the possibility to test sustainable practices in the extraction and use of critical natural resources in Latin America and the Caribbean region, while using the natural capital of countries as the basis for sustainable development.

5 References

[1] UNEP, *Strengthening National Capacities for Sustainable Resource Management*, Internal Project Document, 2009.

[2] UNEP, *Consultation to Countries of Latin American and the Caribbean region on the Scarcity of Natural Resources, Concerns around their Use/Extraction and Perception of the Importance of Resources*, Internal Project Document, 2010.

[3] FAO, *Land Resource Potential and Constraints at regional and country levels*, World Soil Resources Report 90, Rome 2000.

[4] <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTWAT/0,,contentMDK:21636059~menuPK:4708974~pagePK:210058~piPK:210062~theSitePK:4602123,00.html>, (Accessed 15.03.2011).

[5] Deininger, K., and Byerlee,D., *Rising global interest in farmland: can it yield sustainable and equitable benefits*, The World Bank, Washington, DC, 2011.

[6] Hansen, M., Stehman, S., Potapov, P., Loveland, T., Townshend, J., DeFries, R., Pittman, K., Arunarwati, B., Stolle, F., Steininger, M., Carroll, M., and DiMiceli, C., Humid tropical forest clearing from 2000 to 2005 quantified by using multitemporal and multiresolution remotely sensed data, *PNAS*, Vol. 105 No. 27, 2008, 9439-9444.

[7] Chomitz, K., Buys, P., De Luca, G., Thomas, T., Wertz-Kanounnikoff, S., *At Loggerheads? Agricultural Expansion, Poverty Reduction and Environment in the Tropical Forests*, A World Bank Policy Research Report, World Bank Publications, 2006.

[8] UNEP, *State of Biodiversity in Latin America and the Caribbean*, Panamá, 2010.