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GUEST EDITORIAL

Humid tropical ecosystems: changes, challenges, opportunities

Humid tropical ecosystems hold the greatest concentrations of biodiversity. At the same time, they are the most threatened regions on this planet. More than half the world's plant species and more than a third of the earth's mammals, birds, reptiles, and amphibians are found in just 2.3% of earths land area; most of them are concentrated in the humid tropical zone, where there is intense pressure due to changes in the very fabric of this natural landscape.

Among the greatest challenges faced by humanity in this 21st century are to i) prevent or minimize irreversible loss of biodiversity, ii) restore ecosystem services like clean water, healthy soil and unpolluted air (environmental sustainability), iii) maintain sustainable levels of ecosystem goods, such as food, fibre and fuel, and iv) alleviate poverty. These are formidable challenges, which are also embedded in the Millennium Development Goals. To address them, the Man and the Biosphere Programme (MAB) of the UNESCO introduced the biosphere reserve concept, to achieve a sustainable balance between the sometimes conflicting goals of conserving biological diversity, promoting economic development and maintaining associated cultural values. These biosphere reserves are the principal internationally-designated sites where these challenging objectives are tested, refined, demonstrated and implemented.

The first ever UNESCO programme to support research towards conservation management of the world's humid tropics came to fruition as a result of a far-sighted proposal made by one of Sri Lanka's distinguished scientists, the late Professor Emeritus B. A. Abeywickrama, who participated at the eighth session of the general conference of UNESCO in Montevideo, Uruguay in 1954. In acknowledgement of the proposal led by Sri Lanka, the UNESCO held an international symposium, a field tour and a preparatory meeting of the specialists in the humid tropics in Kandy, from 19-24 March 1956. This landmark event led to the UNESCO Humid Tropics Programme.

Fifty years later and in the first decade of the 21st century in the new millennium, the National MAB Committee and the National Science Foundation of Sri Lanka organized an international conference on 'Humid Tropical Ecosystems: Changes, Challenges, Opportunities'; its venue, once again in Kandy from 4-9 December 2006 to celebrate the golden jubilee of the Humid Tropics Programme of UNESCO, the idea proposed by a visionary Sri Lankan scientist.

This historic event was commemorated in collaboration with the International MAB Secretariat, Division of the Ecological Sciences of the UNESCO, headquartered in Paris, France. While it provided an opportunity to plan the UNESCO's humid tropics agenda for the period 2008-2013, it also enabled to gain new insights towards the preparation of a roadmap – The Madrid Action Plan – for biosphere reserves to become an active network and a true learning platform for developing models, for global, national and local sustainability in the 21st century.

The conference was centered on the themes of biodiversity loss, adapting to climate change and meeting the needs of sustainable development in the future. More specifically, it focused on changes and challenges in the humid tropics, opportunities for conservation of species and ecosystems, adapting to climate change and changes in water regimes, and bridging conservation and development. The main sessions were supported by a pre-conference on 'Water in the Humid Tropics' and two post-conference workshops on 'Communication, Education and Public Awareness on Biodiversity'. There were also a range of thought provoking panel discussions, films, special sessions and roundtable discussions on communication and consultation; working with media; intellectual property rights and bioethics; opportunities for business partnership and biodiversity conservation; ecotourism; and the use of space technology for protected area planning.

Forty three participants from 20 countries, together

with 90 local participants, attended the conference. There were about 75 oral presentations under10 different theme sessions, 27 poster displays and a field visit to the Knuckles conservation forest. The conference made a series of recommendations based on proceedings of each session and submitted them to the UNESCO, for consideration in its strategic plan for 2008-2013. It also recommended exploring possibilities to build South-South and triangular South-North-South co-operation in the thematic areas discussed therein.

This issue of the *Journal of the National Science Foundation* carries a Review and nine selected Research Articles presented at the international conference.

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