

The Future of IABIN

A Report on Strategic Possibilities

Executive Summary

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1. History of IABIN

The Western Hemisphere enjoys a long tradition of cooperation and regional integration, extending back to the roots of the world's oldest regional organization, the Organization of American States (OAS) in the First International Conference of American States in April 1890. Among the many worldwide firsts under OAS and its predecessors, the Convention on Nature Protection and Wild Life Preservation in the Western Hemisphere (Western Hemisphere Convention, Washington, 1940) stands out, as the first modern convention for biodiversity conservation. It provides for the establishment of a network of protected areas and for cooperation in research; it also regulated trade in protected fauna and flora. While the convention set a new course for nature conservation, it did not stipulate a Secretariat to monitor progress and enforce provisions. In 1976, the General Assembly of the OAS called for cooperation in the implementation of the Western Hemisphere Convention. The ensuing process recommended that OAS take on the functions of a Secretariat *including the collection and dissemination of relevant information*. The recommendation was not acted upon, and by the 1990s, the convention was largely superseded by the Convention on Biological Diversity. Its legacy continues in its precedent and in the possibility within OAS to link conservation to its mandate of peace, security, democracy, and economic growth.

In 1994 the Summit of the Americas was convened in Miami, USA to consider the reorganization of inter-American relations in light of the changing political, economic and social conditions. The gathered heads of state committed to implement the commitments made in the UN Conference on Environment and Development (Rio de Janeiro, 1992) and the Global Conference on the Sustainable Development of Small Island Developing States (Barbados, 1994), including through a Partnership for Biodiversity. They also affirmed support for further regional meetings on sustainable development.

As a result of the Miami Summit's pledge, the Summit Conference on Sustainable Development (Santa Cruz, Bolivia 1996) was held to structure and shape the rapidly evolving hemispheric sustainable development agenda, folding in and subsuming plans made at Miami, including the Partnership for Biodiversity. Those prescriptions were reformulated around specific outputs, including the establishment of "an Inter-American Biodiversity Information Network, primarily through the Internet, that will promote compatible means of collection, communication, and exchange of information relevant to decision-making and education on biodiversity conservation." The Summit called for information sharing on a host of sustainable development issues ranging from pollution control to agriculture, including the establishment of a hemispheric network of sustainable development information systems (which did not materialize).

IABIN was formalized in September 1998. Thirty-four countries in the Americas have officially named IABIN focal points. In 2004 the OAS was awarded a grant from the Global Environment Facility to build IABIN, which had by this time become the major biodiversity outcome of the Summit process. The objective of the project "Building IABIN" is twofold - to build the data network and to provide decision-support tools using the knowledge available through that network. That project establishing standards and protocols for nature, created five thematic

networks, and issued grants for content development, is nearing completion, and it is time to consider further steps.

2. Situation analysis

Since IABIN was articulated more than a decade ago, there have been a great many changes. The science of conservation biology has made significant advances, both in terms of understanding high conservation value areas and in terms of understanding the complexity of ecological processes and systems. Remote sensing and Internet technologies were still in their infancy when IABIN was first articulated means. Data is now much more plentiful, and data custodians more numerous and better organized. Indeed, the biodiversity informatics field is increasingly crowded, and IABIN's niche is being filled as new entrants develop tools for biodiversity analysis and decision support. A host of new institutions¹ dedicated to the global development of biodiversity and conservation data has emerged with an Internet presence, many since the establishment of IABIN. Several of these are partners with IABIN, and all of them are potential competitors.

Economic activity has brought about massive change in the region, particularly through the expansion of trade. However, forty-four per cent of the population of Latin America and the Caribbean still lives in poverty, and inequities in the distribution of wealth are among the highest in the world. In order to reach global markets, most countries in the Americas have embraced free trade through market access agreements. To overcome barriers to economic growth, large-scale infrastructure development has been initiated to improve access to regional and global markets and improve global competitiveness.

The Initiative for the Regional Integration of Infrastructure in South America (IIRSA), an ambitious multi-donor program to improve linkages among all countries of the continent through trade corridors, will integrate and expand economic activities in the interior of the continent through up to 400 projects, organized within 10 trade corridors for multi-modal transportation systems (roads, waterways and rail) and energy transmission (electric grid and pipelines). In addition to investments in ground transportation and energy, IIRSA projects will also develop supporting infrastructure such as port facilities and transfer stations. In areas of high biodiversity value, major trade corridors will intersect, altering the economy and resource demands of entire regions, including some of the world's most important biodiversity hotspots. These corridors are likely to become pathways for colonization, followed by legal and illegal resource extraction, pollution, and invasive species introduction. Climate change will add additional environmental, economic and social impacts in the region, and the cumulative and synergistic impacts of such change for the planned infrastructure have not been examined.

¹ A short list of biodiversity and conservation information systems would include *inter alia*: The Global Biodiversity Information System, an IABIN partner, the Encyclopedia of Life, the Catalogue of Life, the Barcode of Life, the Tree of Life, NatureServe, the IUCN Red List, the World Database on Protected Areas, BioNET, and the Global Invasive Species Information Network.

The majority of new introductions of terrestrial and aquatic invasive species occur along trade pathways. Most of these are associated with international ports of entry where trade volumes are substantial and growing. For example, trade and shipping between the southeastern US, the Caribbean, and Latin America may triple from 2005 levels by the year 2020 as a direct result of the CAFTA/DR trade agreement. Major modernization efforts are underway at key ports in the region that are vying to become the hub for efficient, economic shipping that will be key to competitive success in a free-trade environment. There is little evidence to date of efficient sanitary/phytosanitary measures that will be necessary to manage the risk of introduction of invasive species as a collateral effect of this growth in traffic between countries.

The expansion of trade also overcomes barriers to disease vectors, particularly insects, which, when combined with the development of internal trade corridors, land use and land cover change, and a changing climate, creates a heightened risk of the emergence and spread of infectious diseases. This pattern has already been observed in the case of altitudinal spread of malaria and spread and intensification of dengue fever and Chagas' disease.

Climate change, though barely acknowledged at the time of the Santa Cruz Summit, has become visible and is no longer seriously debated as a risk to the region. Climate change impacts on the region are expected to bring negative and cumulative impacts, though not uniformly. The *El Niño* Southern Oscillation (ENSO) occurs with warmer water temperatures in the eastern Pacific, and may be intensified through global warming. ENSO reverses typical weather patterns, bringing drought to higher elevations and heavier precipitation on the coasts. The Caribbean and Central America are particularly vulnerable to extreme weather events, but the northwestern part of South America and northeastern Brazil are also vulnerable. ENSO is associated with increased risks of floods in these areas. Changing precipitation patterns are resulting in less snow pack and glacial retreat, creating new water stress to both human populations and habitats. Scientists estimate that by 2025, seventy percent of the population of Latin America will live in areas of low water supply. Sixty of Latin America's largest cities are on the coast and at risk due to sea level rise, which is also a threat to the small island states of the region. Finally, there is a risk that, if the 2°C temperature threshold is passed, severe drought will result in large-scale dieback of the one-fourth of the world's forests in Latin America. The transition from a fire-excluded ecosystem to a fire-dominated ecosystem will have catastrophic implications in terms of both biodiversity and development.

In summary, the threats to biodiversity, and the demand for information about biodiversity, have grown dramatically since IABIN's inception. Left unchecked, these threats are likely to produce scarcity, spread disease, increase poverty, and limit growth, and otherwise undermine advances in human well-being of recent decades. The present crisis in global financial systems will result in a reconsideration of wealth that favors tangible assets over abstract formulations, and biodiversity will ultimately become an important measure of the wealth of nations in the for of ecosystem services. This indicates an important continuing role for IABIN.

3. Options for a New Vision for IABIN

IABIN's future lies in the provision of value added products undertaken in partnership with

competent knowledge-management counterparts in other disciplines. Our collective understanding of human security has grown since the Rio Earth Summit to encompass not only national security, food security, economic security and health, but also biological security, and all are increasingly understood to be interconnected and at risk. IABIN should therefore become the regional repository of knowledge concerning “ecological security”. This will require a greater focus on the application of data to important decisions of the day. The ability to collaborate across sectors and regions through partnerships to produce results is essential to achieve this goal. In the Americas important partner organizations will include, *inter alia*, the Pan American Health Organization (PAHO) for health, the UN Food and Agriculture Organization (FAO) and the Inter-American Institute for Cooperation on Agriculture (IICA) for agriculture, the Caribbean Community Climate Change Centre for climate change, and the InterAmerican Development Bank for economic development and infrastructure.

This approach can best be achieved through targeted projects that selectively build capacity around high-priority issues identified by the government stakeholders in IABIN. Recognizing that IABIN’s mandate is both information exchange and education, a vision for the future could be based upon four objectives:

- IABIN should help stakeholders to predict the consequences of actions (or of inaction) through ecological forecasting.
- IABIN should help stakeholders to prevent the loss of biodiversity through better choices based upon science that appropriately value biodiversity.
- IABIN should inform and educate society about the status of and threats to biodiversity, offering a compelling case to persuade the public to take action to conserve biodiversity.
- IABIN should empower society by providing public access to information upon which to base actions.

This vision must be captured in an IABIN “brand identity” that appropriately positions IABIN vis à vis both partners and competitors as an official forum for ecological security and the application of knowledge about biodiversity to societal choices. The exchange and application of *knowledge* about biodiversity (as opposed to information) is fundamental to IABIN and should be captured in its institutional identity. As a forum, IABIN should consider periodic conferences on the ecological security theme, which will serve to raise IABIN’s profile and promote intersectoral exchange on trends, challenges, and opportunities in light of the opportunities and threats described above.

IABIN also has the capacity to create a standing “College” of eminent biodiversity experts from the region to deliberate on emerging issues and issue recommendations that have the advantage of emanating from a source with both government backing and the highest technical qualifications. “Blue ribbon panels” could be drawn from the College to debate and recommend actions based upon the best available science.

Finally, IABIN has the potential to take capacity-building to a higher level by creating a consortium of universities from the region to establish diploma or degree programs using distance learning and instruction on local campuses to cover gaps in the availability of trained experts in technical fields. Using the Train-X approach developed by the United Nations, IABIN could create courses at a relatively low cost to each academic partner to help stem gaps in capacity. Possible areas include species identification for sanitary/phytosanitary inspection, geographic information systems and remote sensing, protected area management effectiveness, pollinator ecology and management, and valuation of ecosystem services.