



Rio Conventions Pavilion Bulletin

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RIO CONVENTIONS PAVILION HIGHLIGHTS: TUESDAY, 9 OCTOBER 2012

The Rio Conventions Pavilion (RCP) commenced on Tuesday, 9 October 2012, on the theme “Towards Integrated Science, Assessments and Monitoring for the Rio Conventions.” The event consisted of five panel sessions including: novel science-based approaches to assessing and responding to the biodiversity crisis; how integrated science can support the goals of the Rio Conventions; advancing the practice of vulnerability assessment for ecosystem-based adaptation to climate change; are we developing a growing body of convincing evidence on the effectiveness of ecosystem-based approaches (EBA) to adaptation; and science-policy interface for collaborative management of international waters.



CBD Executive Secretary **Braulio Ferreira de Souza Dias** emphasizes the importance of monitoring during the event on “Novel Science-Based Approaches to Assessing and Responding to the Biodiversity Crisis.”

NOVEL SCIENCE-BASED APPROACHES TO ASSESSING AND RESPONDING TO THE BIODIVERSITY CRISIS

Neil Pratt, Convention on Biological Diversity (CBD) Secretariat, opened the RCP and welcomed participants, underscoring its purpose to “encourage and support the implementation of the Rio Conventions at the national level.” Panel Moderator Veronica Lo, CBD Secretariat, introduced the panel on novel science-based approaches.

Georgios Sarantakos, Group on Earth Observations (GEO), presented the GEO Biodiversity Observations Network (BON) Aichi Initiative, which aims to enhance global biodiversity observations by coordinating and developing open data access to enable monitoring of biodiversity status and trends at the national and regional levels. He emphasized the need

to intensify the GEO BON effort to mobilize the entire GEO community, and reported that GEO has assembled a far-reaching network of participating organizations.

Linda Krueger, Wildlife Conservation Society, discussed the aims of the Tropical Ecology Assessment and Monitoring (TEAM) project, including improving current biodiversity indicators to support implementation of policies at the national and global levels, and enhancing international monitoring. Defining TEAM as a “robust information management system,” she highlighted the Wildlife Picture Index and the Forest Resilience Index as two promising initiatives under development. As challenges, Krueger noted that methodological differences make global consensus on the best global biodiversity monitoring practices difficult to achieve. She concluded emphasizing that the TEAM data is publicly accessible.



Neil Pratt, CBD Secretariat



Georgios Sarantakos, GEO

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Linda Krueger, Wildlife Conservation Society

Jonas Rupp, Conservation International (CI), described CI's Ocean Health Index as a policy neutral tool, assessing ocean ecosystem health and ecosystem service provision. He also provided information on the effectiveness of regional, national and local management measures and policies. Acknowledging that "people are part of oceans ecosystems," Rupp listed ten goals for healthy oceans identified in the index, including: food provision; artisanal fishing opportunities; natural products; carbon storage; coastal protection; coastal livelihoods and economies; tourism and recreation; sense of place; clean waters; and biodiversity.

Natalia Pérez-Harguindeguy, Inter-American Institute for Global Change Research (IAI), presented results from DiverSus, an interdisciplinary research network, which examined how social actors value ecosystems. Stressing that components of biodiversity are not equally important, she underscored the importance of understanding which ecosystem components are critical for different stakeholders. She concluded that the current challenge is to transform project results into effective policy options.

Providing his perspectives on ecosystem monitoring, CBD Executive Secretary Braulio Ferreira de Souza Dias, stressed the need for an integrated global biodiversity monitoring system, providing information on ecosystem trends to developing countries in particular. He recommended up-scaling initiatives by bringing together scientific capabilities and support from governments.



Participants at the RCP.

CBD Executive Secretary Dias noted that early access to ecosystem data allows for monitoring progress in achieving the Aichi Biodiversity Targets to adjust actions where needed. However, he called for some caution with regards to: the use of past baselines that undermine long-term perspective; the use of simplified indexes that may hide trends or problems; and the sensitivity of the parameters and data collection design. He commended parties for having agreed to a multidisciplinary approach during the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) meeting in Panama, including natural and social science experts, which provides important social context for policy makers.

Dias observed that providing information to citizens impacts policy by forcing government and business to respond to public demands. He proposed engaging local communities to increase both their ownership in ecosystem monitoring and the cost efficiency of data collection.

HOW INTEGRATED SCIENCE CAN SUPPORT THE GOALS OF THE RIO CONVENTIONS

Anne Larigauderie, Executive Director, DIVERSITAS, introduced the panel and gave an overview of how biodiversity science evolved. Noting a paradigmatic shift, she highlighted emerging concerns for scientists, including assessing the links between biodiversity and ecosystem services. She underscored the challenges for the DIVERSITAS Strategic Plan, such as building a longer-term vision and developing a knowledge base composed of various disciplines. Larigauderie concluded emphasizing the need for policy relevant science.



L-R: Natalia Pérez-Harguindeguy, IAI; Jonas Rupp, CI; Linda Krueger, Wildlife Conservation Society; and Georgios Sarantakos, GEO

Paul Leadley, DIVERSITAS and University of Paris, France, presented on using scenario modeling to anticipate, mitigate and adapt to future changes in biodiversity and ecosystem services. He compared previous scenario models, which focused on impacts, with new assessment scenarios, to be published in the “Global Biodiversity Outlook 4,” which translate data on impacts into policy relevant information.

Leadley said the new assessment scenarios: calculate economic costs of biodiversity and ecosystem trends; test impacts of development pathway changes that are “Aichi relevant” to inform policy makers about the consequences of certain policy measures; and suggest technology, decentralized solutions and consumption pathways to achieve desired policy objectives.

Tom Lovejoy, Heinz Center for Science, Economics and the Environment, emphasized the need for radical restoration in an era of unprecedented global change. Lovejoy highlighted changing species ranges due to climate change, noting the “minor ripples” occurring presently and the “alarming” signals beginning to be seen, including major tree mortality in North American coniferous forests and massive coral reef bleaching.

On the science of radical restoration, Lovejoy underscored that traditional concepts from conservation ecology, like secondary succession, will not necessarily work in the future. He noted a report, “Revisiting Leopold,” which discusses managing for continuous change under conditions of uncertainty, indicating the importance of thinking about protected areas as anchors for larger conserved areas outside of parks.

Harini Nagendra, Ashoka Trust for Research in Ecology and the Environment, shared Indian experiences addressing the drivers of biodiversity change and conservation, mainly in the regions of the Eastern Himalayas and Western Ghats. Due to the increasing rates of urbanization, she stressed land use change as one of the greatest sources of pressure on biodiversity conservation and climate change adaptation. Highlighting the benefits of increasing community activism in protecting the environment, she underscored that future research should improve understanding of the correlation between social and ecological aspects.

Responding to an audience question on how to integrate traditional indigenous and western scientific knowledge, Nagendra described how traditional knowledge is already informing western science. She said increasing community ownership can prevent illegal species trade, highlighting community engagement in sustainable bamboo management to secure long-term income from its sale.

ADVANCING THE PRACTICE OF VULNERABILITY ASSESSMENT FOR EBA TO CLIMATE CHANGE

Opening the session, Neville Ash, UN Environment Programme (UNEP), called for examining the synergies between the Rio Conventions, noting that EBA is a cross-cutting issue. He recalled that the concept was first defined in the context of the CBD, highlighting that adaptation is also a mandate of the UN Convention to Combat Desertification and the UN Framework Convention on Climate Change.

Valinavho Khavhagali, Department of Environmental Affairs (DEA), South Africa, reported on the evolution of biodiversity vulnerability assessments in South Africa, to address and link problems identified in previous national climate change studies and Millennium Ecosystem Assessments. He emphasized linkages between the three



Preeti Soni, UNDP

Rio Conventions, describing how climate change increases ecosystem and livelihoods vulnerability, desertification and results in biodiversity loss and forest quality reduction in South Africa. He added climate change threatens ecosystems and has the potential to: undermine sustainable development and economic growth; increase poverty; and delay or prevent the realization of the Millennium Development Goals.

Preeti Soni, UN Development Programme (UNDP), presented India’s experiences in EBA and conducting climate change vulnerability assessments. Reflecting on the case of Madhya Pradesh, she highlighted the value of incorporating the perceptions of local communities. Despite positive aspects of the approach, she observed some challenges, including: limited formal recognition; financial constraints; and community and political pressures. In conclusion, Soni said proactively streamlining EBA into climate change adaptation projects is crucial for the India’s National Adaptation Plan.

Caroline Petersen, UNDP, presented a project on EBA in mountain ecosystems in Uganda, Nepal and Peru, noting specific challenges in those ecosystems, including landslides and glacial melting. She highlighted the refinement of EBA methodologies, looking at predicted climate change impacts on ecosystem services for livelihoods, and health and safety.

Petersen discussed challenges faced in the project sites, including: forest fires; flash floods; drought; increased water scarcity; landslides; and soil erosion. She underscored the livelihood impacts of these problems and described nature-based interventions for adaptation to change, such as wetland restoration, water conservation and reforestation. Identifying monitoring and evaluation challenges, she said measuring projects’ impact on ecosystem services is difficult within short project time-scales.



Caroline Petersen, UNDP



Panel Moderator Neville Ash, UNEP, discusses the effectiveness of EBA.

ARE WE DEVELOPING A GROWING BODY OF CONVINCING EVIDENCE ON THE EFFECTIVENESS OF EBA

Neville Ashe, UNEP, noted that EBA has a long history, including through the practices of indigenous peoples. While calling for improved monitoring efforts and strengthened scientific underpinnings of EBA, he stressed that there is enough knowledge to put EBA into practice.

Nik Sekhran, UNDP, described Incan adaptation to rainfall variation in the Andes through terrace building to prevent erosion and flooding. Sekhran observed that past adaptation methods might not be applicable given different socioeconomic circumstances today. He also highlighted ecosystem restoration considerations in the Seychelles, noting that functionality tests, such as water consumption, are used to determine whether to use native or alien tree species in the existing forests.

Marc Spiekermann, Federal Environment Ministry (BMU), Germany, said the EBA component of the adaption portfolio is gaining importance in the BMU. He encouraged the establishment of pilot projects, as well as new networks for EBA research.

Trevor Sandwith, IUCN, underscored limited current capacity to cope with unprecedented global challenges. He suggested preemptive solutions to avoid inadequate adaptation policies and concluded calling for further cooperation to avoid doing “too little too late.”

Xola Mkefe, DEA, South Africa, said “biodiversity is the foundation of life.” He provided several examples of how ecosystem degradation and dysfunction negatively effect traditional livelihoods and stressed that EBA is a tool to guide ecosystem restoration and conservation. He also reported on successful water sector programmes using EBAs and focusing on women and youth.

During discussions, Moderator Peterson noted the gap between science, policy and implementation, and asked panelists how to design experimental learning projects. In

response, Sandwith said well controlled experiments are not possible in disaster situations. He recognized the utility of a precautionary approach in terms of project finance and investment, which would require that project design be based on experience and lessons learned.

SCIENCE-POLICY INTERFACE FOR COLLABORATIVE MANAGEMENT OF INTERNATIONAL WATERS

Jackie Alder, UNEP, with Nicole Glineur, Global Environment Facility (GEF), presented the main outcomes of the GEF International Waters Science Conference 2012, a three-day conference attended by 200 participants. After clarifying that much of the science used and generated by GEF International Waters projects is embedded in Transboundary Diagnostic Analyses, Alder highlighted key findings saying, *inter alia*, that: scientific engagement in project design needs to be optimized; communities of practice offer a bridge to scientific integration; scientists should “inform” choices instead of “advocate,” while policymakers should discuss policy failures. Moreover, Alder noted the fragmentation of water management at the international level, suggesting the need for a holistic vision.

In regards to the future of the GEF Scientific and Technical Advisory Panel, Alder said prioritizing research on three fronts was recommended: global assessment of the deterioration of water quality and ecosystem status; methods and guidelines for valuation of water related ecosystem services; and global architecture for data aggregation and modeling of water systems.

During discussions, participants debated a range of issues, including: the lack of knowledge about the impact of groundwater trends on biodiversity; enforcement of environmental impact assessments; spatial planning in large marine ecosystems and open oceans; and ways of understanding social political factors that determine people’s behavior, which affect management practices.