Report of the South Asia Regional Session of the Global Biodiversity Forum 2003, Bangladesh.

16-18 June 2003 Dhaka, Bangladesh

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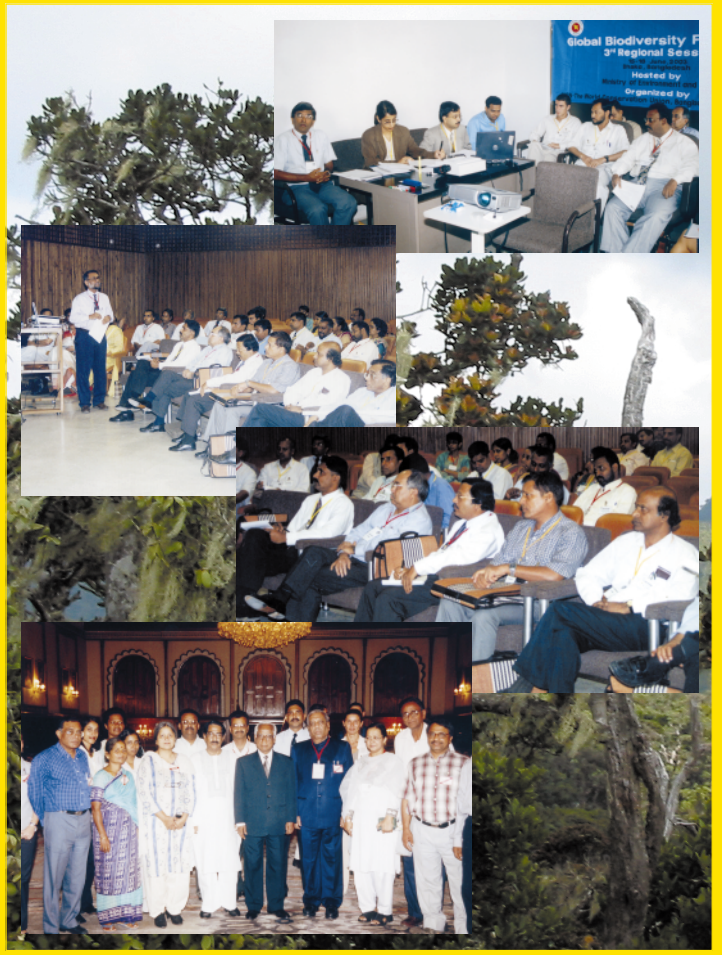
IUCN Regional Biodiversity Programme, Asia
53, Horton Place
Colombo 7
Sri Lanka.

Tel: ++94 11 4710439, ++94 11 2662941
(direct), ++94 11 2694094 (PABX)
Fax: ++94 11 2662941
Email: iucn-rbp@sltnet.lk
URL: www.biodiversityasia.org

Report of the South Asia Regional Session of the Global Biodiversity Forum 2003, Bangladesh

Balakrishna Pisupati
Emilie Warner



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Balakrishna Pisupati
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Regional Biodiversity Programme, Asia

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16-18 June 2003

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Forward

The Global Biodiversity Forum (GBF) is increasingly being seen, not only as a useful platform for dialogue and discussions of issues of conservation of biological diversity, but also as a forum to discuss sensitive issues like development, poverty and trade. This is possible since the GBF acts as a neutral forum that does not need consensus on issues.

GBFs have evolved into more mature, influential meetings not only feeding into the Convention on Biological Diversity (CBD), but also to other environmental and development processes. This regional session and its themes are a testimony to this maturity.

This South Asia regional session discussed issues on People and Protected Areas (PAs), Sustainable Development and Livelihoods, issues of Access and Benefit Sharing (ABS) and Biosafety and the Trade agenda and the need for Regional Cooperation to build Taxonomic Capacity.

This session brought together 110 participants from 14 countries and had representations from Governments, NGOs, CBOs, women's organisations, academic institutions, donors and development agencies. One of the key elements of this session has been the wide ranging partnerships that we were able to forge. The list of co-organisers is a testimony to this fact.

Apart from this, one of the significant features is the high level political support that we received. Perhaps this was the first GBF that was inaugurated by the President of a country and had participation from Members of Parliament. This proves the influence GBF is able to have on policy makers.

Reviewing the outcomes, we feel that the recommendations are relevant, succinct and many are implementable. Outcomes of this GBF are expected to feed into several other dialogues like the WIPO Ministerial Meeting, GBF at Cancun - prior to the WTO Ministerial Meeting, CBD-COP-7, establishment of SACNET (South Asia Collaborative Network on Taxonomy Capacity), World Parks Congress and others.

We hope that the GBF continues to provide a useful platform to openly discuss national, regional and global issues and hope that the support it receives - financial as well as technical - will continue in the future too.

P. Balakrishna
IUCN Regional Biodiversity Programme, Asia
GBF Coordinator

Background

The Convention on Biological Diversity (CBD) was adopted on 22 May 1992 in Nairobi, Kenya. On 5 June 1992, during the United Nations Conference on Environment and Development (UNCED - the "Earth Summit") in Rio de Janeiro, more than 150 States signed the Convention, and on 29 December 1993, it entered into force. By May 1998, a total of 174 States had ratified the Convention, making it one of the most widely adopted environmental treaties in history. However, the process prior to and following the development of the CBD has not always allowed for the full participation of all those interested in and affected by the Convention.

The 1992 WRI-IUCN-UNEP Global Biodiversity Strategy identified a wide range of actions needed to save, study and sustainably use the world's biological diversity. In response to the need for a broad and open discussion of biodiversity-related topics, the Strategy called for the establishment of a forum that would allow governments, non-governmental organisations (NGOs), scientists, natural resource managers, communities dependent on biological resources, and others, to meet together and guide international discussions as well as decisions concerning biodiversity.

The Global Biodiversity Forum (GBF) was therefore conceived as a continuing and strategic process to provide information and generate debate on critical issues. In particular, the Forum was established to provide information to international biodiversity-related meetings, such as the Conference of the Parties (COP) to the CBD, its Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA), and other environmental bodies such as the COPs to the United Nations Framework Convention on Climate Change (UNFCCC), the Ramsar Convention, the Convention to Combat Desertification (CCD) and the Convention on International Trade of Endangered Species of Fauna and Flora (CITES).

GBF seeks to complement government-level processes by:

- providing a broad spectrum of perspectives, proposals and experiences from all stakeholders;
- looking for innovative approaches to enrich national policies and inter-sectoral positions;

- building diverse partnerships among stakeholders (for example, governments, indigenous groups, local communities, NGOs and the private sector); and
- identifying areas of agreements and points of conflict on different biodiversity related issues.

The GBF is not a representative body of any of the groups or sectors that participate in Forum events, and should not be considered by the CBD, United Nations organisations, or other institutions to serve on behalf of Forum convenors and participants, or to offer a full consensus.

The first formal test of the Forum concept was the 1993 International Conference on the Convention on Biological Diversity: National Interests and Global Imperatives, hosted by the African Centre for Technology Studies (ACTS) and the Stockholm Environmental Institute, in Nairobi. This meeting recommended that the Forum concept be implemented and employed in other regions of the world, in forms appropriate to the particular region or to problems being addressed.

The first session of the Global Biodiversity Forum (GBF1-Gland) was hosted by IUCN and held in Gland, Switzerland, on 7-9 October 1993, immediately prior to the first meeting of the Intergovernmental Committee on the Convention on Biological Diversity (ICCBD), held in October 1993 in Geneva. The event focused on three themes: broadening participation in implementing the CBD; conservation and sustainable use of genetic resources; and incorporating biodiversity in public law. A resolution passed at the 1994 IUCN General Assembly in Buenos Aires called on IUCN to institutionalise the GBF

The second meeting of the GBF (GBF2-Nassau) was hosted by the Bahamas National Trust and held in Nassau, Bahamas on 26-27 November 1994, immediately prior to the first meeting of the COP to the CBD. The two themes were setting priorities for biodiversity conservation in the context of the Convention; and the importance of coastal and marine biodiversity.

The third meeting of the GBF (GBF3-Jakarta) was hosted by the Indonesian Biodiversity Foundation and WWF-lndonesia, and held on 4-5 November 1995, immediately preceding the second meeting of the COP to the CBD. Four topics were discussed in the Forum: marine biodiversity; regulating access to genetic resources; forests and biodiversity; and decentralisation of governance and biodiversity.

The fourth meeting of the GBF (GBF4-Montreal) was hosted by the Canadian Coalition for Biodiversity and the Canadian Global Change Programme, and took place on 31 August-1 September 1996 in Montreal, Canada, immediately prior to the second meeting of the SBSTTA of the CBD. It focused on: marine and coastal biodiversity; forest biodiversity; new methods for linking people and protected areas; and economic incentives for biodiversity.

The fifth meeting of the GBF (GBF5-Buenos Aires) was hosted by the Foundacion Ambiente y Recursos Naturales (FARN) and held on 1-3 November 1996 in Buenos Aires, Argentina, immediately preceding the third meeting of the COP to the CBD. Four topics were discussed: investing in biodiversity; integrating biodiversity into land-use planning and management; agricultural biodiversity; and biodiversity and indigenous peoples.

The sixth meeting of the GBF (GBF6-New York) was hosted by the Biodiversity Action Network (BIONET) and held on 3-4 April 1997 in New York, USA, immediately prior to the fifth session of the Commission on Sustainable Development. It explored options for incorporating biodiversity indicators and targets into national implementation reports required under the CBD.

The seventh meeting of the GBF (GBF7-Harare) was hosted by the Zimbabwe Trust and held in Harare, Zimbabwe, on 6-8 June 1997, just before the tenth COP to the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Its purpose was to explore synergies between the CBD and CITES, and it focused on: community-based resource management: myth or reality?; non-detrimental export and sustainable use; and access to plant resources.

The eighth meeting of the GBF (GBF8-SBSTTA3) was hosted by IUCN Canada and held in Montreal, Canada, on 28-31 August 1997, immediately prior to the third meeting of the CBD's Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA3, Montreal, 1-5 September 1997). It explored five critical biodiversity themes: communication and education for biodiversity; policy reform to implement the Convention on Biological Diversity: meeting the challenge with policy research; forests and biological diversity; inland water systems and biodiversity; and incentives, private sector partnerships and the marine and coastal environment.

The ninth meeting of the GBF (GBF9-Kyoto) was held on 6 December 1 997 in Kyoto, Japan, during the third COP to the United Nations Framework Convention on Climate Change (UNFCCC COP3). Four topics were discussed: Climate change and biodiversity; the impacts of climate change on biodiversity; synergy between climate change mitigation and biodiversity conservation; and the road ahead: opportunities to link climate change and biodiversity.

The tenth meeting of the GBF (GBF10- Bratislava) was held on 1-3 May 1998 in Bratislava, Slovakia, preceding the fourth meeting of the COP to the CBD. Eight topics were focused on: sharing the benefits arising from the utilisation of genetic resources; traditional knowledge and Article 8j; the CBD's clearing-house mechanism: building a network of networks; tenure and sustainability of natural renewable resource uses; financial innovations for biodiversity; an ecosystem approach to the management of inland water systems and their biodiversity; public education and awareness: how to put it into practice; and trade and biodiversity.

The eleventh meeting of the GBF (GBF11 - Buenos Aires) was held on 6-8 November 1998 in Buenos Aires, Argentina, during the fourth COP to the United Nations Framework Convention on Climate Change. Four topics were discussed: forests in the climate change agenda; co-ordinating national strategies and action plans under the UNFCCC, the CBD, and the Convention to Combat Desertification (UNCCD); climate change, biodiversity and finance; and sustainable use and climate change.

The twelfth GBF (GBF12-Dakar) was held in Dakar, Senegal, on 4-6 December 1998, during the second COP to the Convention to Combat Desertification. The four themes were: financial innovations to combat desertification; linking biodiversity and desertification: a strategic perspective; indigenous knowledge and desertification; and desertification and climate change.

The thirteenth GBF (GBF13 - San Jose) was held in San Jose, Costa Rica, on 7-9 May 1999 prior to the seventh COP to the Ramsar Convention. Six topics were discussed: wetlands and the private sector; mitigating the impact or alien/invasive species; an ecosystem approach to rehabilitation; the global carbon issue: peatlands wise use and management; indigenous peoples and local communities' participation in wetland management; water resources management and global change.

The fourteenth GBF (GBF14-Montreal) was held in Montreal, Canada, on 18-20 June 1999 prior to SBSTTA4 to the CBD. It focused on: building biodiversity into sectoral strategies and action plans; ecosystem approaches to the management of biodiversity in dry-lands; and resolving the conundrum of scale in adaptive management - households to large landscapes.

The fifteenth GBF (GBF15-Nairobi) was held in Nairobi, Kenya, 12-14 May immediately prior to the fifth meeting of the Conference of the Parties to the CBD (COP5). This session focused on the theme: "Sharing the Benefits from Biodiversity" and had workshops addressing the following three topics: Biodiversity for Poverty Alleviation; Instruments for Access and Benefit-Sharing from Genetic Resources; and Agricultural Biodiversity and Sustainable Livelihoods: the Case of Dryland Ecosystems.

The sixteenth GBF (GBF16-The Hague) was held in The Hague, The Netherlands, 5-7 April, 2002 immediately prior to the 6th meeting of the Conference of the Parties to the CBD (COP6). GBF16 addressed the following key issues: Managing Forest Ecosystems for Sustainable Livelihoods; Biodiversity Plans for Business; and Mainstreaming Biodiversity - The Role of Communication, Education and Public Awareness

The seventeenth GBF (GBF17-Valencia) was held Valencia, Spain, 15-17 November 2002. immediately prior to the 8th meeting of the Conference of the Parties to the Ramsar Convention. GBF17 addressed the following key issues: Wetlands Restoration and Mitigation; Environmental Governance and Sustainable Development: the Contribution of the Ramsar Convention on Wetlands; Agriculture, Wetlands and Water Resources; Communication, Education and Public Awareness (CEPA) and a roundtable on Wetlands, People and Climate: Preparing for Change.

In addition to these global events, several meetings have been held at the regional level. There have now been **3 Regional Sessions of the GBF for Asia:**

The first regional session of the GBF for Asia (GBF- Asia, China) was held in Haikou, China on 23-25 March 1998, preceding the Asian meeting for preparation for the fourth meeting of the COP to the CBD. Three topics were addressed; national biodiversity strategies and action plans; international co-operation in biodiversity: key issues; and experience in implementing Article 8 of the CBD.

The Second Asia regional session of the GBF for Asia (GBF- South and Southeast Asia, Sri Lanka) was held in Colombo, Sri Lanka, on 24-26 October 1999 preceding the 5th meeting of the Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA) to the CBD. Five themes were discussed: An Ecosystem Approach to Conservation with special reference to Arid and Semi-arid Ecosystems (including arid mountains) and Coastal & Marine Ecosystems; Sustainable Use of Biodiversity; Alien Invasive Species; Biodiversity Friendly Practices and Technologies; and Developing and Implementing National Biodiversity Strategies and Action Plans: Lessons from Southeast Asia.

The following report is a summary of the **third regional session of the GBF for Asia** (GBF - South Asia, Bangladesh) held in Dhaka, Bangladesh on 16-18 June 2003. The views and recommendations contained in this report, while envisaged to stimulate a regional perspective on the themes covered, do not necessarily represent a consensus among all participants at the meeting; rather they aim to capture the diverse range of viewpoints and issues that need to be addressed in implementing the Convention on Biological Diversity in south and southeast Asia.

Objectives and Issues

The Global Biodiversity Forum constitutes an independent and strategic mechanism to foster analysis and open debate on significant issues related to conservation of biodiversity. Its mission is to provide a multi-stakeholder forum that can contribute to the further development and implementation of the CBD and other biodiversity-related instruments at the global, regional and national levels. In particular, the GBF seeks to provide feedback on a broad spectrum of issues from concerned stockholder groups including governments, indigenous groups, local communities, NGOs and the private sector.

Since its initiation in 1993, the GBF has continued to prove itself as an innovative and effective mechanism to promote open dialogue among a wide range of stakeholders. Although most of the sessions held to date have been at the global level, the GBF concept is now being increasingly used at the regional level to facilitate regional debate and to enrich deliberations at the global level.

The third regional session of the GBF for South Asia was held in Dhaka, Bangladesh, from 16th-18th June 2003. The forum served to gather together knowledge, experiences and perspectives of over 100 participants from 14 countries, representing government institutions, non-government organisations, community-based organisations, international agencies and donors.

The forum addressed the following priority themes, through four parallel workshops:

- People and Protected Areas
- Sustainable Development and Livelihoods
- Access and Benefit Sharing, Biosafety - Relevance of Issues to Trade and IPRs
- Building a Regional Approach to Taxonomic Capacity Building

The forum was structured into an inaugural session, an opening plenary, parallel workshop sessions and a closing plenary. Each workshop began with an introduction to the objectives of the working group, followed by a series of presentations. A concerted effort was made to allow ample time

for discussion and the development of recommendations. This report provides a brief summary of the presentations, the discussions that followed and the recommendations from each workshop.

The forum was hosted by the Ministry of Environment and Forests, Government of Bangladesh and convened in collaboration with IUCN - The World Conservation Union; United Nations Environment Programme (UNEP); World Resources Institute (WRI); Kalpavriksh, India; IUCN World Commission on Protected Areas (WCPA); UNDP-Equator Initiative; BioNET International, UK; Theme on Indigenous and Local Communities, Equity and Protected Areas (TILCEPA); Centre for Sustainable Development (CFSD), Bangladesh; Biodiversity Research Group of Bangladesh (BRGB); Zoo Outreach Organization (ZOO), India; International Institute for Environment and Development (IIED); Secretariat to the Convention on Biological Diversity (SCBD); The Ramsar Convention Bureau; Global Environment Facility (GEF); Consumer Unity and Trust Society (CUTS); Commonwealth Science Council, UK; GLOBE, South and Central Asia; Bangladesh Academy for Sustainable Development; Bangladesh Environmental Lawyers Association (BELA), Bangladesh; South Asia Watch on Trade, Economics and Environment (SAWTEE), India; International Development Research Center (IDRC); UBINIG, Bangladesh; Bangladesh Centre for Advanced studies (BCAS), Bangladesh; World Intellectual Property Organisation (WIPO), Geneva.

The forum was generously supported by: the Global Environment Facility (GEF); the International Development Research Centre (IDRC); Commonwealth Science Council (CSC); Swiss Agency for Development and Cooperation (SDC); IUCN - The World Conservation Union; United Nation Development Programme (UNDP) - Equator Initiative.

Inaugural Addresses

During the inaugural session, the Chief Guest, **Prof. Dr. Iajuddin Ahmed** - *Honorable President of the Government of the People's Republic of Bangladesh* - expressed his pleasure that the Ministry of Environment and Forest was hosting the forum. He also expressed his pleasure to be present among the congregation of international biodiversity experts and scientists and welcomed all the international participants to Bangladesh.

Hon. President highlighted the fact that Bangladesh is endowed with a vast pool of biodiversity resources, many of which are of global significance and supported by a broad range of ecosystems endemic to Bangladesh. He drew attention to the fact that the focus in Bangladesh is currently on poverty alleviation through sustainable development and that the Poverty Reduction Strategy Paper (PRSP) for Bangladesh is in line with the 'Millennium Development Goals'. The importance of property rights in terms of access and benefit sharing and trade as well as the need to identify the linkages between trade and the environment were emphasized. The President highlighted the need to build upon the taxonomic expertise throughout Bangladesh and to establish networks to facilitate capacity enhancement. The role of the Global Biodiversity Forum or GBF as a multi - stakeholder forum, in providing mechanisms and facilitating critical dialogue among a wide range of stakeholders on key ecological, economic, social and institutional issues related to biodiversity was also highlighted.

The Special Guest **Mr. Jafrul Islam Chowdhury** - *Honorable State Minister for the Ministry of Environment and Forest, Government of the People's Republic of Bangladesh* - explained the importance of the GBF in sustaining the international commitments of the member countries in achieving the targets of the Convention on Biological Biodiversity. Noting that Bangladesh ratified the CBD in 1994 and is obliged to comply with the conditions of the agreement he stated that the GBF will prove to be extremely beneficial for Bangladesh, as the outcomes can redirect initiatives towards biodiversity conservation. The Minister also noted that Bangladesh is preparing the National Biodiversity Strategy and Action Plan which will be the guiding principle of biodiversity conservation in Bangladesh. As required, the National Biodiversity Strategy and Action Plan is being formulated through a participatory approach and the Minister attended one of the 6 regional workshops along with government officials,

academicians, NGOs, researchers and bureaucrats. He noted a high level of awareness among the civil society and government counterparts. The Minister concluded by saying that environment and development are two sides of the same coin. Sustainable development will ensure sound environment and vice versa and management of natural resources should be the responsibility of not only the state but of every citizen.

The Chair **Mr. Shajahan Siraj** - *Honorable Minister for the Ministry of Environment and Forest, Government of the People's Republic of Bangladesh* - commenced his speech by welcoming everyone to the 3rd Regional Workshop of the Global Biodiversity Forum. He stated that, as the host country, Bangladesh is proud to accommodate the participants of the forum. The Minister noted that Bangladesh is a signatory to almost all Multilateral Environmental Agreements, including the Convention on Biological Diversity. Although the country is behind in fulfillment requirements under the agreements, a number of milestones have been achieved. Bangladesh is aiming to establish action plans to mainstream environment and development issues into the national agenda. The role of local resource managers as stewards of nature has been rightly recognized and the linkages between people and protected areas are being established. The Minister highlighted that environmental governance is a new but critical component of the natural resources regime in Bangladesh. He concluded by noting that the GBF is a timely event for assisting Bangladesh in understanding and addressing the poverty and environment nexus.

Mr. Sabihuddin Ahmed - *Secretary for the Ministry of Environment and Forest, Government of the People's Republic of Bangladesh* - welcomed everyone to the Third Regional Session of the Global Biodiversity Forum (GBF). He noted that the 16 global, 6 regional and 3 national sessions of the GBF have abridged more than 2900 individuals from the government, indigenous communities, NGOs, business, academia and private research institutions of 70 countries. The Secretary identified this GBF as an opportune venture for Bangladesh, as mainstreaming biodiversity in various sectors, policy development and implementation is impending. In terms of biodiversity initiatives, the Secretary noted Bangladesh as a forerunner compared with neighboring countries. The Secretary noted that the Government of Bangladesh implements a considerable number of projects and programs, citing the Sustainable Environment Management Programme, Sundarbans Biodiversity Conservation Project and Biodiversity Strategy and Action Plan Project to name a few. The need for

active participation of the people from all strata of the society to be consolidated into a unified effort towards the conservation of life forms on earth was emphasised.

Dr. Pisupati Balakrishna, - *Head, IUCN Regional Biodiversity Programme, Asia* - on behalf of the IUCN, welcomed everyone to the inauguration of the 3rd regional regional session of the Global Biodiversity Forum for South Asia. Referring to the Stockholm Summit on Environment and Human Development in 1972, and the recently concluded World Summit on Sustainable Development in Johannesburg, he highlighted the ongoing commitment of world leaders to addressing issues of sustainable development and environmental management in an integrated fashion. Dr Balakrishna referred to the Global Biodiversity Strategy, which was developed by the IUCN as one of the founding pillars for the development of the Convention on Biological Diversity (CBD). One of the recommendations of the Strategy is to provide an open discussion forum for different stakeholders to come together to discuss the issues of conservation action periodically. Joining hands with UNEP, WRI and a host of organizations across the globe, the Global Biodiversity Forum (GBF) became operational from 1992. With about 23 sessions of the Forum held so far, the GBF provides a platform for debate and discussion on a range of issues ranging from conservation to development.

Dr Balakrishna expressed his gratitude the organisers and co-organisers for their belief in the process and support and acknowledged the support from agencies like the Global Environment Facility (GEF) who are providing financial assistance for the events. He also expressed his gratitude to the Ministry of Environment and Forests, Government of Bangladesh for the invitation to host the event in Dhaka and to His Excellency the President to have found time to inaugurate the event.

Opening Plenary

Dr. Balakrishna Pisupati warmly welcomed the participants to the regional session of the GBF and provided an overview of the issues that were to be addressed and the expected outcomes.

He began the session by providing an overview of conservation issues and how development planning needs to mainstream environment and natural resources management. Citing the history of GBF, he mentioned IUCN's Global Biodiversity Strategy as the fore-runner for the CBD and how the Global forum suggested in the Strategy transferred in the GBF.

Mentioning the role and structure of GBF, he expressed the need for open discussion, exchange of experience as a way to success of GBF and reminded the participants that GBF outcomes are to be owned by all those involved.

Further, Dr. Balakrishna emphasised the relevance and need of integrating financial planning with conservation efforts and the issues of preparedness of the region to get involved in larger discussions on Trade, Intellectual Property Rights (IPRs), the TRIPS Agreement and development planning (eg Poverty Reduction Strategy Papers, Millennium Development Goals).

The Opening Plenary was concluded with a brief presentation on the themes, background to the selection of the themes and issues that are key for discussions. The expected outcomes as well as the ways in which the outcomes are expected to be used was also mentioned.

WORKSHOP SESSIONS

Workshop 1 - People and Protected Areas

One of the significant inputs from South Asia on issues of PA management has been that of the role communities play in managing and ensuring sustainability of protected areas in the region. Experiences abound on issues of community participation and impacts of protected areas on local livelihoods. This workshop brings together such experiences to discuss the ways forward in turning lessons learnt into action within and outside the region. The results are expected to feed into the forthcoming World Parks Congress discussions as well as the CBD SBSTTA 9 and COP 7 decisions, which all aim to identify ways for mainstreaming protected area management and livelihoods.

Highlights of Abstracts/Presentations

Sustaining biodiversity conservation and community development - a case study of three Community Conserved Areas out side Royal Chitwan National Park, Nepal.

Prabhu Budhathoki (International Centre for Protected Landscapes, University of Greenwich, UK)

Since mid 90's many forest patches outside Royal Chitwan National Park have been under community management. Local communities have been managing these forests based on multiple use concepts and have turned the areas into a lush green patch of forest harboring impressive numbers of endanger animals such as Rhino and tiger. These areas have been helping not only to offset tourism and resource uses pressures on the park but also to develop a sustainable financial mechanism for conservation and poverty alleviation at the local level. Eco-tourism activities have been a major source of community income. This paper examines the institutional and management mechanism of three community forests (Kumroj, Bagmara and Divapuri) adjacent to Royal Chitwan National Park and presents their contribution to conservation of biological resources and reducing poverty and enhancing livelihood securities for the local people. This paper also advocates the need and importance of community empowerment for recourse conservation, which is key to effective management of protected areas.

Eco-regional Planning for Sustainable Community Livelihoods
B M S Rathore (Forest Department, India)

An Eco-region is described as a unique landform, geo-morphological history, watershed, characteristic vegetation and wild life, agro climate and cultural content. Satpura Eco-region is characterised by its distinct landform, unique paleogeological history, characteristic forest & wild life (biogeography), watershed, agro climate and culture.

Eco-regions provide values/features to develop ecotourism, bringing in unexplored values and space to cater to tourist interest and avoid overcrowding. New values get harnessed including natural scapes outside PAs, herbal tourism, adventure tourism, cultivated landscapes and cultural elements of rural/tribal society. This helps in developing regional economies. For example, Satpura eco-region has strength of bio-diverse and organic agriculture, which needs to be converted into advantage for communities. Standard prescriptions across the state/ country hardly support upland communities with their indigenous seeds and farming practices. Organic products, traditional cuisines and agro bidiversity festivals could be a big incentive to eco-tourism as well.

The message is loud and clear: Development through Conservation - and conservation means sustainable use as well as protection and equitable sharing. Some key recommendation on Eco-regional Planning for sustainable community livelihoods are provided.

What makes participatory conservation area management work: An experience of the Annapurna Conservation Area Project of the King Mahendra trust for Nature Conservation (KMTNC/ACAP)
Gehendra Bahadur Gurung and Nar Bahadur Gurung (King Mahendra Trust for Nature Conservation/Annapurna Conservation Area Project, Nepal)

Participatory conservation is a dynamic process. This should be kept rolling. It has been adopted in different locations, for different communities under different circumstances, and has been working at different levels. The diverse experiences cannot be exactly adopted, however the experiences could be implicated and shared for better participatory conservation.

Established in 1986, Annapurna Conservation Area Project of the King Mahendra Trust for Nature Conservation (KMTNC/ACAP) is the first

protected area to initiate participatory conservation in Nepal. The experience of the KMTNC/ACAP over the last 17 years shows that participatory conservation helps to meet the needs of both nature and mankind possibly at a minimum cost. The experience shows that the local communities should have the decision-making authority on and management responsibilities for the surrounding resources, which have immediate values for their livelihood. One of the primary objectives of conservation should be meeting the basic and immediate needs of communities on a sustainable basis for which they are dependent on the resources. Their authority and responsibilities should be legally protected and supported. However their institutional capacity for conservation needs to be continuously upgraded. KMTNC/ACAP's experience also shows that a multiple land-use zone approach has become an invaluable tool for participatory conservation.

Innovations and application of participatory economic planning for conservation of biodiversity and water resources in the Knuckles Man and Biosphere Reserve, Sri Lanka

Anil Kumararathne, L.P.D. Dayananda, S. P. Ekanayake, C.N.B. Bambaradeniya and Ananda Wijesooriya (IUCN - The World Conservation Union, Sri Lanka Country Office)

The Knuckles Man and Biosphere Reserve, covering an area of approximately 17,000 ha, lies in central Sri Lanka, spanning the upland and highland peneplains. It is an important watershed, contributing to 30% of the catchment area of the river Mahaweli and supports a rich biodiversity, including many endemic and threatened species. Although the hill ranges remain as uninhabited wilderness, traditional human settlements occur along the narrow river valleys.

Project activities are implemented through active participation of buffer zone communities and the regional officers of the Forest Department. The main activities included social mobilisation and strengthening of village level CBOs for participatory conservation, livelihood improvements through promoting sustainable agricultural practices, community management of irrigation water through participatory rehabilitation of minor irrigation structures and promotion of alternative livelihoods through vocational training and eco-tourism. These main activities were implemented through a series of sub-activities aimed at capacity development, institutional strengthening and participatory monitoring. The project has enabled community involvement in conserving the forest to be

sustained through enhanced awareness, participatory decision making and a benefit sharing mechanism in which community benefits from eco-tourism. The lessons learnt from this project are of much significance to develop its next phase and will have a particular reference to the South Asian region as a replicable model.

Marine Biodiversity Conservation Programme: An Urgent National Need for Bangladesh

Anisuzzaman Khan and Ainun Nishat (IUCN-The Conservation Union, Bangladesh Country Office)

Bangladesh is proud of its marine window, the Bay, where more than an estimated 5000 species of wild flora and fauna constitute the marine biological diversity. Marine fisheries and mangroves are two important components of marine biological diversity, which are not only natural heritage, but also two important economic pillars of development to be sustainably exploited for the country. Based on some preliminary observations, it was reported that Bangladesh marine water supports 10 species of cetaceans, 100 species of seabirds and waders, 6 species of marine turtles, 8 species of sea snakes and 4 species of sea grass.

Both globally and regionally, a number of initiatives have been taken to conserve the marine biological diversity. At the national level, several projects were undertaken with a primary focus on the marine fisheries and coastal shrimp culture. Bangladesh has become party to the Ramsar Convention, CITES, Convention on Biological Diversity, UNFCCC and other ICTPs related to marine conservation. Bangladesh has also ratified the World Conservation Strategy and the Global Agenda 21. To meet both national conservation agenda and global commitment, it is an urgent need to develop a national marine biodiversity conservation program. Hence, this paper will present an outline programme which will include PAs, Livelihood and Co-management aspects of the marine biodiversity as well as biological resources.

Arvari Sansad (Arvari River Parliament) The Voice of Village community.

Ambuj Kishore and Kanhiya Lal Gujur (Tarun Bharat Sangh, India)

Arvari is a small river in the Alwar District of Rajasthan. The river had been reduced to a monsoon drain for decades, while the region was reeling under chronic drought condition. The process of rejuvenation of this river was started in the year 1987 by constructing a small water harvesting

structure called a johad (especially in the rural areas of Rajasthan). These johads have been seen to be beneficial, even during toughest drought conditions, both quantitatively and qualitatively to the livelihood of the rural poor and also because they have had a great impact on the economic conditions of the individuals by improving their standard of living. Many more villagers from different villages came forward and took the initiative to build more of such structures in their villages, reviving the traditional method of harnessing the rainwater. This will be an effort towards reducing poverty that emphasizes poor people to become self-reliant.

The Arvari Sansad (parliament) has been established and will make its own rules & regulation and laws looking at the people's needs and priority. According to them they will work towards the proper management and conservation of river water and everybody will abide by the decisions taken by the river parliament. We can see how village communities have been successfully managing the river water judiciously and with optimum utilization of the precious life saving common natural resource i.e. water.

Baghmara: An Alternative Model of Participatory Biodiversity Conservation and Sustainable Forest Management

Bishnu Prasad Aryal[1] and Prabhu Budhathoki[2] (1. Bagmar CF 2. International Centre for Protected Landscapes, University of Greenwich, UK)

Baghmara Buffer Zone community forest lies in the buffer zone of Royal Chitwan National Park (RCNP), in terai of central Nepal. With active participation of local people and the initiative of the King Mahendra trust for Nature Conservation, Baghmara has been established as a successful model of community based biodiversity conservation, social development and good governance. As the result of the continuous efforts of local people for protection, the degraded nude area was recovered with the green grasses and woodlands and the user committee decided to let each household harvest the grass. By this, we earned N Rs. 45,000.00 in a single year and we found various forest products in a reachable distance. The collected fund was used for irrigation, school building and river bank control and all of us were glad and enthusiastic about the return we got from our input. Plantation of various multipurpose trees was carried out in additional 20 ha of forest land in 1990. The DFO of Chitwan district praised the 6 year public effort with the handing over of forest in 1995. The ownership of forest later stimulated the users to protect and manage it with more allegiance.

Role of community in Co-management

Nar Bahadur Gurung (King Mahendra Trust for Nature Conservation, Nepal)

Each Village Development Committee (VDC) has a Conservation Area Management Committee (CAMC). The CAMCs and the Sub-committees are overall responsible for management of resources inside their boundary and mobilising the local people. The committees also observe the legal conditions related to biodiversity-conservation at the village level with emphasis on endangered and protected species of plants and animals. The Committees and sub-committees make decision on resources management issues by putting their traditional knowledge and technical knowledge from ACAP. The committee makes decisions regarding harvesting and collection of fuelwood, fodder, timbers, sands, gravels etc. Committee collects user's fees from the natural resources users. The fees are collected to a fund and utilised for conservation and development.

We have experienced that there is an increase in forest area and number of wildlife. The community can get the forest products more easily than before conservation. The village sanitation and infrastructure have been improved. It proved that collaborative conservation between the community, NGO (KMTNC/ACAP) and government is effective. It is envisaged that communities can bear more authority and responsibilities with more legal provisions to manage at the local level. But not only the villagers can do everything, there is a need for persistent collaboration from national and international agencies

A case study on impacts of fish conservation area managed by local community in the selected wetlands of Bangladesh

Md. Rakibul Haque, Md. Sharoar Jahan Tareq,M.Anisul Islam, Munjurul Hannan Khan, Anisuzzaman Khan, M. Moklesur Rahman, Rashiduzzaman Ahmed, Ainun Nishat (IUCN-The World Conservation Union, Banglaedsh Country Office)

About 50% of areas of Bangladesh are wetlands that support about 80% animal protein for people of Bangladesh. Wetlands are the depository of the fish and other aquatic resources. Haor (depressed water basin) covers about 10000 sq. km of Bangladesh and is situated in the north-east corner of the country. The people in the haor area of Bangladesh are firstly-dependent on one single crop of the year and the secondly- on the vast capture fishery. Over exploitation, encroachment in to wetlands for extension of dwellings and agricultural lands, siltation on to the bed of

wetlands and lack of policy for the management of wetlands lead to decreasing fish production and biodiversity.

A project entitled "Community based Haor resources Management Project" is being implemented involving the community in Pagnar and Sanuar-Dakuar Haor, in Bangladesh since 1998 to improve the haor ecology. Beels and connecting canals have been rehabilitated with active participation of community people.

Catches show that number of fish in the sanctuary is double (3009 nos) compared with the control sites (1418 nos). This paper will discuss the impact of fish conserved areas in enhancing the fisheries production and diversity in degraded wetlands.

Pastoralism, Protected Areas and Domesticated Bio-Diversity
P. Vivekanandan, Vasamalli, Muthaiah, Balasubramanian (SEVA India)

In India pastoral communities are preserving domestic animal biodiversity through their way of life in tune with local ecological situations. In marginal environments local livestock breeds are crucial for sustaining rural livelihoods. These breeds provide a wide range of products of value to local people. These animals require relatively low inputs in terms of fodder, management and health care compared to cross breed animals. The pastoral communities are facing problems in India such as Raika Pastoralism in Rajasthan are forced to sell their camels (including female ones) at the rate of 100 - 150 animals daily for slaughtering at Meerut. (in turn this meat is exported to Gulf countries) and "Malaimadu / Pulikaulam / Umbalachery" cattle herders in Srivillipithur region of Tamil Nadu are sending their animals to Kerala - Slaughter houses and their 12,000 animals are under threat.

The root cause of their problems is attributed to Government policies including:

- No representations of herders or pastoralists in VFCs (Village Forest Committees)
- Protected areas / JFM planted sites are not re opened even after 3 - 5 years of closing; it leads to bribing for illegal entries.
- Traditional Grazing sites are not recognized and it affects eco friendly rotational Grazing System practiced over centuries.

Community Conservation Initiatives in Tehri Garhwal
Vijay Jardhari (Beej Bachao Andolan (save the seeds movement) India)

In the Garhwal Himalaya (situated in the state of Uttaranchal, India), lies the district of Tehri. Natural resources are precious here and people's livelihoods depend on them. The valley and its people have traditionally been involved in sustained environmental protection and conservation initiatives. The major influence came from the Chipko (Hug) movement initiated in the 1970s and 1980s where the local people (with the women in the forefront) resorted to hugging trees to prevent them from being felled by the contractor. This paper describes three conservation initiatives that have been led by local communities in the region.

The first initiative is from village of Jardhar that had lost most of its forests by the 1980s. It was at this time that many local community members, deeply influenced by the Chipko movement felt the forests could only be revived if the communities themselves took some initiative. Thus started the long and arduous campaign of forest protection. Once the people were convinced of the revival of these forests, enthusiasm knew no bounds. Today, the village has an established Forest Protection Committee. The paper describes in detail how the "Save the Seeds Campaign" was initiated in Jardhar. The author has been actively involved in all the three initiatives described in the paper.

Terai Arc Landscape: A New Paradigm in Conservation and Sustainable Development
Chandra P. Gurung (WWF Nepal Programme, Nepal)

Although local communities have managed their natural resources for centuries with their knowledge and tradition, modern conservation initiatives began when Royal Chitwan National Park, Nepal's first National Park, was established in 1973. After 13 years, the first community-based conservation project, the Annapurna Conservation Area Project (ACAP) was established, which was a watershed in Nepal's conservation history because ACAP has proven that without local communities, large-scale conservation is not possible. Since then three more protected areas have been established all in the same model. In three decades, Nepal has established 16 protected areas covering 18 percent of the total landmass. However, park-people conflict has continued with the increasing incidences of wildlife depredation both for crops and livestock. Therefore, a new conservation approach has become imperative on a landscape level.

The Ministry of Forests and Soil Conservation and the WWF Nepal have implemented the first landscape level conservation, the Terai Arc Landscape (TAL) since July 2001. The TAL aims to address development of forests corridors that will connect 11 protected areas of Nepal and India, which will allow the dispersal of wildlife. Simultaneously, livelihoods issues of the local communities have been addressed thereby people and wildlife can live in harmony.

Recommendations

The GBF workshop on Expanding the Boundaries of Conservation: People and Protected Areas focused on the how conservation policy and practice in the countries of the region could be made more participatory, especially with regard to local communities.

The main focal areas of discussion were:

- The need to move officially designated protected areas towards collaborative management, as already taking place at a number of sites;
- The need to recognise and support community initiated conservation, including sites and species that are protected and/or sustainably managed by communities;
- The need to move towards larger scales of conservation, through landscape, seascape, or ecoregional approaches;

The above were centred around and illustrated by a series of case studies of co-managed protected areas and community conserved areas, and cases of the upscaling of such initiatives towards a larger land/seascape level, in five countries of the region. Discussions were also held on the trend towards progressive laws and policies in the region.

Participants agreed that the term 'conservation' should explicitly include protection of ecosystems and species, and also their sustainable use. They also agreed that the term 'communities' be defined as groups that have an ethnic identity (or multiple, related ethnic identities), a commonality of interest in a set of natural resources, and a geographically defined territory. Such communities should constitute the basic socio-political decision-making unit, for which they should be of a size that facilitates convenient and effective decision-making involving all members and respecting each member.

A number of critical issues emerged from these case studies and analytical discussions. These issues point to the need for defining a set of "good governance" principles, including those contained in the following recommendations.

These recommendations are being made to both national and international forums, including the World Parks Congress, and the Convention on Biological Diversity (in particular its 7th Conference of Parties).

Broad national and international framework:

Countries of the region need to move towards more *participatory policies and practices of conservation and natural resource management*, that support a shared vision of all main stakeholders. Policies and practices that alientate, disempower, and endanger communities having a traditional relationship with the ecosystems/species being conserved, need to be urgently replaced. This should in particular be through the following measures:

1. Collaborative management of officially designated protected areas, through equitable sharing of decision-making powers with local communities;

2. Recognition of the broad range of community conserved areas and species that exist or could potentially be created;

These measures also need to be supported by *relevant international regimes* and systems, including through the following:

1. Broadening the scope of the IUCN Protected Area Categories system to include Community Conserved Areas, encouraging the recognition of communities as legitimate governing agents;

2. Including Community Conserved Areas in the United Nations List of Protected Areas, the Global Database on Protected Areas, and the State of the World's Parks Reports (as already initiated through the IUCN's World Commission on Protected Areas);

3. Centrally incorporating collaborative management of protected areas, and community conserved areas, along with the various issues given below, in the Programme of Work on Protected Areas, of the Convention on Biological Diversity.

The above measures also need to be placed within the context of *planning and management at larger landscape and seascape levels* in each country. This corresponds also to the focus on the Ecosystem Approach of the Convention on Biological Diversity. Such larger landscapes and seascapes could encompass protected and conserved areas managed by various stakeholders, and other land/water uses including wilderness and agriculture. Such an approach would include the need to:

- Define the land/seascape based on ecological, cultural, physical features
- Plan at various levels, mainstreaming biodiversity into the planning process at all these levels
- Mechanisms to ensure security of livelihood/survival resources for communities in entire land/seascape, e.g. access to water, biomass...like land/seascape level dialogues, consultations, landscape level institutional structures (e.g. river basins, ecoregions), awareness programmes, yatras/marches/rallies, and so on
- Creating regional economies based on diverse biological resources from natural habitats and agricultural systems, tourism, value-added enterprise, and others
- Ensuring ecological integrity of entire land/seascape
- Linking local to larger land/seascape institutions

Specific points:

i) Recognition of CCAs in national and international systems, including in laws and policies; such legal regimes should be oriented to facilitate participatory conservation, and to support secure communal resource and land tenure.

ii) Laws and policies to facilitate participatory conservation in existing PAs to move towards CMPAs/CMCAs, including:

- moving away from total exclusion and no-use regimes, including wildlife as a resource, where ecologically appropriate;
- sharing management powers, rights and responsibilities
- equitably sharing benefits, e.g. revenue, usufruct resources
- recognising customary laws/rules, and institutions/mechanisms relevant to natural resource conservation and management

- authorising fund-raising by local institutions for such purposes
- spelling out the responsibilities, roles, duties, mutual accountability, formal agreements (where appropriate), and other such details relevant to communities, government and other stakeholders

iii) Inclusion of CMPAs, CCAs, and other participatory approaches in Environmental Management Plans, National Biodiversity Strategy and Action Plans, wetland/coastal management plans, National Conservation Strategies, and other such national level documents.

iv) Encourage, generate, and enhance sustainable livelihoods, especially related to:

- Biological and other natural resources, including non-timber forest produce, aquatic resources, and others
- Tourism, which is ecologically sustainable and culturally sensitive, where its management and benefit-sharing is community-based, and where visitors are oriented towards the ecological and social attributes of the area

v) Equity (incl. gender) issues need to be addressed:

- Benefit-sharing: revenue and employment, access to livelihood and ecological resources/services (including biomass and water)
- Cost-sharing, to offset the indirect costs of conservation borne by communities...compensation, other means
- Authority, rights and responsibilities
- Participation of women and other disprivileged sections in community and co-management institutions, including at all levels of decision-making

vi) Empowerment, including:

- Resource and tenurial rights and security (custodianship, user/usufruct rights, right to exclude outsiders if threatening local security, and so on...but not the right to alienate)
- Right to credible, usable information as a pro-active
- Financial empowerment
- Decentralisation of decision-making and devolution of authority
- Political empowerment, while avoiding the pitfalls of politicisation that is destructive of local community functioning and unity

- Right and capacity to take decisions on development projects and processes that affect their lives and resources
- Autonomy to decide about local institutions, local rules, financial management, and so on ("self-rule")
- Self-esteem, respect, and dignity

vii) Institutional mechanisms:

- Build on existing community institutions, assess their current and potential capacity, and create new institutions only where existing ones cannot perform desired functions
- Ensure equitable participation of all members of a community in the relevant institutions, with special focus on disprivileged sections
- Link community conservation institutions with other village institutions, and reduce multiplicity of institutions especially those introduced from outside
- Link community institutions with NGOs, donors, and other stakeholders
- Link different government agencies together (inter-sectoral coordination), and with local institutions

viii) Conflict resolution:

- Inter-community (incl. resident and nomadic communities, neighbouring communities, various resource users)
- Intra-community (including gender, class, caste, religion, and so on)
- Human-wildlife
- Community-other stakeholders (including state, corporate, and so on)

ix) Building on traditional knowledge, institutions, laws/rules etc. supplemented with appropriate modern knowledge, institutions, laws/rules.

x) Ensuring sustainability of:

- community and co-management institutions
- leadership
- financial and human resources
- ecosystems and species
- cultures/communities, traditional practices, indigenous/traditional knowledge, and survival of entire ethnic groups/communities

xi) Providing support and incentives to CMPAs and CCAs, including:

- Human, technical, and financial resource support
- Support against destructive developmental projects and processes, and for strengthening alternative developmental processes that are ecologically and culturally sensitive
- Support against outside vested interests
- Social rewards and recognition
- Rewards and incentives to report illegal activities
- Rewards/compensation/payment for providing environmental services off-site
- Macro-economic measures including appropriate taxation on tourism, industry, and other sectors; subsidies for ecologically sensitive land/water uses rather than ecologically destructive one; support to sustainable trade in natural resources
- Interim support to avoid pressures on adjacent areas while community initiatives are gaining ground
- Appropriate technological inputs

xii) Capacity building mechanisms, amongst communities, to:

- obtain and use information
- protect and sustainably manage biodiversity
- use/obtain appropriate technologies
- pro-actively participate in decision-making
- enhance livelihoods
- facilitate the environment to develop leadership amongst disprivileged sections
- raise and manage finances
- achieve consensus-based and participatory decision-making
- deal with threats arising from inappropriate develoment projects and processes

xiii) Capacity building amongst government functionaries and NGOs, to:

- work with communities
- obtain and use information and technologies
- mobilise resources
- conserve and sustainably manage biodiversity

xiv) Education and awareness of a range of other stakeholders, on participatory conservation issues

xv) Research, documentation, and dissemination

- Ecological, economic, and social impacts of CCAs and CMPAs
- Best and worst case studies: why did they succeed or fail?
- History, process, dynamics (including conflict-resolution) of community based initiatives

xvi) Participatory monitoring and evaluation of initiatives

xvii) Networking and exchange in S. Asia, including:

- Sharing of knowledge and experiences at horizontal and vertical levels
- Sharing of knowledge and experiences across regions and countries
- Exchange visits of communities, government functionaries, NGOs, and others
- E-groups on various issues
- A regional centre for exchanging knowledge and experiences amongst countries

xviii) Transboundary conservation within a country (e.g. inter-state), and between countries, to involve a range of stakeholders including relevant govenrment agencies, local communities (including nomadic communities or those that straddle both sides of a border), and others.

xix) In the case of existing PAs, relocation, where voluntarily accepted by communities as part of a full consultative process on collaborative management planning including ecological/cultural/economic issues, to be carried out without delays, and should include the right of relocated people to resources/benefits from PAs and other benefits on a priority basis.

Workshop 2 - Sustainable Development and Livelihoods

With the adoption of Millennium Development Goals of the UN, outcomes of the WSSD and the relevance of the work programme of CBD, countries are beginning to address issues of sustainable development and livelihoods with an aim to reducing poverty and enhancing livelihood securities while conserving the environment. Experiences from the region show multiple levels of impacts based on local actions. Some of these are already recognized by the Equator Awards during 2002. This theme focuses on learning from experiences and how to ensure lessons learned are replicated and used in policy and decision-making as well as in addressing issues of sustainability of such initiatives. The outputs are expected to influence global policy by recognizing local action, steer conservation organisations' thinking on mainstreaming issues of development and livelihoods as well as contributing to achieving the CBD's target of reducing the rate of biodiversity loss by 2010.

Highlights of Abstracts/Presentations

Preserving Our Future: Biodiversity and Sustainability in the Asia Pacific Region
Seema Joshi (Equator Initiative UNDP Bangkok, Thailand)

The Equator Initiative aims to bridge the gap between the micro and macro and is well suited to undertake biodiversity conservation and poverty reduction activities. It is unique in bringing together United Nations, governments, foundations, civil society and, soon, in its expanded form, business sector partners. An entrepreneurial model has been adopted to ensure a speedy, innovative and efficient manner of operation. The Equator Initiative seeks to promote a worldwide movement to reduce poverty along with the conservation, sustainable use and equitable sharing of benefits from biodiversity.

In 2002, 6 finalists were selected from four countries in the Asia Pacific region to receive the Equator Prize. One of the objectives of the Equator Initiative is to explore how the lessons learnt and practices adopted from these leading practitioners, can be used to inform the development of biodiversity conservation polices and, in turn help to achieve the Millennium Development Goals. An objective of the Sustainable

Development and Livelihoods Workshop is to explore areas of interaction between community informed biodiversity policies and the identified targeted goals referred to as the MDGs. Areas of interaction that may exist between biodiversity and these goals, include among them: poverty & hunger (MDG 1), for example the need for good governance and pro-poor growth opportunities leading to benefits for the poor; health (MDG 5), manifested through biodiversity's contribution to medical research and food production; linkages between biodiversity & environmental sustainability (MDG 7); and, the creation of conditions for effective global partnerships for development (MDG 8).

GLOBE - Global Legislatures Organisation for Balanced Environment

K.M. Khan. M.P. (President GLOBE South Central Asia, India)

GLOBE is an oganisation of parliamentarians working to develop a balanced environment across the world. GLOBE stands for "Global Legislatures Organisation for Balanced Environment". GLOBE International is headed by US Congressman H.E. Mr. James Greenwood, as its President. We have 1000 members in 100 countries. In Bangladesh GLOBE is headed by H.E. Mr. Akhtar Hamid Siddiqui, the Deputy Speaker of Bangladesh National Assembly. GLOBE is a NGO, which is exclusively engaged in environmental work, and it has nothing to do with politics. The membership is based on an individual basis.

GLOBE was formed in the year of 1989 by certain members of Parliament belonging to developed countries like USA, Canada, UK, European Union and Japan. Now, GLOBE membership is extended to developing countries like Bangladesh, India, Sri Lanka, Thailand, Philippines, South Africa, Ghana and Tanzania. The main task before GLOBE is to educate people on environmental issues, since the parliamentarians are the elected representatives of the people and they can play the role of a catalyst between the people and the Government. It is more important, since poverty alleviation programmes of National Governments and environment are linked to each other. No development activity can be successful if the environment is neglected. Therefore, parliamentarians are supposed to play an important role to influence the policy makers on environmental issues for the success of developmental programmes in their respective countries.

GLOBE believes that capacity-building, awareness and education are the pillars of development. We need to build-up an infrastructure at Governmental and non-Governmental (NGO) levels to achieve the targets in the above field. Moreover, South Asia suffers from extreme poverty. Therefore, unless we ensure that the awareness is created and capacity is built to undertake poverty alleviation programmes through the protection of environment, it is not possible to achieve sustainable development.

Sustainable Development, Livelihoods and Climate Change
Bhujangarao D Dharmaji (IUCN-Regional Biodiversity Programme, Asia, Sri Lanka)

Climate Change enhances the vulnerability of local communities not only affecting their health and livelihoods, but also undermining growth opportunities critical for poverty alleviation. The impacts of climate change will be felt more in developing countries as it will significantly aggravate water stress, reduce food security, displace millions of people and increase transmission of vector borne diseases such as malaria and dengue.

Climate change is predicted to have both direct and indirect adverse effects on developing countries and economies in transition as it poses grave challenges to sustainable development and to achieving reductions in poverty levels. This paper seeks to find options and opportunities to mainstream climate change into various development goals such as Millennium Development Goals (MDGs) of United Nations, and the Water, Energy, Health, Agriculture Biodiversity (WEHAB) initiative of World Summit on Sustainable Development (WSSD). The paper also attempts to address issues that enhances the synergies between multilateral environment agreements with an overarching objective of reducing poverty by enhancing the resilience of poor communities

Sustainable management of mangrove wildlife sanctuaries - Needs policy commitment for an integrated multistakeholder approach
T. Ravishankar, R. Ramasubramanian, D. Sridhar, N. Sreenivasa Rao, M. Jeelani, M. Maqbool and N. Sheriff (M.S. Swaminathan Research Foundation, India)

Community participation is the key to sustainable management of biodiversity including mangroves, which are degrading due to hydrological and geomorphologic changes as well as anthropogenic pressures and past management practice of coup felling. Difficulty in the management of

these mangrove wetlands was due to a lack of technical knowledge on the causes for degradation and no alternatives were provided to the dependent community by the management agencies. In this connection a multistakeholder community participated in the development of a Joint Mangrove Management (JMM) model which was implemented in the Godavari and Krishna mangroves. This involved eight villages having traditional leadership. JMM envisaged both technical and livelihood activities like formation of mangrove conservation councils namely Eco Development Committees (EDC) and Vana Samrakshana Samithi (VSS), gender mainstreaming, joint preparation and implementation of microplans for socio-economic development and management of mangroves by the community, NGOs and Forest Department together. JMM guidelines were submitted to Government of India for policy intervention for sustainable management of mangroves integrated with socio-economic development.

The mangrove forest is getting degraded due to technical reasons such as reduced river water flow, geomorphological and hydrological changes and anthropogenic pressure. The past management practice of coup felling was also one of the reasons for degradation of mangroves. Causes for degradation were identified and an area of 520 ha of degraded mangroves were restored by studying the geomorphology and tidal amplitude, based on which the canal dimensions were determined to facilitate river water flow and tidal influx. The first and foremost result of restoration was arresting further degradation. As hyper-salinity conditions were brought to hypo-saline conditions, natural regeneration took place in addition to the plantation of nursery-raised saplings. As a result, crab population also increased due to increased the moisture regime, which is fetching an income for local people. The community has been organized and mobilized to manage an area of 9,442 ha of verdant mangrove forest, including the restored areas, as Mangrove Management Units (MMU). Training on restoration methods was conducted for the staff of the forest department, NGO and local community. As a result of the training, an area of 150 ha has been restored by the local NGO's following the JMM model.

Traditional Knowledge & Folklore
Sudershan Kumar (National Botanical Research Institute, India)

Traditional Knowledge Systems (TKS) or Indigenous Knowledge Systems (IKS) are unique to a given culture or society. They are a result of co-evolution and co-existence of indigenous cultures and their traditional resource use. For the Kani Tribes in India, TKS/IKS is the community-

based functional knowledge developed, preserved and maintained over many generations by the local and indigenous communities through their continuous interaction, observations and experimentation with their surrounding environment.

This presentation looks at TKS and legal and policy frameworks such as the UN Convention on Biological Diversity (CBD) and World Intellectual Property Organization (WIPO)/World Trade Organization (WTO) and considers the fundamental conflicts between CBD and the TRIPS Agreement. The Kani experiment is discussed as a case study in India on Benefit Sharing with tribal communities, demonstrating the fact that IPR system can help tribal communities in many ways. The case study on the 'Kani' tribe indicates the path to follow in the creation of value-added products and sharing the benefits equally with all the stakeholders

Tribal communities Of Jeypore Tract
Bibhu Prasad Mohanty (M.S,Swaminathan Research Foundation, India)

This study focuses on the area of Orissa, India, which is a region that is famous as one of the centres of origin of rice. Food security in Orissa is influenced by factors including availability, quality, production, and management of seed; availability, quality, production, and management grain; of access to seed, grain; knowledge of production and information etc and food policy and public distribution system. Major innovations in the area have included the establishment of a community gene-seed-grain bank continuum to ensure both food security and biodiversity conservation. In areas of water scarcity, water banks have also been established to promote community water harvesting. Market linkages to integrate livelihood security with ecological security have also been created. Creating an economic stake in conservation for indigenous communities has been achieved through value addition, market linkage and recognition and reward. This includes recognition by Equator Initiative Award 2002, Plant Varieties Protection & Farmers' Rights Act, 2001, Biological Diversity Act 2002.

Medicinal Plants Project, Maharashtra
Medicinal Plant Conservation Centre Pune, India
Hariramamurthy and Kasturi C (Medical Plants Conservation Park, India)

Medicinal plants are facing serious threat due to incessant biotic pressure and destructive harvesting. There is need to preserve the gene pool of medicinal plants in wild. The selection, demarcation & notification of 13

Medicinal Plant Conservation Area (MPCA) sites has been completed in Maharashtra.

The project includes the following elements and outputs:

- Training Programme for Bare Foot Botanists (Bare Foot Botanist is defined as a local person rooted in the locality who has good knowledge of the flora). The training programmes aims to make BFBs aware of medicinal plants and their conservation, introduce herbarium techniques, teach botanical names corresponding to the local names.
- Vaidu sammelan - Documenting Traditional Knowledge
- Conservation Education including nature trails, demonstration plots, posters and collection of plant material
- Community Activity including nurseries of medicinal plants, preparation of herbal face pack, preparation of bamboo artifacts, collection of seeds and fruits of medicinal value and their sale from out side of MPCA

This project has resulted in the protection of MPCAs by communities through activities such as patrolling of MPCA in Sawarna to prevent activities such as illicit liquor brewing in the MPCA, illegal trading of Narkya (a red-listed species) and grazing control.

Fiji Locally Managed Marine Areas (FLMMA) Network
Sunia Waquainabete and Emali Vitilevu Caucau (FLMMA, Fiji)

The key objective of the FLMMA is to create a network of LMMAs (or MPAs) within the 410 qoliqolis across Fiji's inshore. Fishing ground owners and users stand to benefit greatly from processes of fishing ground management advocated by FLMMA. The FLMMA network supports the shared vision for healthy ecosystems and communities, abundant marine and fish stocks and sustainable fisheries utilization, protected marine biodiversity and sustainable development in coastal communities. This can be achieved through an understanding of what communities are doing and can do in managing marine areas and an understanding of ecological and socio-economic responses to LMMA and coastal management implementation.

A case study was provided of the Bai kei Votua project, which involves Votua village and two neighboring ones (Nawaqarua and Natutu). Votua village has approximatey 1200 resident and non-resident population and the total area of fishing grounds accessible to Votua residents is 1347.5 sq

Km. The area protected and/or actively managed is 65.8 sq Km which is about 5% of the i qoliqoli. A method of Participatory Learning and Action (PLA) techniques was used for identification of critical issues relating to marine resource use and training in the use of basic scientific monitoring equipment. A major scientific baseline survey of the marine biodiversity and other environmental parameters in the Votua Fishing grounds was carried out and monitoring is conducted every six months over three to five years.

The new changes in the whole management of the Qoliqoli, including the establishment of "tabu" zones have been widely publicised in Ba Town, and individually to the current license holders. Community Cohesiveness has been an important outcome of the project for nurturing better understanding and cooperation between the local communities that have fishing rights at Votua, and the commercial fishermen who wish to fish in the qoliqoli.

Using Agro-biodiversity and Livelihood Discourses
Farhad Mazhar (UBINIG, Bangladesh)

Agro-biodiversity and Sustainable Livelihood (the original theme assigned to me) is like discussing water and oil together, partly because the first one has roots in ecological movement and the second in the destructive consequences of global capitalist system. Sustainable development is a framework to continue with the existing system and to dress the brutality of the unequal global economic system. Sustainable livelihood is the by-product of the same.

The ecological movement has been challenging the economic growth and production paradigm and therefore has a different history from the history of sustainable development. To present a coherent paper in order to demonstrate the impossible task of mixing water in the oil, is not what I intend to do. It is not that it is not possible to discuss agro-biodiversity in economic terms or economy in the ecological terms, but that the interconnection, convergence and contradiction between the ecological science and economic discipline are still at a very premature stage. Therefore, this presentation will simply highlight some issues derived from my experience in the field of ecological agriculture and reflected separately on an official notion of "sustainable livelihood".

Biodiversity study of the small indigenous fish species (SIS) of Bangladesh through market analyses with sustainable livelihood approach of the fisherfolks

Mostafa A. R. Hossain (Department of Fisheries Biology and Genetics, Bangladesh Agricultural University, Bangladesh)

The availability of SIS declined in a great extent over the years and many of them are either rare or on the verge of extinction. The supply of SIS in the market is mere 25% of the total fish supply. The dominant species are tengra, koi, shing, punti, magur and tarabain. The SIS least supplied in the market are mola, dhela, darkina, kajoli, pabda, meni, rani, chapila, bacha, gaura and batashi. In general now-a-days, the retailers can sell SIS with an approximately four fold increase in price compared with the price five years back. The low supply and high demand makes some SIS like mola, pabda, dhela very expensive. The price of SIS, in many cases, is higher than the large fishes (large catfishes, exotic and Indian major carps and hilsa), however, very erratic (Tk 10-300 Kg-1) and depends on several factors like day-to-day supply, demand and freshness of fish.

The main source of SIS are ponds, canals, ditches, flood plain, haor, baor and river. There is a great seasonal and regional variation in the supply and type of SIS all over Bangladesh. The peak harvest season of riverine SIS is November-December. SIS from the floodplain comes to the markets between May and December with a peak in October-December. SIS from other water bodies are harvested between January and April. Low income, lack of capital, very poor or no preservation and processing facilities, uncertainty in SIS marketing and pricing system, very poor educational background and ill health are among the main problems of the livelihood of SIS retailers.

Livelihood Improvement through Community-based Conservation and Sustainable Use of Medicinal Plants in Sri Lanka

Ranjith Mahindapala (IUCN - The World Conservation Union, Sri Lanka)

In Sri Lanka, a traditional system of health care has been used for over two thousand years. Over 1,400 plant species are used for this purpose of which 200 are commonly used, and 50 are heavily used. Nearly 80 species, including some endemics, are now threatened due to increased local use and export. There is thus a great strain on the natural plant populations requiring urgent action for their conservation.

For this purpose five Medicinal Plant Conservation Areas (MCPAs) in different agroclimates were demarcated in 1998, adjacent to natural forests which harbour important medicinal plant species. Each MCPA consists of about 10 villages, and has a demonstration garden, a processing center, a dispensary, and an information center.

In situ conservation relies heavily on the active participation of communities abutting the forest, who are poor and depend on non-timber forest products. They have been mobilized with concerted awareness programmes. Thirty-six Village Project Management Committees (VPMCs) have been formed to implement project interventions. The VPMCs are legally registered, and have developed a 'micro-plan' using PRA/PID techniques. The activities involve income generation to address conservation issues on habitat destruction. A revolving fund has been established to commence income-generating activities and to provide minor loans to members.

Establishing nurseries and germplasm collections, cultivation, and research on agronomy complements in situ conservation. Preservation of traditional knowledge is addressed by introducing a legal framework to safeguard traditional knowledge, transcribing ancient palm leaf writings, and attaching acolytes to elderly traditional practitioners for apprenticeship.

Valuing Habitats in the Floodplain Areas of Yamuna River in Delhi Corridors

Pushpam Kumar (Institute of Economic Growth, University of Delhi Enclave, India)

Yamuna river corridor region is approximately 6.5 % of the total area of Delhi. Of the total stretch of the river corridor present in Delhi, the twenty-five kilometers stretch extending from Wazirabad to Okhla is perhaps the most threatened riverine ecosystem in the world because of the immense anthropogenic pressures on this riparian habitat. This river corridor region has been continuously confronted by encroachment and conversion of land for various commercial purposes threatening the very existence of its associated wetlands.

Most of the land use and developmental planning has neglected the "economic value" of the ecological functions and benefits that are provided by the wetlands to urban society and local inhabitants on a sustainable basis. Moreover, due to characteristic position of these wetlands in the landscape they have a critical role in the urban ecosystem

of Delhi particularly with respect to ground water recharge. The Yamuna floodplains and the wildlife in Okhala bird Sanctuary (in fact the sanctuary exists because of floodplains) provide huge recreational benefits in Delhi region but the nature of these functions is such that the markets do not capture them and for that reason some other special techniques are needed. Standard ecological survey techniques were used to prepare a detailed checklist of the flora and avifauna in different seasons. Based on the field surveys 115 plant species belonging 27 different families were identified and categorized. Different plant species of ecological and economic significance from the floodplain area have been identified. Avifauna of the study area is represented by 97 species of birds, of which 56% are migratory and are covered under the international conventions.

Recreational values of wetland are often the most readily recognised wetland values. Recreational uses may include sightseeing, hiking, fishing, hunting, swimming, canoeing, photography, wildlife observation and picnicking (Bardecki 1984). The contingent valuation method (CVM), a survey method, was used to assess people's preferences for non-market, wetland resources. Net benefits were estimated by asking people directly how much they value non-market goods. CVM, a stated preference method, is an alternative to other indirect valuation methods, which estimate the value of resources by using market data (i.e., revealed preference method). To study the recreational activities and wildlife functions of the floodplains the contingent valuation method (CVM) is used. With the help of a CVM questionnaire a survey was conducted in the households within an 8-Kilometer radius of floodplain area, and included questions regarding both habitat and recreational values. A sample size was chosen to obtain a usable response of at least 493 households. The value of recreation and wildlives varies between Rs.155.82 to Rs.277.75 lakh per annum. The mean value comes out as Rs.216.785 lakh per annum. The range reflects different model specification and assumption.

Suasive Strategy for in-situ Conservation of Biodiversity in Sri Lanka
Leel Randeni[1], Sujith S. Rathnayake[2], P R Attygalle[3], Champika S Kariyawasam[4] (1Ministry of Environment and Natural Resources, 2,4 Biodiversity Secretariat, Ministry of Environment and Natural Resources 3 River Basin Planning & Management Division, Mahaweli Authority of Sri Lanka, Sri Lanka)

Sri Lanka's cultural diversity is closely inter-link with its rich biological diversity. This relationship nourishes the strong traditional knowledge base

related to the environment and a long-standing commitment to nature conservation, dating back to ancient times. However, the use of traditional knowledge went to wilderness when modern tools of environment conservation were give to people that were more attractive than the traditional knowledge. It is a question of sustainability. Therefore, many future development goals have given the highest attention and recognition to the wider use and application of traditional ecological knowledge based tools in terms of natural resources management systems, that provide effective alternative strategies for conservation and sustainable use of natural resources.

Currently, in-situ conservation of biodiversity in Sri Lanka heavily depends on the command and control methods. However with the weak implementation of government policies, plans, strategies and legal instruments is questionable the effectiveness and sustainability of this strategy is questionable. The use of economic instruments for biodiversity conservation is also being poorly addressed. In the above context traditional knowledge- based for people-oriented suasive instrument or a combination of these would be effective for nature conservation in Sri Lanka. Since the anthropogenic pressure is one of the major courses for the depletion of Biodiversity, integrating the people's aspiration and their motivation is needed to develop sound policies and strategies to conserve biodiversity for sustainable utilization.

Macroeconomic Dimension in Biodiversity Management for Sustainable Development in Sri Lanka

H.M.V.Herath and I.H.K.Mahanama (Natural Resources Management Division, Ministry of Environment and Natural Resources, Sri Lanka)

Sri Lanka is a one of Biodiversity hotspots among the 18 Biodiversity hotspots in the world. It has been moving towards a fully liberalized economy with practice of intensive structural adjustment policies and widening the openness since 1978. Therefore, application of market economic tools in management of Biodiversity is very important. Government interventions are accepted as essential roles played by the government in debate of interventionist and non-interventionist or less interventionist schools of thought in Macroeconomics. The design, introduction, implementation and monitoring of incentive system for conservation of Biodiversity is very central for the application of Macroeconomics tools in Biodiversity conservation while addressing other issues such as poverty alleviation and income distribution.

Forest cover in Sri Lanka as a percentage of total land area was 44% in 1956 and it is 22.3 % at present. But, forest cover percentage in the wet zone of the country, where endemism is the highest, is 15%. The forest cover loss in the past 45 years has been averaged to 30000 ha per year. The population in the country is 19 million and total land area is 65600km^2. This means that per capita land resource is 0.0035km^2 per person, which is the lowest in Asia. This which in turn reflects the degree of population pressure to forest cover to use for other uses. The latest Biodiversity assessment revealed that 560 plant species, 117 land snail species, 43 crustacean species, 70 gragon flies species, 76 butter fly species, 39 fish species, 33 amphibian species, 87 reptile species, 61 bird species, and 34 mammal species have become threatened or highly threatened in Sri Lanka.

Sustainable Development and Livelihoods: Impacts of Conservation and Management of Aquatic Genetic Resources and Ecosystems in Bangladesh

M.G. Hussain and M.A. Mazid (Bangladesh Fisheries Research Institute, Bangladesh)

Both environmental and human-influenced catastrophes are mostly responsible in recent times for bringing profound alterations in the existing fresh, brackish and marine water ecosystems in Bangladesh. The concomitant effect has been the gradually progression of the situation towards drastic and potentially disastrous and irreparable losses of fish and other aquatic biodiversity. As a result, some valuable natural aquatic resources are already in danger of genetic erosion and extinction. At the same time, the dependency and livelihood of the people involved with these resources have severely been threatened and affected.

Presently, formulation and implementation of strategies and policies for conservation and sustainable management of such degraded aquatic ecosystems have been immensely felt along with generation and wider application/dissemination of suitable aquaculture and management technologies. These management technologies are obviously expected to ensure the conservation of aquatic genetic resources and restoration of part or most of the lost livelihoods of the people in the country. This paper outlines and focuses all those issues and emphasizes the future need for development and implementation of policies/regulations at the national level, before it becomes too late to conserve the valuable aquatic resources and the ecosystems.

Fisheries Biodiversity Conservation in Two Floodplains of Bangladesh
Anisur Rahman[1], Shafiqur Rahman[1], A R Mollah[1] and Ainun Nishat[2] and Rashed[2] (1 Nature Conservation Management (NACOM) 2 IUCN-Bangladesh, Bangladesh)

With a view to conserve fish diversity and enhance fisheries production Participatory Fisheries Management Action Plans were developed and implemented, separately, for Arua floodplain, Shibalaya, Manikgonj and Boka Beel floodplain, Trishal, Mymensingh, Bangladesh, with participation of local people. The planned interventions includes establishment of fish conservation areas (fish micro-sanctuaries), re-introduction of some locally extinct and endangered fish species, opening up of fish migratory channel, and most importantly, implementation of fisheries regulatory decisions. Fish production of Arua beel increased by 138% in 2003 compared to pre-intervention period. This increase was, however, higher in the case of black fish species (floodplain resident species), particularly in the case of climbing perch, Anabas testudineus (218%), foli, Notopterus notopterus (178%) and snakeheads, Channa spp. (164%). Species richness increased only by 2 species. Of the re-introduced species, populations of mene (Nandus nandus) and magur (Clarias batrachus), appear to be rejuvenating.

The sustainability issue of the activities and the livelihood aspects of the local fishers have also been considered and addressed. The present project also addresses the biodiversity conservation issues of the other biological resources of the project areas. The work was done under the Community Based Floodplain Resource Management component of the Sustainable Environment Management Programme (SEMP) of the Ministry of Environment and Forest, Government of Bangladesh.

Recommendations

Having considered the experiences of initiatives on achieving sustainable development and providing sustainable livelihoods, the participants suggest:

For Scaling up the experiences,

- Establish a network of Traditional Knowledge (TK) and associated knowledge systems, including information exchange, to enable marketability and replication of processes, products

- Ensure multi-lingual documentation of experiences, lessons learnt and best practices (in English & other national languages)
- Encourage the linkages between communities who have successful activities in order to facilitate knowledge exchange with those who wish to replicate the initiatives
- Support a bottoms-up decision-making and participatory planning approach, considering importance of gender representation
- Use community experience to inform/influence the government

For achieving equitable sharing of benefits from Traditional Knowledge at both national and international levels,

- Enable benefit sharing by collecting, assessing, and documenting traditional knowledge
- Promote use of traditional knowledge, primarily for health care besides others, amongst local communities
- Assess the usefulness of an electronic database on classical and oral traditional knowledge

To achieve national and international recognition of some of the experiences shared,

- Encourage ways to influence national governments and national / local level policy formulation and implementation
- Involve internationally recognized organizations to disseminate experiences in promoting access and benefit sharing of biodiversity

Based on the discussions, the participants

Encourage initiatives for:

- community-based conservation efforts
- field gene banks
- on-farm conservation
- cryogenic gene banks

Inform national level policy makers by

- organizing awareness and advocacy campaigns directed towards them
- Involving national level policy makers in community initiatives
- Involving mass media in communicating the issues and options

Realising the need for more and concerted focus on issues of climate change and its impacts on livelihoods and sustainable development, the participants suggest,

- Development and implementation of insurance policies to cover losses due to disaster in crops, livestock, fisheries. This can be encouraged as one of the key risk management options for securing livelihoods at local level
- Development of adaptation capacities at household, local, regional and national levels

Having recognized the role of women in biodiversity conservation, the participants urge,

- Enhanced training on gender issues, especially on issues of time and resource management
- Initiation of exchanges between women's groups
- Fostering knowledge enhancement and other activities aimed at identifying alternate livelihood options

Considering the above, participants identify the following as options to achieving sustainable development and livelihood securities:

Influencing policy making

- Scaling up the practices and translating the experiences for policy making
- Collaborated efforts between NGOs, communities, government on policy making an its implementation
- Mobilizing community voices

Creating enabling environments for community activities to influence policy by

- Strengthening community organizations through
  - Community mobilization
  - Supporting synergy at community level
  - Using existing groups/ organizations /institutional mechanisms for identifying replicatory options
  - Participatory actions using community focal points, youth and women
- Suggesting process documentation for dissemination of experiences
- Involving multi-level policy makers in grass roots level discussions

Supporting research activities to focus on 'lessons learnt' through

- Multi-disciplinary, problem-oriented research
- Promotion of action research, including using participatory approach

Supporting national and local actions for Sustainable Development by,

- Mainstreaming local experiences into national decision making
- Managing ecosystems in sustainable manner
- Mainstream National Biodiversity Strategy Action Plans (NBSAP), National Environmental Protection and Planning Agencies (NEPAs) and others into the national sustainable development planning processes (e.g. development of National Strategies for Sustainable Development -NSSD)
- Countries aiming to develop NSSD to consider scaling up local level experience to the national level processes
- Highlighting the importance of the participatory process and including all stake holders in the decision making process

Encourage the governments, agencies and organizations to begin developing indicators and monitoring mechanisms so as to report on achievements and obstacles on sustainable development for reporting at 'Johannesburg + 5' meeting to be held in 2007

Workshop 3 - Access and Benefit Sharing, Biosafety - Relevance of Issues to Trade and IPRs

Outcomes of trade and IPR discussions significantly impact issues of access and benefit sharing as well as biosafety. With the discussions on the possible development of an international regime on benefit sharing, in response to WSSD, the issues of ABS gains significance to influence economic and trade agendas. Discussions under WIPO are weakly linked to CBD discussions while they significantly feed into the WTO discussions. Likewise increasing national and regional debates are emerging on issues of implementation of the Cartagena Protocol on Biosafety and impacts of WTO negotiations. This theme addresess the issues of such linkages and the outputs are expected to feed into the discussions of forthcoming in WIPO, WTO and CBD meetings.

Highlights of Abstracts/Presentations

Issues of Biodiversity under the WTO
Patricia Moore (IUCN Regional Environmental Law Programme, Asia)

The Convention on Biological Diversity (CBD) classifies biological resources at three levels - genes, species, and ecosystems. Although species and genes have been traded for millennia, trade in them has been systematically regulated at the international level only within the past 30 years.

Several agreements administered by the World Trade Organization - in particular the Agreement on Trade-Related Aspects of Intellectual Property Rights/TRIPs - are believed to actually or potentially conflict with the letter and spirit of the CBD. In the current round of negotiations on WTO agreements, two of the negotiating mandates are particularly relevant for the CBD and biodiversity:

- to examine existing WTO rules and specific trade obligations in MEAs; and
- to agree on procedures for regular information exchange between MEA secretariats and WTO committees and criteria for granting observer status in WTO committee meetings to MEA secretariat representatives.

In addition, TRIPs is being reviewed in order to make recommendations for future actions.

Access and Benefit Sharing: Relevance to WTO and IPRs
Balakrishna Pisupati (IUCN - Regional Biodiversity Programme, Asia)

One of the contentious issues of the Convention on Biological Diversity (CBD) is that of sharing the benefits of use of biodiversity equitably. Article 15 of the CBD outlines the issues of access to genetic resources and benefit sharing (ABS), providing countries flexibility to come up with suitable national regimes on ABS. The Bonn Guidelines on ABS that were discussed by the CBD Ad Hoc Technical Expert Group on ABS were adopted in 2002 and now provide the guiding framework for national actions on ABS. In addition to CBD, the World Summit on Sustainable Development (WSSD) identified the need for an international regime on benefit sharing without providing much guidance on the scope and elements of such a regime.

The relevance of ABS to trade and intellectual property rights (IPRs) has long been recognized. However, there is still no clarity on the issues and influences of WTO and trade related intellectual property rights (TRIPs) on ABS. The forthcoming Ministerial Meeting on WTO Cancun, Mexico is expected to address some of these issues having TRIPs Article 27.3(b) in mind. In support of this the World Intellectual Property Organisation (WIPO), through the intergovernmental negotiations, came up with a "tool kit" on addressing issues of traditional knowledge which is seen as a formal mechanism to support ABS implementation at national level.

Safeguarding Intellectual Property Rights in the Use of Medicinal Plants: The Case in Sri Lanka
Ranjith Mahindapala (IUCN, Sri Lanka Country Office, Sri Lanka)

About 35% of the population in Sri Lanka is primarily dependent on Ayurveda and traditional systems of health care, and there is a long history of traditional knowledge associated with plant use. In the rural areas, traditional healers and people collect their requirements of medicinal plants from forests, which are their natural habitats. Combined with the increased interest from the pharmaceutical sector, there is now an unsustainable exploitation of both plants and knowledge. Equally threatened is the knowledge base on which the traditional medicinal systems is based, as only a small proportion of the traditional knowledge (TK) and the ethnobotanical information is documented

In order to arrest the rapidly declining medicinal plants population in Sri Lanka, a five-year project was launched in 1999 with the support of the Global Environment Facility, for the conservation of medicinal plants and for promoting their sustainable use. The project was expected to achieve these objectives through (a) in situ conservation by establishing five medicinal plant conservation areas (MPCAs) in different ecological zones of Sri Lanka, (b) ex-situ cultivation by promoting nurseries, home garden and plantation cultivation, and supporting propagation and agronomic research, and (c) by providing information and institutional support including promotion of appropriate legal and policy environment.

Millennium Development Goal 8 and Development
Emilie Warner (IUCN Regional Biodiversity Programme, Asia, Sri Lanka)

In the recently concluded Millennium Summit countries reaffirmed their commitment to work towards sustainable development and eliminating poverty. The Millennium Development Goals provide a framework for measuring development progress set against targets and reinforce the commitment of the international community to a comprehensive and integrated approach to sustainable development and poverty reduction. This presentation aims to look at some of the linkages between the Millennium Development Goals, focusing on "Goal 8 - Developing a Global Partnership for Development", and the implications of Access and Benefit Sharing, Trade and IPRs for achieving this goal.

Both the provisions of the CBD for Access and Benefit Sharing and aspects of the TRIPS agreement provide opportunities for forming global partnerships for development. However, in practice, the TRIPS Agreement tends more towards consolidating control of research and technology into a few hands. It also lacks a legal security framework to ensure equitable sharing of benefits and technology transfer. Options for future actions to ensure that implementation of trade and IPR system are supportive of Goal 8 of the MDGs were considered at the recently held Workshop on Mainstreaming Biodiversity and Climate Change are discussed in this presentation.

Sound Access to Genetic Resources in Sri Lanka A Case Study on Regaining the Intellectual Property Rights of the Natural Products/ Pharmaceutical Products from Salacia reticulata

G.T.D.Perera (Ministry of Environment and Natural Resources, Sri Lanka)

Sri Lanka contains a very high level of endemic plants and animals together with indigenous species and valuable Traditional Knowledge associated with it. Multinational companies, with their modern technology and equipment, are exploiting the genetic resources of the country and patenting them under their names resulting the loss of the rights of the countries that owned and conserved it for so many years.

Due to the lack of legal, economical and other relevant instruments, in country bio piracy is difficult to prevent. Until developing a proper mechanism and a legal system to protect our biodiversity and natural resources, existing laws with some amendments can be used to prevent bio piracy. A case study in Sri Lanka regarding the patenting of the products extracted from Salacia reticulata Wight is discussed.

There should be a proper mechanism and a logistic framework to facilitate the sustainable utilization of the genetic resources of Sri Lanka. In facilitating the process the Ministry of Environment and Natural Resources is now in the process of preparing a National Policy on Access to Genetic Resources and Benefit Sharing. By this policy the Ministry will be able to Coordinate all activities related to Access to Genetic Resources and Benefit Sharing which has been working in the sectoral level.

Access and Benefit Sharing, Biosafety - Relevance of Issues to Trade and IPRs

Mahfuz Ullah (Centre for Sustainable Development, Bangladesh)

As biodiversity is reduced, so is the quality of the services provided by ecosystems. The different regimes of WTO would definitely affect biodiversity. Many countries that do not have policies on access to genetic resources and benefit sharing, are members of WTO. This is the major problem area. With the coming into force of the different obligation under WTO, especially the TRIPs Agreement, AoA, GATS, SPSM, there is increased pressure to internationalise biodiversity of developing and least developing countries. CBD and other international undertakings/ agreements are not enough to protect biodiversity.

The rich debt-holding countries are forcing free markets in poor countries while providing subsidies to farmers at home. Developing countries competing in an international free market have a strong incentive to transfer capital into single money crops such as banana, sugar cane and cotton. However, monocultures are a threat to biodiversity and are also prone to diseases.

Two key questions are: "to what extent can we carry much of the existing biological resources a hundred years from now" and "to what extent are developed countries, especially the United States, ready to share a common platform with the rest of the world to conserve biodiversity".

Trade, IPR and Biosafety: Some Issues of Concern for South Asia
Sachin Chaturvedi (Research and Information System for the Non-Aligned and Other Developing Countries, India)

In the recent past, the initiative taken by various countries for setting up a legal framework for the conservation of biodiversity has further complicated the canvass rather than propounding a clear roadmap for evolving a workable agenda. The contradictions among the multi-dimensional international treaties have adversely affected the policy maneuvering space henceforth available with the governments of developing countries. The lack of institutional preparedness to cope with new technologies and fast evolving international trade regime has also contributed to this confusion.

This paper is an attempt to analyze how IPR and biosafety related issues are placed in the context of new trade regime after the adoption of Doha Development Agenda (DDA). In light of forthcoming ministerial at Cancun and continuous missing of DDA deadlines it becomes imperative to look into various policy options available to developing countries. On some of these issues South Asia has been taking a harmonized approach at international fora.

Mutually Supportive Implementation for the Cartagena Protocol on Biosafety and the World Trade Organization Rules
Wang Changyong[1] and P. Balakrishna[2] (1. Nanjing Institute of Environmental Science, State Environmental Protection Administration 2. IUCN Regional Biodiversity Programme, Asia)

A variety of Living Modified Organisms (LMOs) are the subject of international trade. The Cartagena Protocol on Biosafety (CPB) aims to

avoid or reduce, at a maximum, risks to conservation and sustainable use of biodiversity, taking into account risks to human health, and has provided an international framework for the transboundary movement (TBM), transit, handling and use of all LMOs. The WTO agreements are a multilateral trade agreement whose essential purpose is to liberalize market by removing unnecessary, discriminatory and protectionist barriers. Therefore, the international community is concerned about mutually supportive implementation between CPB and the relevant WTO Agreements since the drafting and negotiation of the CPB.

This paper tries to: (1) identify and analyse the trade-related measures under the CPB, (2) identify the linkage points between CPB and the General Agreement on Tariffs and Trade (GATT), the Agreement on Technical Barriers to Trade (TBT) and the Agreement on Sanitary and Phytosanitary (SPS); (3) analyse the potential conflict points of the CPB with the GATT, TBT and SPS, and (4) introduce some ideas, proposals and activities at international level to promote mutually supportive implementation between the CPB and the relevant WTO agreements.

Biosafety vs. World Trade : A Case study on Food Safety Regulations in Sri Lanka

S. I. Rajapakse (Ministry of Environment and Natural Resources Sri Lanka)

Sri Lanka's native biodiversity is at risk and will be adversely impacted by trade of LMOs/GMOs in an open economy, due to lack of legal instruments and an institutional framework to control and regulate import of LMOs/GMOs and their products. Sri Lanka signed the Biosafety Protocol on 24 May 2000 and is planning to ratify it as early as possible. Before the ratification, Sri Lanka should establish domestic legal measures and build capacity in the area of biosafety. The Ministry of Environment is the National Focal Point and is obliged to implement the articles of the protocol.

In taking a precautionary approach, Sri Lanka was the first country to impose a ban on import of Genetically Modified Foods and food products. However, banning of genetically modified foods by the Food Regulations 2000 could not be imposed in compliance with World Trade Organization (WTO) regulations. There were a number of reasons as clear scientific evidence of GMOs, etc, and testing facilities were to be established. The Food Advisory Committee, where panel of experts is still working on

regulations, says labeling for GMOs is a mandatory requirement. Thus the consumers will have their choice in what they consume. Sri Lanka is in the process of establishing a biosafety Framework

Documentation of Indigenous Knowledge of Medicinal Plants and Benefit Sharing

Ferdousi Begum (DEBTEC - Development of Biotechnology & Environmental Conservation Centre, Bangladesh)

Bangladesh possesses a rich flora of Medicinal Plants (MP), which are growing in widely distributed forests, wetlands, and roadsides. In a country like Bangladesh, where the majority of people are not wealthy, low cost safe care is essential. According to WHO, 80% of people of developing countries depend on MP and traditional systems of medicine for their primary health care.

Much of the knowledge of the use of plants for medicinal purposes resides with indigenous people and local communities. Scientists and companies from developed countries have been charged with biopiracy when they appropriate the plants or their compounds from the forests as well as the traditional knowledge of the community healers, since patents are often applied for the materials and the knowledge. Indigenous knowledge of MP should be recognized and needs to be legislated to protect the knowledge system. In Conservation of Biological Diversity (CBD) Article 23 for an example "The State shall adopt measures to conserve the cultural traditions and heritage of the people". In fulfillment of the obligation of CBD countries have enacted or are drafting regulation to regulate access and benefit sharing arrangement in relation to biodiversity and IK of its use. Such an act can also be an important instrument for the establishment, protection and promotion of IK and the right of local communities.

Issues of Traditional Knowledge and IPRs

Sagendra Tiwari (IUCN-The World Conservation Union, Nepal)

Traditional knowledge (TK) is the body of knowledge, practices, skills, innovations and technology belonging to, within and among local communities and individuals associated to utilization, conservation and commercialization of biological resources (Nepal's Draft Bill on Access to Genetic Resources and Benefit Sharing, 2002). Appropriate intellectual property (IP) system is indispensable for the protection of TK of the knowledge holders. However, traditional IP regimes have certain limitations, especially with their stringent criteria such as the requirements

to meet standards of novelty and originality, identifying the inventor/ innovator of the protected subject matter and providing substantive scientific basis for any claim.

In the context of Nepal, owing to its rich biological and ethnic diversity, traditional knowledge related to the use of biological resources among the diverse ethnic and cultural groups is quite high. With assistance from IUCN Nepal, a draft Bill and Policy on Access to Genetic Resources and Benefit Sharing in 2002 has been developed. Some of the objectives of the bill are to ensure, protect and promote traditional knowledge, discourage and control biopiracy and regulate IPR for the optimum benefit of the people of Nepal through bioprospecting and Access and Benefit Sharing. The Draft AGRBS policy emphasizes that the biodiversity documentation and registration is important to deal with IPR issues.

Recommendations

Considering the issues of access to genetic resources and benefit sharing, biosafety and the impacts of trade and intellectual property rights on such issues, the participants suggest the following actions:

AT NATIONAL LEVEL

Access To Genetic Resources And Benefit Sharing (ABS)

- Develop an inventory of biological resourcesresources, beginning with those actually used to sustain livelihoods or with potential for such use
- Promote community-based small and medium sized enterprises producing pharmaceutical products to assist local communities in adding value to their genetic resources
- Use the CBD's Bonn Guidelines on Access and Benefit Sharing (ABS) to establish a national framework for regulating access and benefit sharing
- Create awareness of market value of biological resource products, particularly genetic resources

Biosafety

- Develop capacity and establish infrastructure for identification, tracing, quarantine, and segregation of genetically modified products

- Develop national policy on labeling genetically modified products
- Promote the private and public sector partnerships needed for advancements in biotechnology and biosafety
- Identify and develop complementarities between the World Trade Organisation (WTO) sanitary and phytosanitary standards (SPS) and National Biosafety Frameworks
- Explore the possibility of extending special and differential treatment (S&DT) to biotechnology and its products
- Develop an understanding of the precautionary principle and how to operationalize it in implementing Cartagena Protocol on Biosafety provisions
- Establish inter-agency coordination mechanisms to manage biosafety issues
- Identify and explore the impacts of bilateral free-trade agreements in relation to biotechnology and biosafety and build capacity to take appropriate actions

Traditional Knowledge (TK) and Intellectual Property Rights (IPR)

- Compile and disseminate information for policy options for the legal protection of TK, including through patent law reform, particularly concerning utility patents and patents on research tools. An annotated menu of policy options should be produced as referenced in document WIPO/GRTKF/IC/5/8[1] of the WIPO Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore ("the WIPO Committee").
- Build the capacity of national institutions to keep up with new global trends in intellectual property rights, and build capacity for granting patents and for patent law enforcement
- Encourage enhanced public sector investment in biotechnology and bioprospecting
- Take existing *sui generis systems*, where available, and other forms of IPR protection, whichever are applicable to TK, into account when considering options and developing legislation related to TK. The development of options for such legislation could be based on comparative analysis of existing sui generis systems for TK protection undertaken by the WIPO Committee

1 See, "Composite Study on the Protection of Traditional Knowledge," document WIPO/GRTKF/IC/5/8, issued April 28, 2003.

- Consider CBD Article 8j when developing national sui generis systems for protecting traditional knowledge
- Consider the options under the International Treaty on Plant Genetic Resources while considering national protection for breeders and farmers
- Make explicit links with the existing intellectual property rights regime, and put in place a mechanism for reviewing the existing regime in light of developments at the global level
- Review and analyze the mechanisms contained in existing law and how they operate in practice, and make necessary reforms
- Use a combination of legislation and voluntary measures to regulate use of traditional knowledge and its relationship with the existing intellectual property rights regime. To this end, the WIPO Toolkit for Intellectual Property Management When Documenting Traditional Knowledge and Genetic Resources, should be consulted by TK holders, governments and other stakeholders. Voluntary measures should include:
    - Creating awareness among local communities about the necessity of having a national register on TK
    - Mechanisms to ensure that local communities understand that they have the option to prohibit or restrict access to their TK
    - A format for registering TK that takes existing biodiversity registration systems into account, where they exist
    - A format for database(s) for storing and managing data on TK
    - Guidelines for protecting information in TK registers
    - Guidelines for managing, securing and using TK databases, particularly:
        - Defining the levels of security/access that are related to use, user, and the type of information requested
        - Defining the levels of security/access that are related to the wishes of the community/TK-holder
        - Establishing strong mechanisms for inter-agency coordination
        - Ensure that TK/IPR issues are appropriately taken into account in national decision making processes
        - To promote access and not to prejudice any patent search

These voluntary measures should build upon the Technical Proposals on Databases and Registries of Traditional Knowledge and Genetic/Biological

Resources which were developed by the Asian Group and submitted to the WIPO Committee (WIPO/GRTKF/IC/4/14[2]). The GBF recommends the adoption of the Asian technical proposals by the WIPO Committee.

Cross-cutting themes

- Recognize and reinforce the role played by the media, along with governmental and non-governmental organizations, in creating awareness among the general public and grass-root organizations on issues related to biosafety, TK, and ABS
- Include multilateral environmental agreements (MEAs) and the World Trade Organization (WTO) and the linkages among them into national formal education curricula at university level
- Integrate MEAs and the WTO and the linkages among them into existing non- formal capacity building systems
- Identify the socio-economic issues involved in administering biosafety, ABS, TK and IPR and include them in decision-making processes
- Adopt a multidisciplinary approach to developing policy and administering the issues of access to genetic resources and benefit sharing, traditional knowledge and intellectual property rights, and biosafety, and create a mechanism to coordinate among the responsible institutions

AT REGIONAL LEVEL

Access to Genetic Resources and Benefit Sharing

- Identify basic common elements for ABS regulations

Biosafety

- Develop a regional position on minimum standards for residual content of genetically-modified organisms (GMOs)

Cross-cutting

- Work toward a South Asia regional mechanism that would:
  - develop a common framework on ABS and biosafety

2 See, "Technical Proposals on Databases and Registries of Traditional Knowledge and Biological/Genetic Resources," document WIPO/GRTKF/IC/4/14, issued December 6, 2002.

- explore the complementarities in biotech research and the possibilities for harmonizing laws and regulations on biosafety
- develop a common framework on TK and IPR

- Create a sub-regional clearinghouse for information related to MEAs and the WTO
- Develop a regional position on conflicts between the WTO, the CBD and other biodiversity-related MEAs
- Promote regional efforts for valuation of biological resources and biodiversity -related services
- Develop tools and methods for capacity building in the fields of ABS, biosafety and TK/IPR and the linkages between them that can be adapted for use at national level. Such tools could be based on, or take into account, the WIPO Toolkit for Intellectual Property Management When Documenting Traditional Knowledge and Genetic Resources

AT INTERNATIONAL LEVEL

Access To Genetic Resources And Benefit Sharing

- Provide linkages to discussions of the Like-Minded Group of Megabiodiverse Countries with respect to ABS

Traditional Knowledge/Intellectual Property Rights

- Discussions under the World Intellectual Property Organisation (WIPO) need to take into account elements of the Bonn Guidelines as well as existing experiences with implementation
- Patent applications should have a provision requiring disclosure of the source(s) of genetic material and/or associated TK, require evidence of prior informed consent, and require that there be evidence of means to share benefits, all of which are consistent with the Bonn Guidelines
- Promote resolution of the conflict between TRIPS 27.3(b), articles 8(j) and 15 of the CBD, and International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGR)

Cross-cutting Themes

- Promote special and differential treatment (S&DT) for biotech goods and services within the WTO
- Promote adding environmentally friendly goods to the list of environmental goods under debate within the WTO

Workshop 4 - Implementing a Regional Approach to Taxonomic Capacity Building

One of the impediments for conservation that is long identified is that of a lack of taxonomic capacities. With the adoption of work programme under the CBD's Global Taxonomy Initiative, countries are aiming to re-orient focus on building capacities on taxonomy. South Asia has scattered expertise on taxonomy that is also fast dwindling. Given this, the CBD and GTI focal points requested establishment of a capacity building network for the region. This workshop will address issues of taxonomic capacity needs of the region, availability of expertise, and possibilities for networks to be created to ensure expertise is shared and replicated. The outputs are expected to facilitate establishment of a South Asia Network for taxonomy capacity building.

Following the GBF there was a "Formulation workshop to Establish SACNET, a Technical Cooperation Network to support Taxonomic Capacity Building in South Asia" between 14:00 hrs of 18th June 2003 until 12:00 hrs of 20th June 2003.

Highlights of Abstracts/Presentations

Bangladesh National Report on Taxonomy

Mahfuzul Haque[1], Matiur Rahman[2] and Badrul Amin Bhuiya[3] (1. Ministry of Environment & Forest, Dhaka 2. Bangladesh National Herbarium, Dhaka 3. BRGB and University of Chittagong, Chittagong)

Bangladesh has a rich biodiversity. However, this important wealth is dwindling very fast due to many reasons. The most significant impediment for conservation of this biodiversity has been identified as the lack of taxonomic capacities. The taxonomic work on flora & fauna of this region actually started during late 18th century, but the progress during 20th century was very slow. Most of the collections made during the last two centuries are located in different museums and herbaria abroad. This is a great impediment for the taxonomists working at present in Bangladesh. There is even no record of some of these collections. There is no National Depository except for Bangladesh National Herbarium (BNH). Zoological Survey of Bangladesh (ZSB) has been working but with no fundamental progress. A National Repository is a necessity for holding collections from all groups.

The National Herbarium and the Natural History section of the National Museum is holding collections of higher plants and a few animals respectively. Public Universities and Research Institutes have their own herbaria or museums, but most of them are not well managed. Less than 10% of the recorded specimens have been documented in the museums and herbaria. There is even no database of the specimens preserved in these herbaria and the museums.

Through GTI, the CBD has identified priority areas for taxonomic input to conservation, sustainable use and equitable access to the benefits of genetic resources. It is now realized that a network to focus on meeting South Asian needs for taxonomy is a priority. A sub-regional Technical Cooperation Network should be established to solve the problem of inadequate taxonomic services. It is now recommended that SACNET (South Asian Countries Network for Taxonomy) be established for this purpose.

National Statement on Taxonomy: Bhutan
Karma Nyedrup (National Environment Commission Secretariat,Bhutan)

The Royal Government of Bhutan Policy:

- Long-term objective is to protect a large, contiguous natural areas through protected areas to allow natural processes of succession and evolution by minimizing human influences
- Assist local communities in their efforts to identify, catalogue and manage biodiversity,
- Conservation and protection of Fauna
- 165 species of mammals
- 770 species of birds
- Protection and conservation of Flora
- 5, 500 species of vascular plants
- >50 species of rhododendrons
- >300 species of medicinal plants
- 9 volumes, three parts, three volumes each
- 8 families of gymnosperms
- 180 families of dycotyledons
- 66 families of monocotyledons
- 46 species of rhododendrons

Faunal Diversity of India
J.R.B. Alfred (Zoological Survey of India, India)

India harbours as much as 7% (89,457) of the total animal species of the world in about 2% of the world's landmass. Thus, India is considered as one of the megabiodiversity countries of the world. This is due to its unique *Biogeographical location, Diversified climate, Ecodiversity and Geodiversity*

Conservation Policies & Programmes are already in place in India and is provided for in the Constitution of India Wildlife (Protection) Act, 1972 & Wildlife (Protection) Amendment Act, 1991,2002 Environmental Protection Act, 1986. Moreover other international agreements involving taxonomy have also been ratified by India, to name a few:

- Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- The Ramsar Convention
- The Convention on Biological Diversity (CBD)

For this India has generally applied the three-pronged approach:

- Securing the integrity of National Parks
- Institutionalise the basic biological inventory work giving emphasis to the efficient data collection, storage and analysis and innovative information management;
- Bioprospecting - the search for new forest or marine products or other biological resources with market potential

Role of All India Coordinated Project on Taxonomy Capacity Building (AICOPTAX) in Biodiversity Conservation
M. A. Haque (Ministry of Environment and Forests, Government of India)

Conservation and sustainable use of biological resources have the prerequisite that there should be sound taxonomic knowledge base. At this crucial juncture, when the need for a taxonomic stocktaking of the earth's bio-diversity has become important, the taxonomic expertise is declining globally. Studies throughout the world indicate an urgent need to encourage excellence in taxonomy and to motivate experts to work in hitherto neglected groups of organisms, e.g. microbes, lower groups of plants and animals etc. such as Viruses, Bacteria, Algae, Fungi, Lichens, Bryophytes, Mollusca, Microlepidoptera, Helminthes, Nematodes, Diptera, Orchids etc.

If we take into account the Indian scenario and we make a comparison of the number of species described and estimated in India in major taxonomic groups and the number of available taxonomists in the country, it clearly indicates that the expertise is inadequate and with each passing year the number is declining. Another important observation is that the taxonomic expertise is not evenly distributed for different groups of organisms. In fungi and bacteria, the number of estimated species is about 85,000 and 3,29,000 respectively. Taxonomic experts available in India in these areas are only 15 and 20 respectively. On the other hand, the estimated number of species in angiosperms are only about 20,000 while the number of experts available in the country for angiosperms is 130.

In this background, the Ministry of Environment and Forests, Government of India set up a Technical Group to develop an All India Coordinated Project on Capacity Building in Taxonomy (AICOPTAX) and after inter-ministerial consultations, the project was launched in 1999-2000. The project envisaged establishment of centres for research in identified priority gap areas (e.g. Viruses, Bacteria, Algae, Microlepidoptera, Orchids etc.) for taxonomy, education and training and also strengthening of existing organizations related to taxonomy of plants and animals.

The significance and status of taxonomic study in the Maldives
Mohamed Ali (Environment Research Centre, Ministry of Home Affairs, Housing and Environment, Maldives)

The Maldives is a group of 1200 small reef islands in the Indian Ocean, with a total land area less than 1%. A population of 270,000 is distributed on 200 islands, with about a quarter of the population concentrated on the capital. The pace of development has accelerated, particularly in the last two decades and combined with a fast population growth, the pressure on the terrestrial and marine resources have increased exponentially.

The marine biodiversity of the Maldives is significant, both at a regional as well as global scales. The Maldives posses the highest coral diversity in the region and is the seventh largest reef system in the world. Being a small reef island country, the biodiversity of the country is important not only from the environment but from the economic and socio-cultural aspects. Furthermore, from the limited taxonomic work that has been carried out, it is apparent that a high level of endemism exists in the Maldives. Being extremely small, the terrestrial ecosystems are critical for the functioning of the human and natural systems. Being small, also means that the

biodiversity of the country is extremely sensitive to both natural and anthropogenic influences and shocks.

The marine biodiversity is under increasing pressure from the fishing and tourism industries, the major economic activities. The 'extractive' uses of the reef system such as for fishing, and the 'non-extractive' maximization of the aesthetic value of the reef system for tourism pose serious challenges to the planning and management of the resources in the Maldives.

Given the economic vulnerability of the Maldives under the current direction of WTO, and the prospect of graduation from the LDC status, the Maldives will be forced to further exploit the resources currently utilised and prospect for new biological resources, in order to maintain the current level of development and standard of life. Being a signatory to the Convention on Biological Diversity, Maldives is working hard to implement the Convention. In this regard, Maldives is anxious to document the existing terrestrial and marine taxa and is willing to seek any assistance to accomplish the task, to manage and sustainably use the biological resources of the country.

National Statement on Taxonomic Capacity Building In Pakistan

F.Shahina[1], A. Rubina[2] and R. Hafiz[3] (1.University of Karachi, 2. National Herberium 3. Zoological Survey Department)

It has been estimated that there are 5-30 million species of plants and animals in the world and out of these about 1.4 million species are so far known (UNEP 1995). This means that there are still millions of species of plant and animals that are yet to be discovered. With the enormous amount of benefits obtained from the known species of plants and animals, it is easy to surmise that knowledge about more species will be of tremendous utilization for mankind. The present paper on GTI will discuss the aims and objectives, achievements and needs to develop the taxonomic skills regarding biodiversity of the country.

The rare collection of plants and animals needs to be preserved and kept in the most scientific manner, as these are the assets of the country as well as the national interest. This assessment will help in the sub-regional collaboration for the coming generation. As very little taxonomic needs assessments have been done in Pakistan the newly created Taxonomy and Biodiversity Research Group of Pakistan (T&BRGP), initiated to prepare a guide line in building taxonomic capacity in Pakistan in collaboration

with the BioNET-INTERNATIONAL and the government of Pakistan, looks forward to establish a regional cooperation network to be called SACNET.

Capacity Building in Taxonomy in Sri Lanka

Jayanthi P. Edirisinghe[1], Anura Wijesekara[2] and Dakshini Perera[3] (Department of Zoology, University of Peradeniya Department of Agriculture, University of Peradeniya Ministry of Environment and Natural Resources)

Sri Lanka is an island with a land area of 65,525 km2 and internal waters of 1,570 km2. The geological history of Sri Lanka has given rise to relict, indigenous, endemic and exotic plant and animal species. Together with Western Ghats, Sri Lanka is considered one of the 25 biodiversity hotspots of the world. The variety of ecosystems and habitats that support the island's biodiversity is located on 3 peneplains and has 3 major rainfall regimes. The natural ecosystems with a rich floristic composition numbering 3,400 species (25% endemism) of flowering plants harbour a diverse invertebrate and vertebrate fauna.

The major bio-repositories in Sri Lanka are the National Herbarium, Peradeniya National Museums, Colombo, Agricultural Museum, Peradeniya and the Zoology Department Museum, University of Peradeniya. The expert identified faunal specimens collected during the Colonial period and recent times through collaborative expeditions are housed in the faunal repositories.

Lack of facilities for the use of faunal repositories, dearth of taxonomists, lack of funding and unavailability of regional taxonomic keys and guides are impediments for furthering taxonomy. Through networking, collaboration with experts in the regions, sharing of knowledge, expertise and exchange of specimens could be achieved. A separate repository for future faunal taxonomic collection and mechanisms to involve university, government, non-governmental organizations in surveys and identification are proposed under a focal facilitatory body.

The Global Taxonomy Initiative

Christopher Lyal (Convention on Biological Diversity c/o The Natural History Museum, UK)

In working to implement the Convention on Biological Diversity workers in countries and regions all round the world have found that the availability

of taxonomic skills, resources and information has hindered their abilities. The Global Taxonomy Initiative was developed by the Parties to the CBD as a response to this 'taxonomic impediment'. Through the GTI the signatories to the CBD have identified priority areas for taxonomic input to conservation, sustainable use and equitable access to the benefits of genetic resources, and developed a work programme for the programme. Much activity under the GTI is most effectively carried out at regional level. Last year in Malaysia regional issues for SE Asia were discussed by nearly 150 regional participants. Taxonomic networks are operating in the region and establishing regional and national needs, and developing ways of addressing them. There is a need for a similar network to focus on meeting South Asian needs.

BioNET-INTERNATIONAL: A regional approach to taxonomic capacity building

Richard Smith (BioNET-INTERNATIONAL,UK)

BioNET-INTERNATIONAL is the Global Network for capacity building in taxonomy to meet sustainable development needs. The Global Network is comprised of regional LOOPs (Locally Organised and Operated Partnerships) of developing country institutions, supported by a consortium of developed country institutions. Over 120 countries are currently members of the Network; other countries are in the process of joining. Its purpose, through South-South co-operation and North-South partnerships for institutional strengthening and human resource development, is to enable developing countries to achieve self-reliance in the taxonomy needed to support development and poverty eradication programmes. LOOPs seek to respond to priority user-defined taxonomic needs, particularly those such as Invasive Alien Species that have been identified as priority issues by the Parties to the Convention on Biological Diversity.

The BioNET LOOPs have been formally recognised as appropriate mechanisms for supporting implementation of the Global Taxonomy Initiative of the CBD. The success of LOOPs is attributable to two key factors. The first is local ownership of the process, including governmental endorsement of the need for such a capacity building network whereby needs are identified and prioritised by member countries themselves. The second is a tried and tested mechanism whereby a lack of individual country capacity is overcome by pooling, optimising and sharing regional capacity on a reciprocal basis between member countries. The Global

Network therefore provides a very useful model for other capacity building initiatives in developing countries, as well as for North-South and South-South collaborative partnerships for capacity building. LOOPs are existing, government-endorsed structures that are used for taxonomic project coordination and capacity building to tackle invasive alien species.

South Asian Primates: Case Study in Importance of Taxonomy in Conservation in South Asia

Sally Walker[1], Sanjay Molur[2], Padma Priya[1] B.A. Daniel[3] (1. Zoo Outreach Organisation 2. Reintroducation Specialist Group, South and East Asia region 3. IUCN SSC South Asian Invertebrate Specialist Group India)

The C.A.M.P. workshop process or methodology was developed by the IUCN SSC Conservation Breeding Specialist Group to prioritise species for conservation action over twenty years ago at the request of then SSC Chair, Sir Peter Scott. Over the years the process has undergone many refinements including the addition of a number of elements to complement the new IUCN Red List Criteria and its regional and national guidelines, a computerized data collection programme, focused management exercises and more sophisticated conflict resolution or facilitation techniques. As a result, the C.A.M.P. workshop is increasingly being used as an effective method for biodiversity inventory and is recognized as such by IUCN SSC. In addition to a commitment to scientific methodology and participatory approach, a crucial component of a C.A.M.P. workshop is to use conflict resolution and objective facilitation to bring scientists and managers together and help them overcome their proprietorial and territorial inclinations which often obstruct or delay conservation investigation and action. In planning a C.A.M.P. workshop much care is taken to invite participants who represent the country or region adequately for a genuinely collaborative process, and who possess and will share hard data which is often unpublished in aid of the common cause of conservation. Care is also taken to protect the ownership of data so that even if it is shared at the workshop before original publication, the biologist is individually credited.

The splitting of species into subspecies reduced the total number of individuals in some species and geographic locations which, after applying the IUCN Red List Criteria, resulted in a greater number of threatened, and threatened and endemic species and subspecies in some countries and in the region. In India, the only country for which we have comparative data, the changes involved an increase from 15 to 30 species / subspecies and

from 6 to 19 threatened species. Regional assessments, applying regional guidelines of the IUCN Red List Critieria, for the whole of South Asia resulted in 36 threatened primates out of the total of 46.

These assessments have been accepted for inclusion in the 2003 IUCN Red List of Threatened Animals which should have some influence on regional and national management priorities at the policy level. A comprehensive education and awareness programme is underway targeting three major audiences including 1.policy makers and foresters, 2. the adult public and college students and 3. youngsters.

Conservation Impediments In South Asia and Taxonomy Capacity Building

B.A. Daniel[1], Sanjay Molur[2] and Sally Walker[3] (1. IUCN SSC South Asian Invertebrate Specialist Group 2. Reintroducation Specialist Group, South and East Asia region 3. Zoo Outreach Organisation India)

One of the major barriers to invertebrate conservation in South Asian region is want of invertebrate information with special reference to systematic studies such as data on number of species, species description, taxonomy, nomenclature, synonyms, species level identification etc. The alarming situation observed is lack of interest in taxonomy among scientists. Issues related to systematics and the need for effective conservation through taxonomy capacity building for various invertebrate conservation initiatives such as inventory, species conservation status assessments, Red Listing, data compilation and education would be discussed.

Networking Specialists of Neglected and Highly Speciose Taxon Groups in South Asia for Conservation Action

Sally Walker[1], Sanjay Molur[2] and B.A. Daniel[3] (1. Zoo Outreach Organisation 2. Reintroducation Specialist Group, South and East Asia region 3. IUCN SSC South Asian Invertebrate Specialist Group India)

The five groups invertebrates, amphibians, reptiles, chiroptera and non-volant small mammals were selected for focused attention in South Asia on the basis of need as defined by neglect and speciosity. It is also quite likely that these five groups represent a large proportion of both indicator and pollinator species. This paper describes a formula or strategy for addressing neglected taxon groups and related topics using Chiroptera or bats as a Case Study.

Z.O.O. and W.I.L.D., sister organizations in Coimbatore, Tamil Nadu, India in collaboration with the IUCN SSC Conservation Breeding Specialist Group South Asian regional network, while networking these groups and conducting C.A.M.P. Workshops, have observed this formula take shape and prove itself imminently useful in connecting the various tasks, skills and measures necessary to progressing in conservation. This formula consists of five fundamental actions which are used in concert to catalyze and sustain conservation action very systematically; these are 1. Networking, 2. C.A.M.P. (Conservation Assessment and Management Plan) Workshops, 3. Training in Field Techniques, Taxonomy and Conservation, 4. focusing and funding Field Studies and 5. Taxon based conservation education campaigns.

In 2002 a C.A.M.P. Review was organized this time on a regional basis with over 40 chiroptera specialists in attendance, including the Chair of the IUCN SSC CSG. The results of this workshop were dramatic. The percentage of Data Deficient species came down from 50% to less than 10%. Reporting the results led to two Critically endangered species being upgraded from negative protection to the highest category of protection in the Indian Wildlife Protection Act. Funds have been raised for important field studies. In the workshop, a special issue working group for taxonomy was convened and made several practical recommendations which are being implemented, one of which is to develop educational materials targeted for youngsters to attract them to the field of taxonomy at an early age.

Marine Invasive Alien Species through ship ballast water: Implications for taxonomy

S. Raghukumar and A C Anil (National Institute of Oceanography, India)

Invasive alien species (IAS) are now recognized to be a major international threat to the stability of local ecosystems. Ballast water carried and transported by ships from port to port are now receiving much attention, by virtue of being potential vectors of marine IAS. Monitoring and accurate taxonomic identification of organisms carried by ballast waters, therefore, becomes crucial to the prevention of bioinvasion of coastal waters. India is one of the six pilot countries involved in the Global Ballast Water Management Program and represents the initiative in the South Asia Region. Our experiences in this context will be highlighted during this presentation. Participation in this programme has enabled us to discover a number of lacunae relating to documentation of potential threat species and

their accurate taxonomic identification. One of the major problems relates to the low densities of organisms, their larvae or spores/cysts in ballast water and effective methods to identify them up to the species level. Taxonomic expertise for different groups of organisms is likely to be scattered widely within and between countries. Therefore, an active taxonomic network becomes one of the important factors in tackling the ballast water problem. Training needs to be imparted in identification of potential threat species. Certain groups, such as dinoflagellates and larvae of invertebrates are particularly difficult to identify and many of these are well known threat species. Development of rapid and novel methods of identification, which can be used as a standard protocol by various countries, is of paramount importance.

The role of taxonomy in upholding conservation of some biocontrol agents in suppressing different crop pests in Bangladesh
Khandker Ahmed (BCSIR Lab, Bangladesh)

To conserve the beneficial biocontrol agents, we should conserve the host and prey species because of the population of both are interdependent. If we become unable to properly identify parasite, predator, prey and host species they might perish from the earth thus destroying the ecological balance and causing resurgence of serious pest species. The natural enemy is always in the environment and able to multiply as needed to reduce the members of the pest species. Bangladesh is in the tropical region and the beneficial insects as well as pest species are very rich here. The taxonomic knowledge is conducive to a better understanding of biodiversity of fauna and flora and to conserving them in a concrete way. There are two aspects involved in utilising indigenous parasitic and predatory insects in biological control. The first is the artificial release of some native species from one locality to another where these do not naturally occur, the two areas being isolated by geographical or ecological barriers e.g., sea, high mountain ranges, desert areas etc.

The second aspect deals with the practice of mass breeding of one or more species of parasite or predator of a pest in an area where these are already present and releasing them periodically in the same area to increase their population in order to obtain desired control of the pest. It can be concluded that accurate taxonomic knowledge and capacity building is needed to maximise and conserve insect fauna of Bangladesh which is a part of the South Asian region.

Ethnotaxonomy to classical taxonomy need recognition and linkages for Biodiversity conservation - an overview from Indian context
Ravishankar Thupalli (M. S. Swaminathan Research Foundation, India)

The tribals or the indigenous people living in close harmony with nature have been using and conserving plant and animal resources with a great sense of sustainability. Their knowledge on the use of these resources and their ability to recognize different species and infraspecific variability and also the location of existence of such species helps in the identification and distribution of rare and endangered species for further conservation.

Quantitative and qualitative resource assessment is a prerequisite for Biodiversity management. Given the amount of funding required for conservation and management of resources it is not possible to randomly under take conservative initiatives. Conservation efforts are made both in situ and ex situ and on the basis of hot spot areas and species particularly of the category of rare, endangered, threatened and vulnerable and also undertaken at ecosystem to species level.

A one on one relationship and obligatory dependency needs to be clearly understood while formulating guidelines for such conservative measures. The role of taxonomy is to be clearly defined in such programmes. In the sense, the identity of each species is to be determined in order to understand the ecological and phylogenetic relationship of the species in a given population.

Policy decisions of declaring areas for wildlife sanctuaries and national parks need to consider the opinion of tribal or indigenous people. The needs of such people are also to be considered and addressed to ensure proactive involvement of these people in the long-term conservation of species, populations and habitats.

Biosystematics - the neglected but the unavoidable
S. M. A. Rashid (Centre for Advanced Research in Natural Resources & Management, Bangladesh)

Biosystematics (or taxonomy), the basis of the much-talked about biodiversity is mostly neglected in most of the developing and least-developed countries. It is considered as a non-productive sector. While the importance of this science is often overlooked, it is unavoidable - it being the knowing base for all the biodiversity. The trend in South Asian countries is similar, but in the context of Bangladesh, it is severe. The need

and importance of this particular science has not been advocated in different levels of policy making and planning. Moreover, the recent trends of rapid assessments, inventories and surveys have either ignored or refuted the importance of this science for proper and complete listing of biodiversity. By just describing or listing a species for the sake of academic interest will neither carry any weight nor attract the attention of the general audience or readers. Failure of the practitioners of this science to provide biological information or the role of various species in the ecosystem or phylogeny or the relationship between different species are some of the prime factors for which reason the policy makers did not find taxonomy scrumptious.

Taxonomy, as a subject is only taught at the tertiary level, which gives the students some basic knowledge of the science of biosystematics but they belong to nowhere when they face the reality. Unavailability of experienced and competent teachers in relevant disciplines, lack of reference materials, particularly books and journals and future prospects as a career have distracted potential students in this field of science. Moreover, the absence of a national depository of reference materials for proper and future research is a major obstacle in the ostentation of this science. A national institution solely dedicated to this science with proper infrastructure, equipment, literary resources and sufficient funds is a must to foster this science. Problems arising from lack of funding in this field can be minimised by earmarking exclusively a portion of the grants for the purpose of promoting this science in all projects directly or indirectly related to biodiversity conservation.

Recommendations

Participants noted that:

1. Taxonomic information is of vital importance to the conservation and use of the biological heritage of South Asian Countries as it underpins key aspects of national and regional policy making and implementation, sustainable development and obligations to the CBD and other MEAs.

2. At present taxonomic capabilities within the region are unevenly distributed. Neither the countries individually nor the region as a whole are able to meet their taxonomic needs adequately.

3. Taxonomic impediments can most efficiently and cost-effectively be overcome by the formation of a regional cooperative network of institutions concerned with taxonomy, capitalizing on current expertise and building regionally-available resources via regional and international collaborative efforts.

Participants further noted that new or strengthened taxonomic capacity (in the form of expertise, infrastructure and information) is needed to meet current priority demands for taxonomy from the region, including (NB not in order of priority):

1. Compilation and construction of species lists (based on existing and new information), distributions and identifications:

- for the protection of IPR in the context of Access and Benefit-sharing issues;
- to enable countries to know their own biodiversity resources so that it can be protected, managed & utilized;
- to establish baseline data at specific and infraspecific levels to enable management decisions to be taken at regional, national and local levels;
- to enable decision makers to identify the most appropriate areas for protection;
- for Environmental Impact Assessments;
- and for the managers of those areas to take the most appropriate actions in their management work.

2. Enabling improved dialogue and understanding between peoples using traditional knowledge and nomenclature and scientists and managers using formal names, in the contexts of protected areas and of traditional usage of biodiversity (e.g. Ayruvedic and other indigenous medicines).

3. Identification of threatened, endangered and rare species.

4. Identification of invasive and potentially invasive species in time to take preventative action.

5. Identification pests of agriculture, horticulture, forestry and fisheries, and organisms threatening human health accurately and quickly;

6. Identification of biocontrol agents of invasive alien species and pest species.

7. Identification of pollinators of target plant (crop) species, and facilitate their conservation for increased yield and quality of fruits & seeds.

8. Identification from wild relatives of possible replacement staple crops and crop strains in order to supplement current cultivated strains in the context of climate change and population increase.

9. Developing awareness of biodiversity elements and thus facilitate conservation, sustainable use and equitable access to the benefits of genetic resources.

10. Addressing issues of marine biodiversity, including issues related to the health of corals, ballast water and invasive species in ports.

11. Enabling local control and monitoring of bioprospecting operations.

12. Identification of the fauna and flora of specific microhabitats such as dead wood in order to enable wise management.

13. Supporting the activities of quarantine and customs officials in their interception work and enforcing CITES.

14. Identify and verify biological hotspots (in addition to those already known) using assessments of a wide range of organisms.

15. Contribute to efforts aimed at reducing and eliminating biodiversity loss that threatens rare, threatened or endemic species.

16. Support for the assessment, conservation and wise use of island biodiversity.

Considering the existing capacities on taxonomy in the region, the current and likely future needs for taxonomy, the desirability of meeting these needs efficiently and cost-effectively through developing regional self-reliance in taxonomy and the need to provide taxonomic products in the languages of the region, participants recommended:

That the Governments of South Asia:

- Establish a South Asian regional technical cooperation network for taxonomy as a mechanism to help implement the CBD and other MEAs, including the International Plant Protection Convention (IPPC)

- Design the network to meet national needs as expressed in national development plans, NBSAPs, etc.
- Create placement opportunities for trained taxonomists
- Appoint one or more National GTI Focal Point, where this has not been done

That all relevant bodies nationally, regionally and internationally enhance the taxonomic expertise and information available to the region in order to meet the following capacity building priorities (NB not in order of priority):

- Carry out taxonomic needs assessments and fulfill the needs identified via coordinated activities and a collective approach
- Establish one or more National Reference Centres in each country, where necessary
- Establish a South Asian Reference Centre on taxonomy, aimed at supporting identification
- Provide training for taxonomists, giving special consideration to countries where little or no taxonomic expertise is available
- Strengthen existing taxonomic institutions and, where necessary, establish such institutions
- Establish a mechanisms to facilitate access to expertise through a regional pool of experts
- Prepare and disseminate field guides and accurate keys for identification, including in local languages. Request international organizations such as IUCN, UNDP, UNESCO, etc., to support such publications
- Establish mechanisms to facilitate access to taxonomic information and dissemination of information to the end users through electronic media and conventional media as appropriate
- Where necessary, create and disseminate a database on taxonomic experts (nationally, regionally and globally)
- Develop information products with a regional perspective
- Implement taxonomic bilateral exchange programmes for capacity building
- Repatriate data associated with specimens held outside the country of origin, including digitised images where necessary to strengthen the available national data

- Train parataxonomists involving, inter alia, farmers, extension workers, teachers, elderly and knowledgeable tribal people
- Establish linkages with taxonomists and parataxonomists
- Provide taxonomic information in appropriate forms to quarantine services to help prevent of invasive alien species introductions and enforce CITES
- Provide taxonomic literature written at a level which is comprehensible to non taxonomists, including foresters, agriculturalists etc.
- Develop incentives and mechanisms to attract younger people to the taxonomic field
- Develop educational activities and awareness programmes to promote taxonomy as an important component of wildlife studies
- Enhance the application and reach of existing journals dealing with taxonomy
- Develop a Listserver to facilitate the exchange views

Annex 1 - Agendas

WORKSHOP 1:

PEOPLE AND PROTECTED AREAS

ORGANISERS : Theme on Indigenous and Local Communities, Equity and Protected Areas (TILCEPA), Kalpavriksh, WCPA South Asia, Bangladesh Academy for Sustainable Development, IUCN Regional Biodiversity Programme.

SUPPORTED BY : World Conservation Union (IUCN), International Development Research Centre (IDRC), and Winrock International - India.

OBJECTIVES :

- To discuss the latest situation regarding the move towards co-management of protected areas (CMPA), and recognition of community conserved areas (CCAs);
- To share and learn from the experiences of community members, forest officials and NGOs with CMPAs and CCAs within South Asia
- To discuss and share innovative legal spaces available for CMPAs and CCAs in South Asia.
- To share the learning from CCAs and CMPAs with the respective South Asian Governments, WPC, Convention on Biological Diversity (CBD) and the South Asian Regional Meeting of World Commission on Protected Areas (WCPA).
- Identify areas of priority attention for discussion at CBD-SBSTTA, COP and WPC
- Suggest national action on PA systems planning

16th June, 2003

09:00 - 10:00	Introduction to GBF
10:00 - 10:30	Coffee/Tea

Workshop session 1: *Expanding the Boundaries of Conservation: People and Protected Areas (10:30 - 13:00)*

10:30 - 11:00	Introduction - Anwarul Islam
11:00 - 11:30	Introduction to the Workshop (main objectives of the workshop, who and how is the workshop addressing? Focus on Community Conserved Areas (CCAs) and Co-Managed Protected Areas (CMPAs), reasons for this focus, possible working definitions and concepts being used). Structure of the workshop and expected outputs - Ashish Kothari.
11:30 - 13:00	Quick country snapshots (country overviews) on the most important recent initiatives in community participation in protected areas, including CMPAs and CCAs Sri Lanka Country Overview - *Sarath Ekanayake* Nepal Country Overview - *Prabhu Budhathoki* India Country Overview - *Neema Pathak* Bangladesh Country Overview - *Anwarul Islam* Maldives Country Overview - *Mohamed Ali*
13:00 - 14:00	Lunch

Workshop session 2: *Case Studies of CMPAs (case study presentation for 20 min. followed by 10 min. discussion) (14:00 - 17:30) (Chair - H.S. Pabla)*

14:00 - 14:30	Chitawan and buffer zone management in Nepal: benefit-sharing with communities -Prabhu Budhathoki
14:30 - 15:00	The role of communities in Satpuranchal ecoregion, India - B.M.S. Rathore
15:00 - 15:30	ACAP: community based ecotourism, and role of NGOs in PAs - Gehendra Gurung
15:30 - 16:00	Continuation of presentations and discussions
16:00 - 16:30	Coffee/Tea
16:30 - 17:00	Knuckles Man and Biosphere Reserve, Sri Lanka: Conservation of biodiversity and water resources with participatory economic planning - Sarath Ekanayake

17:00 - 17:30	Marine Biodiversity Conservation Programme: An urgent national need for Bangladesh - Anisuzzaman Khan
17:30 - 18:00	Emerging issues from the days presentations - H.S. Pabla

18:00-19:10 Issues of conservation and development : Focus on Bangladesh

18:00 - 18:10	Introduction Ainun Nishat
18:10 - 18:25	Legal and policy issues dealing with biodiversity Mahfuzul Huq
18:25 - 18:40	NBSAP - Issues of conservation and planning Monowarul Islam
18:40 - 18:55	Problems and prospects in conservation Anisuzzaman Khan
18:55 - 19:10	Discussion

17th June 2003

Workshop session 3: *Case studies of CCAs 3(20 minutes with 10 minutes discussion). (08:30 - 13:00) (Chair- Chandra Gurung)*

09:00 - 09:30	Bahonta-Kolyala and Arvari Sansad: Customary laws, and land/tenure issues, in a CCA - Kanhaiya Gujjar and Manisha ShethGutman
09:30 - 10:00	Baghmara village: Community run tourism in a CCA - Bishnu Prasad Aryal and Prabhu Budhathoki
10:00 - 10:30	Mendha: Tribal self-rule/governance related to a CCA - Mohan Hirabai Hiralal
10:30 - 11:00	Annapurna Conservation Area, Nepal: Community Role in Conservation - Nar Bahadur Gurung
11:00 - 11:30	Fish conservation in Bangladesh with local people - Md. Rakibul Huq
11:30 - 12:00	Traditional Pastoralism and Protected Areas - Mrs Vasamalli

12:00 - 12:30	Jardhargaon: Forest Protection Committee, institutional management, and role of women in a CCA -Vijay Jardhari and Seema Bhatt
12:30 - 13:00	Emerging issues from the mornings presentations - Chandra Gurung

13:00 - 14:00Lunch

Workshop session 4: *Group discussion (14:00 - 15:00)*

14:00 - 15:00	Group discussion on innovative policies and laws facilitating CMPAs and CCAs in South Asian countries - Facilitated by Ashish Kothari The South Asian Experience in an International Context (15:00 - 18:00)
15:00 - 16:00	Brief introduction to the international context: the move towards community participation, Definition of Community Conserved Areas, IUCN categories on PAs and role of CCAs - Seema Bhatt and Ashish Kothari
16:00 - 16:30	Tea/Coffee

18th June 2003

Workshop session 5: *Summing up (09:00 - 10:30)*

8:30 - 9:00	Relevance of GBF to CBD and expected inputs at CBD - Balakrishna Pisupati
9:00 - 9:30	TILCEPA and its role in WPC - Ashish Kothari
9:30 - 11:00	Discussions on the recommendations, suggestions for WPC (Durban accord, Durban Plan of Action, recommendations, etc.), for CBD COP7 (2004), for World Conservation Congress (2004), and to the countries in the region, regarding communities and PAs/CCAs.
11:00 - 11:30	Coffee/Tea

Workshop session 6: *Closing session (11:30 - 13:30)*

11:30 - 12:45	Presentations and discussions by thematic groups
12:45 - 13:30	Closing remarks
13:30	Lunch and close of GBF

WORKSHOP 2:

SUSTAINABLE DEVELOPMENT AND LIVELIHOODS

ORGANISERS : IUCN, UNDP-Equator Initiative, International Development Research Centre, GLOBE-South and Central Asia, International Institute Environment and Development

SUPPORTED BY : United Nations Development Programme-Equator Initiative, International Development Research Center and Global Environment Facility

OBJECTIVES :

- To understand issues of sustainable development and livelihoods with an aim to reduce poverty and enhancing livelihood securities;
- To learn from experiences on how to ensure successes and failures are used in policy and decision making besides addressing issues of sustainability of such successful and replicating these initiatives
- To contribute towards achieving the CBD's target of reducing the rate of Biodiversity loss by 2010.

16th June 2003

09:00 - 10:00	Introduction to GBF
10:00 - 10:30	Coffee/Tea

Workshop session 1: *Sustainable Development and Livelihoods: National and Global Issues (10:30 - 13:00)*

10:30 - 11:00	MDGs - Options for Implementation Seema Joshi/Balakrishna Pisupati
11:00 - 11:30	Role of Parliamentarians in sustainable development K M Khan
11:30 - 12:00	Sustainable Development, Livelihoods and Climate Change Bhujang Dharmaji
12:00 - 12:30	Sustainable management of mangrove sanctuaries: Issues of sustainable development Ravishankar Thuppali

12:30 - 13:00	Discussion
13:00 - 14:00	Lunch

Workshop session 2: *Sustainable development and Livelihoods: Experience from the region (14:00 - 17:30)*

14:00 - 14:30	Kerala Kani Trust Samudaya Kshema Trust: Experiences Sudarshan Kumar
14:30 - 15:00	Experiences of working with tribal communities of Jeypore Tract, Orissa, India Bibhu Mohanty
15:00 - 15:30	Medicinal Plants conservation : Experiences from India
15:30 - 16:00	Experiences of locally managed marine area network in Fiji Sunia Waquainabete and Emali Vitilevu Caucau
16:00 - 16:30	Coffee/Tea
16:30 - 17:00	Agrobiodiversity conservation and Sustainable livelihoods Farhad Mazhar
17:00 - 17:30	BAU, SIS, Biodiversity in Bangladesh Mostafa Hossain
18:00-19:10	Issues of conservation and development : Focus on Bangladesh
18:00 - 18:10	Introduction Ainun Nishat
18:10 - 18:25	Legal and policy issues dealing with biodiversity Mahfuzul Huq
18:25 - 18:40	NBSAP - Issues of conservation and planning Monowarul Islam
18:40 - 18:55	Problems and prospects in conservation Anisuzzaman Khan
18:55 - 19:10	Discussion

17th June 2003

Workshop session 3: *Sustainable Development and Livelihoods: Lessons learnt*

09:00 - 09:30	Overview of Day 1
09:30 - 10:00	Medicinal Plans Conservation Project in Sri Lanka: Experiences Ranjith Mahindapala

10:00 - 10:30	Tea/Coffee
10:30 - 11:00	Valuing habitats in the floodplain areas of Yamuna River in Delhi corridors Pushpam Kumar
11:00 - 11:30	Suasive strategy for biodiversity conservation in Sri Lanka Leel Randeni
11:30 - 12:00	Macroeconomic dimension in biodiversity management for sustainable development H M V Herath
12:00 - 12:30	Sustainable Development and Livelihoods; Impacts of Conservation and Management of Aquatic Resources and Ecosystems in Bangladesh M. G. Hussain
12:30 - 13:00	Fisheries Conservation in two Floodplains of Bangladesh: Issues of Sustainable Development A. R. Mollah
13:00 - 14:00	Lunch

Workshop session 4: *Sustainable Development and Livelihoods: Group discussion (14:00 - 17:00)*

Group I - Synergies for Sustainable Development
Group II - National and local actions for Sustainable Development

Group I - TORs

- How different process like MDGs, PRSPs, NSSPs contribute to sustainable development and livelihood improvement
- In what ways can integration be brought about between these
- How to use 'experiences' for Policy making (3-4 specific examples)
- If there is a research activity to focus on 'lessons learnt', what should it look like.

Group II - TORs

- How to 'replicate' successes.
- How can local activities influence national policy making.
- How should countries respond to 'Jo'burg + 5'.
- What are the key issues (3-4 only) that countries should consider while developing a NSSD

18th June 2003

Workshop session 5: *Summing up (09:00 - 10:30)*

09:00 - 10:30	Summing up recommendations
10:30 - 11:00	Coffee/Tea

Workshop session 6: *Closing Plenary*

11:00 - 12:00	Presentation by thematic groups
12:00 - 12:45	Discussion
12:45 - 13:30	Closing remarks
13:30	Lunch

WORKSHOP 3:

ACCESS AND BENEFIT SHARING, BIOSAFETY - RELEVANCE OF ISSUES TO TRADE AND IPRs

ORGANISERS IUCN : Centre for Sustainable Development; Consumer Unity and Trust Society; South Asia Watch on Trade, Economics and Environment; Bangladesh Environmental Lawyers Association (BELA)

SUPPORTED BY : Global Environment Facility; International Development Research Center; Convention on Biological Diversity -Secretariat; World Intellectual Property Organisation

OBJECTIVES :
- To identify issues and constraints related to Access and Benefit Sharing (ABS), Biosafety under Trade and IPR regimes
- To address issues of implementation of the Cartegena Protocol on Biosafety and it's impacts on WTO
- To identify implementation options for Bonn Guidelines on Access and Benefit Sharing (ABS)
- To feed outputs to the discussions of forthcoming WIPO, WTO and CBD meetings

16th June, 2003

09:00 - 10:00	Introduction to GBF
10:00 - 10:30	Coffee/Tea

Workshop session 1: *Overview and Issues (10:30 - 13:00)*

10:30 - 11:00	Issues of biodiversity under WTO - Patti Moore
11:00 - 11:30	Access and Benefit Sharing : Relevance to WTO and IPRs - Balakrishna Pisupati
11:30 - 12:00	Medicinal plants conservation and issues of IPR regulations Ranjith Mahindapala
12:00 - 12:30	MDG 8 and Issues of trade Emilie Warner

12:30 - 13:00	Sound access to genetic resources: A case study on regaining the IPRs of natural products, pharmaceutical products from Salacia reticulata Dakshini Perera
13:00 - 14:00	Lunch

Workshop session 2: *Overview and Issues (14:00 - 17:30)*

14:00 - 14:30	IPRs and Trade: Issues Mahafazullah
14:30 - 15:00	Trade, IPRs and Biosafety : Some issues of concern for South Asia Sachin Chaturvedi
15:00 - 15:30	Mutually supportive implementation of Cartagena Protocol on Biosafety and WTO rules Wang Chang Yong
15:30 - 16:00	Coffee/Tea
16:00 - 16:30	Biosafety and World Trade : A case study on food safety regulations in Sri Lanka Iresha Rajapakse
17:00 - 17:30	Medicinal Plant Conservation in Bangladesh Ferdousi Begum
18:00 19:10	Issues of conservation and development : Focus on Bangladesh
18:00 - 18:10	Introduction Ainun Nishat
18:10 - 18:25	Legal and policy issues dealing with biodiversity Mahfuzul Huq
18:25 - 18:40	NBSAP - Issues of conservation and planning Monowarul Islam
18:40 - 18:55	Problems and prospects in conservation Anisuzzaman Khan
18:55 - 19:10	Discussion

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Workshop session 3: *(9:00 - 13:00)*

09:00 - 09:30	Overview of Day 1
09:30 - 10:00	Traditional Knowledge, IPRs and Biodiversity registers Sagendra Tiwari
10:00 - 10:30	Discussion on national, regional and global priorities

10:30 - 11:00 Tea/Coffee

Biodiversity Documentation, Intellectual Property Management and WIPO Toolkit

11:00 - 13:00 WIPO Toolkit Introduction and Discussion

13:00 - 14:00 Lunch

Workshop session 4: Group discussion (14:00 - 17:00)

Group I - How to address issues of ABS within Trade and IPR Agenda
Group II - How to address issues of Biosafety within Trade and IPR Agenda

Group I - TORs

- Identification of issues and constraints
- Using Bonn Guidelines on ABS
- Linkages between ABS and Trade - Message to Cancum
- National action on ABS and Trade

Group II - TORs

- Identification of issues and constraints
- Using Cartagena Protocol on BS
- Linkages between BS and Trade - Message to Cancum
- National Action on BS and Trade

18th June 2003

Workshop session 5: Summing up (09:00 - 10:30)

09:00 - 10:30 Finalising recommendations and outputs

10:30 - 11:00 Coffee/Tea

Workshop session 6: Closing session (11:00 - 13:30)

11:00 - 12:00 Presentation by thematic groups

12:00 - 12:45 Discussion

12:45 - 13:30 Closing remarks

13:30 Lunch and close of GBF

WORKSHOP 4:

IMPLEMENTING A REGIONAL APPROACH TO TAXONOMIC CAPACITY BUILDING

ORGANISERS : IUCN; BioNET-International; Biodiversity Research Group of Bangladesh

SUPPORTED BY : Swiss Agency for Development Cooperation, Common Science Council and Global Environment Facility

OBJECTIVES :
- To identify the regional priorities for the taxonomic capacity building needed to meet sustainable development, poverty reduction and conservation needs;
- To agree a regional approach to building and sharing taxonomic capacity within the region to address national priorities as identified under the CBD and other agreements;
- To contribute towards achieving the CBD's target of reducing the rate of Biodiversity loss by 2010.

16th June, 2003

09:00 - 10:00	Introduction to GBF
10:00 - 10:30	Coffee/Tea

Workshop session 1: *National perspectives (10:30 - 13:00)*

10:30 - 10:45	Introduction and Workshop Objectives - Badrul Amin Bhuiya and Richard Smith
10:45 - 11:00	Self-introductions / ice-breaker
11:00 - 11:30	National Statement on Taxonomy: Bangladesh Badrul Amin Bhuiya, Matiur Rahman and Mahfuzal Haque
11:30 - 12:00	National Statement on Taxonomy: Bhutan - Karma Nyedrup
12:00 - 12:30	National Statement on Taxonomy: India M A Haque, J R B Alfred and M Sanjappa
12:30 - 13:00	National Statement on Taxonomy: Maldives Mohomed Ali
13:00 - 14:00	Lunch

Workshop session 2: *National perspectives (14:00 - 17:30)*

14:30 - 15:00	National Statement on Taxonomy: Pakistan Shahina Fayyaz, H Rahman and Rubina Akhter
15:00 - 15:30	National Statement on Taxonomy: Sri Lanka Jayanthi Edirisinghe, Anura Wijesekara and Dakshini Perera
15:30-16:00	Discussion: Addressing national priorities and inequalities in capacity through a regional collaborative approach
16:00 - 16:30	Coffee/Tea
16:30 - 17:30	Discussion: Addressing national priorities and inequalities in capacity through a regional collaborative approach

17th June 2003

Workshop session 3: *Global and regional initiatives and priorities (08:30 - 13:00)*

09:00 - 09:15	Overview of Day 1 Richard Smith
09:15 - 10:00	Introduction to the Global Taxonomy Initiative of the Convention on Biological Diversity and its Programme of Work Christopher H C Lyal
10:00 - 10:30	BioNET-INTERNATIONAL: a sub-regional, partnership-based approach to Taxonomic Capacity Building Richard Smith
10:30 - 11:00	Tea/Coffee
11:00 - 11:20	Networking Specialists of Neglected and Highly Speciose Taxon Groups in South Asia for Conservation Action Sally Walker
11:20 - 11:40	A Regional Approach to Taxonomic Capacity Building: A South Asian experience with faunal groups B A Daniel
11:40 - 12:00	South Asian Primates: Case Study in Importance of Taxonomy in Conservation in South Asia Sanjay Molur
12:00 - 12:30	Marine Invasive Alien Species through ship ballast water: Implications for taxonomy - Raghu Kumar

12:30 - 13:00	The role of taxonomy in the conservation of biocontrol agents of crop pests Khandker Ahmed
13:00 - 14:00	Lunch

Workshop session 4: *Group discussion (14:00 - 17:00)*

14:00 - 14:30	Ethnotaxonomy to classical taxonomy need recognition and linkages for Biodiversity conservation - an overview from Indian context Ravishankar Thupalli
14:30 - 14:45	Biosystematics - the neglected but the unavoidable Rashid Sheikh
14:45 - 15:30	Discussion: Agreeing Recommendations for GBF Plenary
15:30 - 16:00	Tea/Coffee
16:00 - 17:30	Discussion: Agreeing Recommendations for GBF Plenary

TORs - Is there a need for a regional approach to meeting taxonomic capacity needs in South Asia?

Group I - TORs

- CBD work programme of the Global Taxonomy Initiative: key actions

Group II - TORs

- Regional approach: realising the benefits of regional cooperation in South Asia

Group III - TORs

- Critical areas of focus (IAS, agriculture, species management, etc)

Group IV - TORs

- Taxonomy and sustainable development: demonstrating the links

18th June 2003

Workshop session 5: *Summing up (09:00 - 10:30)*

09:00 - 10:30	Finalising recommendations and outputs
10:30 - 11:00	Coffee/Tea

Workshop session 6: *Closing session (11:00 - 13:30)*

11:00 - 12:00	Presentation by thematic groups
12:00 - 12:45	Discussion
12:45 - 13:30	Closing remarks
13:30	Lunch and close of GBF

Annex 2 - List of Participants

Name	Organisation	Address	Country
Ahmed Khandker (Dr)	BCSIR Lab Rajshahi	Senior Scientific Officer, BCSIR Lab Rajshahi 6206 Rajshahi Phone: +088 0721 751343 (Res.) Fax: +088 0721 750757 khandkerahmed@yahoo.com	Bangladesh
Alam Khairul (Mr)	IUCN Bangladesh	House 11, Road 138, Gulshan 1 1212 Dhaka - -	Bangladesh
Amin MD. Sadrul (Mr)	HMD Science and Technology University	Dinajpur Dhaka - -	Bangladesh
Begum Ferdousi (Dr)	DEBTEC	House 90, Road 11A, Dhanmondi Dhaka - -debtec@aitlb.net	Bangladesh
Bhuiya Badrul (Prof)	BRGB	Department of Zoology, University of Chittagong, Chittagong 4331, Bangladesh 4331 Chittagong Phone: +880 31 726311/4362 Fax: +880 31 726310 babhuiya@hotmail.com www.brgb.org	Bangladesh
Bicknell Daniel (Mr) 1207 Dhaka	PMU SEMP	Paribesla Bhaban, E16 Anargaon, Sher-e-Bangla Nagar - -daniel.bicknell@kcl.uc.uk	Bangladesh
Chakraborty Tapas R. (Mr)	Bangladesh Centre for Advanced Studies (BCAS)	House 23, Road 10A, Dhanmondi R/A 1209 Dhaka Phone: +880 2 911-3682 Fax: +880 2 811-1344 www.beas.net	Bangladesh

Name	Organisation	Address	Country
Farid Uddrin Ahmed (Mr)		23, khyedal Singh Lane 1211 Dhaka - -	Bangladesh
Gulam Hussain (Dr)	Bangladesh Fisheries Research Institute	2201 Mymensingh - -fsbfri@bdonline.com	Bangladesh
Haider Chowdhury Shafique (Prof)	Chittagong University	32/A Katalgonj R/A (3rd floor), Panchlaish 4203 Chittagong Phone: +880 31 65-6016 -shafique@click-online.net	Bangladesh
Haque Mahfuzul (Mr)	Ministry of Environment	Dhaka - -mahfuzul@citechco.net	Bangladesh
Hossain Mostafa (Dr)	Bangladesh Agricultural University	Associate Professor, Dept. of Fish. Biology and Genetics, BAU, Mymensingh-2202, Bangladesh 2202 Mymensingh Phone: +880 91 54963 Fax: +880 91 55810 marhossain@yahoo.com	Bangladesh
Huq Roquibul (Mr)	IUCN Bangladesh	House 11, Road 138, Gulshan 1 1212 Dhaka - -	Bangladesh
Islam Monowar (Mr)	Ministry of Environment and Forest	Bangaldesh Secretariat 1000 Dhaka Phone: + 716-7472 Fax: + 716-9210 dsenv@sdabd.org	Bangladesh
Islam MD Anwarul (Mr)	Dhaka University	Dept. of Zoology Dhaka - -mahpukh@dhaka.net	Bangladesh
Khan Anisuzzaman (Mr)	IUCN Bangladesh	House 11, Road 138, Gulshan 1 1212 Dhaka Phone: +88 2 989-0395 Fax: +88 2 989-2854 anis@iucnbd.org	Bangladesh

Name	Organisation	Address	Country
Khan Rashiduz Zamen (Mr)	IUCN Bangladesh	House 11, Road 138, Gulshan 1 1212 Dhaka - -	Bangladesh
Mannan M.A. (Dr)	NCDP, DAE	704, Khamarbani Dhaka - -mannan49@hotmail.com	Bangladesh
Mazhar Farhad (Mr)	UBINIG	5/3 Banabo Mahanpur Riny Road 1207 Dhaka Phone: +880 2 811-1465 Fax: +880 2 811-3065 ubinig@citecheo.net	Bangladesh
MD. Khairul Bashar (Dr)	Bangladesh Rice Research Institute	Genetic Resources and Seed Division, BRRI 1701 Gazipur Phone: +88 02 9257401-5 Fax: +88 02 92-6734 brrihq@bdonline.com	Bangladesh
Mollah Abdur Rob (Dr)	Nature Conservation Management (NACOM	8/12, Lalmatia, Block-B, Dhaka-1207, Bangladesh. Phone: +880 02 9121437 -nacom@bdonline.com	Bangladesh
Moudud Hasna (Mr)	CARDMA	159 Gulshan Avenue, Gulshan Dhaka - -hmcardma@citechco.nct	Bangladesh
Mufad Ahmed Chowdhery (Mr)	Ministry of Environment and Forests	Room 1303, Building 6 Dhaka Phone: + 716-0551 -sasumoef@sdnbd.org	Bangladesh
Munir Md Qamar (Mr)	Biodiversity Conservation of Saint Martin's Island Project	4/5 Iqbal Road, Mohammadpur Dhaka - -	Bangladesh
Nelayut Halima (Ms)	IUCN Bangladesh	House 11, Road 138, Gulshan 1 1212 Dhaka - -	Bangladesh

Name	Organisation	Address	Country
Nishat Ainun (Dr)	IUCN Bangladesh	House 11, Road 138, Gulshan 1 1212 Dhaka Phone: +880 2989-0423 Fax: +880 2989-2854 nishat@iucnbd.org	Bangladesh
Pasha Mostafa Kamal (Prof)	University of Chittagong	Department of Botany , University of Chittagong, Chittagong-4331, Bangladesh 4331 Chittagong Phone: 0088 031 726311-14/4306 Fax: 0088 031 610004 babhuiya@click_online.net www.brgb.org	Bangladesh
Rahman Matiur (Dr)	Bangladesh National Herbarium	Chiritham Road, Mirpur 1 1216 Dhaka - -bnh@bttb.net.com	Bangladesh
Rahman MD Mokhlesur (Mr)	Bangladesh Forest Research Institute	Wildlife Section, BFRI Chittagong Phone: +880 31 681-575 Fax: +880 31 681-566	Bangladesh
Rahman Laskar Mugsudur (Mr)	Forest Department	Comilla Social forest Division Comilla Phone: +880 81 68-449 Fax: +880 81 77-077 laskarmr@bangla.net	Bangladesh
Shahid Shaila (Mr)	BELA	House 9, Road 8, Dhanmondi Dhaka Phone: + 861-8706 -bela@bangla.net	Bangladesh
Sheikh Rashid (Dr)	Centre for Advanced Research in Natural resources & Management	House No. 539, 2nd Floor, Road No. 12, Baitul Aman Housing Society, Mohammadpur 1207 Dhaka Phone: +880 02 9120434 Fax: +880 02 9553435 carinam95@yahoo.com	Bangladesh

Name	Organisation	Address	Country
Ullah Mahfuz (Mr)	CFSD	H 50/1, Road 11/A, Dhanmondi Dhaka Phone: +880 2 911-9128 Fax: +880 2 913-0083 cfsd@bdcom.net	Bangladesh
Van Zalinge Robert (Mr)	Sunderban Biodiversity Conservation Project	Ban Bhabam, College Road, Bayna Khulna - -robert@khulna.bangla.net	Bangladesh
Nyedrup Karma (Mr)	National Environment Commission	PO Box 466 Thimphu Phone: +975 2 32-3384 Fax: +975 2 32-3385 nyedrupkc@hotmail.com	Bhutan
Wang Changyong (Prof)	Nanjing Institute of Environmental Science, NEPA	Jiangwangmiao St. 8 210042 Nanjing Phone: +86 25 2547-7915 Fax: +86 25 541-1611 aayyswcy@public1.ptt.js.cn	China
Caucau Emali (Ms)	Locally Managed Marine Area Reps	Votua Phone: +679 667-5061 -	Fiji
Melailagi Sunia (Mr)	FLMMA	Fisheries Dept, Min. of Fisheries and Forest - -swagainabete@fisheries.gov.fj	Fiji
Alfred J. R. B. (Dr)	Zoological Survey of India	'M' Block, New Alipore 700 053 Kolkata Phone: +91 33 2400-6893 Fax: +91 33 2400-6893 jayakumar31@hotmail.com	India
Bexell-Ayyachamy Daniel (Dr)	Zoo Outreach Organization	29/1, Bharathi Colony, PO Box 1683 641044 Coimbatore Phone: +91 422 256-1087 Fax: +91 422 256-3269 icinsa@vsnl.net zooreach.org	India

Name	Organisation	Address	Country
Bhatt Seema (Ms)	Independent consultant (biodiversity)	C 349 Defence Colony 110024 New Delhi Phone: +91 11 2462-0830 -seemabhatt@vsnl.com	India
Chaturvedi Sachin (Dr)	Research and Information System (RIS)	Core IV B India Habitat Center, Lodhi Road 110003 New Delhi Phone: +91 11 2468-2177 Fax: +91 11 2468-2173 sachin@ris.org.in www.RIS.ORG.IN	India
Chavan Vishwas (Mr)	National Chemical Laboratory	Information Division, Dr. Homi Bhabha Road 411008 Pune Phone: +91 20 5893457 Fax: +91 20 5893973 vishwas@ems.ncl.res.in www.ncbi.org.in	India
Gainandi Vaismali Ratamrao (Dr)	Medicinal Plants Conservation Center - Rural Communities	F/3 Radmakrishna appt. 425/84. T.M.V. Colony, Gultekadi, Mukumdmagar 37 Pune Phone: +91 020 426-6629 -vcmpcc@vsnl.com	India
Grard Pierre (Dr)	French Institute of Powdicherry	1, St Louis St. Phone: +91 413 233-4168 -pierre.grard@ifpindia.org	India
Haque M. A. (Dr)	Ministry of Environment and Forests, Government of India	Paryavaran Bhawan, CGO Complex 110003 New Delhi Phone: +91 11 24360667 Fax: +91 11 24360667 haque@menf.delhi.nic.in http://envfor.nic.in	India
Hariramamurthy Govindaswamy (Mr)	Medicinal Plants Conservation Network	74/2 Jarakabande Kaval, Attur Post, Via Yelahanka 560097 Bangalore Phone: +91 80 856-8003 -g.hari@frlht.org.in www.frlht.org.in	India

Name	Organisation	Address	Country
Hirabai Hiralal Mohan (Mr)	Vrikshmitra	Near Chiddarwar Hospital, in front of RTO office, Ram Nagar 442401 Maharashtra Phone: +91 7172 58-134 -vrikshamitra@sandesha.com	India
Jardhari Vijay (Mr)	Beej Bachao Andolan (save the seeds movement)	Jardhar Village, PO Nagni, District Tehri Uttaranchal - -	India
Jirlimath Sadashivayya M. (Mr)	BIRDS-MPCP (FRLHT)	Tukkanatti, Gokak Belgaum 591224 Karnatak Phone: +91 831 38-4979 Fax: +91 831 32-4435 birds@naganer.com	India
Kasthuri Chandrasekaran (Ms)	Medicinal Plants Conservation Park	CCD, 18-C-1, Kennet Cross Road 625010 Madurai Phone: +91 452 260-7762 Fax: +91 452 260-5789 mdu-ccd@sanchannet.in	India
Khan K.M. (Mr)	Globe South Central Asia	12, Meena Bagh 110 011 New Delhi Phone: +91 11 2379-4870 Fax: +91 11 2379-4882 kmk@sansad.nic.in	India
Kothari Ashish (Mr)	Kalpavriksh	Apt. 5, Shri Dutta Krupa, 908 Deccan Gymkhana 411004 Pune Phone: +91 20 565-4239 Fax: +91 20 565-4239 ashishkothari@vsnl.com	India
Kumar Pushpam (Dr)	Institute of Economic Growth	University of Delhi Enclave 110 007 New Delhi Phone: +91 11 276-67101 Fax: +91 11 276-62397 pk@ieg.ernet.in www.ieg.nic.in	India

Name	Organisation	Address	Country
Kumar Sudershan (Mr)	National Botanical Research Institute	National Botanical Phone: +91 522 220-4026 Fax: +91 5222 220-5673 sudershank@hotmail.com	India
Lal Kanhiya (Mr)	Tunn Bhart Sing	Village Bhanwta Post Agar Dist Alwar, Rasasthon 310 022 Pipr - -	India
Mohanty Bibhu Prasad (Mr)	M.S. Swaminathan Research Foundation	Lingarai Nagar, Jeypore, Koraput 764004 Orissa Phone: +91 6854 23-0350 Fax: +91 6854 23-3151 bibhu65@hotmail.com www.mssrf.org	India
Molur Sanjay (Mr)	Zoo Outreach Organization / CBSG, South Asia	29 1st Cross, Bharati Colony, Peelamedu, Coimbatore 641 004 Tamil Nadu Phone: +91 422 256-1087 Fax: +91 422 256-3269 zooreach@vsnl.com www.zooreach.org	India
Pabla Harbhajan Singh (Dr)	Forest Department, Madhya Pradesh	Satpura Bhawan 426 004 Bhopal, M.P. Phone: +91 755 255-6258 Fax: +91 755 255-1450 pablahs@sancharnet.in	India
Pathak Broome Neema (Ms)	Kalpavriksh	Apt. 5, Shri Dutta Krupa, 908 Deccan Gymkhana 411004 Pune Phone: +91 20 565-4239 Fax: +91 20 565-4239 natrails@vsnl.com	India
Raghukumar Seshagiri (Dr)	National Institute of Oceanography (CSIR)	Dona Paula 403 004 Goa Phone: +91 832 245-6700 Fax: +91 821 245-6702 raghu@csnio.ren.nic.in www.nio.org	India

Name	Organisation	Address	Country
Rathore Brij Mohan Singh (Mr)	Forest Department	Seoni Forest Circle Madhya Pradesh Phone: +91 7692 22-0594 Fax: +91 7692 22-5554 bms_t@sancharnet.in	India
Sanjappa Munivenkatanppa (Mr)	Botanical Survey of India	P-8 Brabourne Road 700 001 Kolkata Phone: +91 33 2243-6050 Fax: +91 33 2242-4922	India
Sheth-Gutman Manisha (Ms)	Kalpavriksh	Apt. 5, Shri Dutta Krupa, 908 Deccan Gymkhana 411004 Pune Phone: +91 20 565-4239 Fax: +91 20 565-4239 shethgutman@satyam.net.in	India
Thupalli Ravishankar (Dr)	M. S. Swaminathan Research Foundation	7-5A-2/1, Gopalakrishna Street, Ramaraopet, Kakinada, East Godavari district 533004 Kakinada, Andhra Pradesh Phone: +91 884 2377177 Fax: +91 884 2380095 raviethnobotanist@rediffmail.com	India
Vasamalli Kuttan (Ms)	Sustainable Agricutlre and Environmental Voluntary Action (SEVA)	n° 45, T.P.M. Nagar, Virattipathu, Tamil Nadu 625 010 Madurai Phone: +91 452 238-0082 Fax: +91 452 230-0425 numvali@vsnl.com	India
Walker Sally (Ms)	Zoo Outreach Organization/CBSG, South Asia	29 1st Cross, Bharati Colony, Peelamedu, Coimbatore 641 004 Tamil Nadu Phone: +91 422 256-1087 Fax: +91 422 256-3269 zooreach@vsnl.com www.zooreach.org	India
Duthie David (Dr)	UNEP	UNEP/DGEF, PO Box 30552, Gigiri Nairobi Phone: +254 20 623717 Fax: +254 20 624268 david.duthie@unep.org	Kenya

Name	Organisation	Address	Country
Ali Mohamed (Dr)	Environment Research Centre	4th Floor, Jamaluderen Complex, Nikagas Magu Malé Phone: +960 33-5949 Fax: +960 33-5953 em_alee@yahoo.com	Maldives
Aryal Bishmu (Mr)	Bagmar CF	Chitaran Phone: +977 180-038 -	Nepal
Budhathoki Prabhu (Mr)	International Centre for Protected Landscape, University of Greenwich	PO Box 4257 Kathmandu Phone: +977 1 447-4879 Fax: +977 1 447-9362 prabhu@wlink.com.np	Nepal
Gurung Nar Bahadur (Mr)	King Mahendra Trust for Nature Conservation	Annapurna Conservation Area Project, PO Box 183 Pikhara, Kaski Phone: +977 61 52-1102 Fax: +977 61 52-8203 gbgurung@kmtnc-acap.org.np www.kmtnc.org.np	Nepal
Gurung Gehendra Bahadur (Mr)	King Mahendra Trust for Nature Conservation	Annapurna Conservation Area Project, PO Box 183 Pokhara, Kaski Phone: +977 61 52-1102 Fax: +977 61 52-8203 gbgurung@kmtnc-acap.org.np www.kmtnc.org.np	Nepal
Gurung Changdra (Mr)	WWF Nepal	PO Box 7660, Baluwatar Kathmandu Phone: +977 1 443-4820 Fax: +977 1 443-8548 cgurung@wwfnepal.org.np	Nepal
Tiwari Sagendra (Mr)	IUCN Nepal	Bakhundole, Lalitpur, PO Box 3923 Kathmandu Phone: +977 1 52-8781 Fax: +977 1 53-6789 stiwari@iucn.org.np	Nepal

Name	Organisation	Address	Country
Akhter Rubina (Dr)	PARC	National Herbarium, NARC, Park Road 45500 Islamabad Phone: +92 51 9255042 Fax: +92 51 9255034 rubinaflora@yahoo.com	Pakistan
Fayyaz Shahina (Dr)	University of Karachi	National Nematological Research Centre Karachi Phone: +92 21 924-3202 -shahinaku@yahoo.com	Pakistan
Rahman Hafizur (Dr)	Zoological Survey Department, Govt of Pakistan	Block 61, Pakistan Secretariat, Shahrah-e-Iraq Karachi - -zeejah@super.net.pk	Pakistan
Balakrishna Pisupati (Dr)	IUCN - Regional Biodiversity Programme	N° 53 Horton Place 7 Colombo Phone: +94 7 471-0439 Fax: +94 1 66-2941 iucn-rbp@sltnet.lk	Sri Lanka
Dhamarji Bhujangarao (Mr)	IUCN - Regional Biodiversity Programme	53, Horton Place 7 Colombo Phone: +94 7 471-0439 Fax: +94 1 44-2941 iucn-rbp@sltnet.lk	Sri Lanka
Edirisinghe Jayanthi (Ms)	University of Peradenya	Dept. of Zoology Peradeniya Phone: +94 08 38-8693 Fax: +94 08 38-8108 jpediri@sltnet.lk	Sri Lanka
Ekanayake Sarath (Mr)	IUCN Sri Lanka	53 Horton Place 7 Colombo Phone: +94 1 682-418 Fax: +94 1 682-470 spe@iucnsl.org	Sri Lanka
Herath Vidyaratne Mudiyanselage (Mr)	Ministry of Environment and Natural Resources	“Sampathpaya” Battaramulla Phone: +94 1 866-6656	Sri Lanka

Name	Organisation	Address	Country
		Fax: +94 1 877-297 herath3@itmin.com	
Mahindapala Ranjith (Dr)	IUCN - The World Conservation Union	53, Horton Place Colombo 7 Phone: +94 1 682420 Fax: +94 1 682470 rma@iucnsl.org	Sri Lanka
Perera G.T. Dakshini (Ms)	Mnistry of Environment and Natural Resources	104, Parisara Piyasa, Robert Gunawardena Mawatha Battaramulla Phone: +94 1 88-7454 Fax: +94 1 88-7454 envgreen@sltnet.lk	Sri Lanka
Rajapakse Shirmilee Iresha (Ms)	Ministry of Environment and Natural Resources	104, Parisara Piyasa, Robert Gunawardena Mawatha Battaramulla Phone: +94 1 88-7454 Fax: +94 1 88-7454 envgreen@sltnet.lk	Sri Lanka
Randeni Leel (Mr)	Ministry of Forestry and Natural Resources assigned to the Env. Dept of Board of Investment of Sri Lanka	Level 6, West Tower, World Trade Centre, Echelon Square Colombo 1 Phone: +94 1 54-3863 Fax: +94 1 45-2089 leelr2001@yahoo.com	Sri Lanka
Rosales Rina Maria (Ms)	IUCN Sri Lanka	53 Horton Place 7 Colombo Phone: +94 1 682-418 Fax: +94 1 682-470 rmr@iucnsl.org	Sri Lanka
Warner Emilie (Ms)	IUCN - Regional Biodiversity Programme	N° 53, Horton Place 7 Colombo Phone: +94 7 471-0439 Fax: +94 1 66-2941 biodiv@sltnet.lk	Sri Lanka
Wijesekara Anura (Dr)	Department of Agriculture	PO Box 11 Peradeniya	Sri Lanka

Name	Organisation	Address	Country
		Phone: +94 8 38-8011 Fax: +94 8 38-8234 awijesekara@yahoo.com	
Ponti-Martinet Caroline (Ms)	IUCN	Rue Mauverney 96 1196 Gland Phone: +41 22 9990001 Fax: +41 22 9990025 ccm@iucn.org www.gbf.ch	Switzerland
Hussain Zakir (Mr)	IUCN Thailand	Asia Regional Office, 63 Soi 39 Sukhumvit Road, Wattana 10110 Bangkok Phone: +662 662-4308 Fax: +662 662-4388 hussain@iucnt.org www.iucn.org	Thailand
Joshi Seema (Ms)	The Equator Initiative, UNDP	Apt 7, Phaya Tai Cout, Soi Kokit Bangkok - -seema.joshi@undp.org	Thailand Thailand
Moore Patricia (Ms)	IUCN Asia Regional Office	House 63, Sukhumvit Soi 39, Wattana 10110 Bangkok Phone: +66 2 662-4029x128 Fax: +66 2 662-4388 pmoore@iucnt.org	
Lyal Christopher (Dr)	Convention on Biological Diversity	c/o The Natural History Museum, Cromwell Road SW75BD London Phone: +44 207 942 5113 Fax: +44 207 942 5229 chris.lyal@biodiv.org www.biodiv.org	UK
Reid Hannah (Ms)	IIED	3, Endsleigh St. WC1H0DD London Phone: +44 20 7388-2117 Fax: +44 20 7388-2826 hannah.reid@iied.org www.iied.org	UK

Name	Organisation	Address	Country
Smith Richard (Dr)	BioNET- INTERNATIONAL	Bakeham Lane, Egham TW20 9TY Surrey Phone: +44 1491 829036 Fax: +44 1491 829082 bionet@bionet-intl.org www.bionet-intl.org	UK
Wadmore Alison Margaret (Ms)	Imperial College	41, Princes Court Wembley Phone: +44 208 902-1903 Fax: +44 208 795-1784 alisonresearch@hotmail.com	UK
Khan Zeenath R. (Ms)	University of Wollongong	PO Box 20183 Dubai Phone: +971 50 656-3601 Fax: +971 4 395-5662 zeenathkhan@uowdubai.ac.ae	United Arab Emirates
Reza Khan Mohammed Ali (Dr)	Dubai Zoo	PO Box 67 Dubai Phone: +971 4 344-8283 Fax: +971 4 349-9437 makhan@dm.gov.ae	United Arab Emirates