

‘Sub-Regional Consultation on Conservation of Hkakaborazi Mountain Ecosystems in Eastern Himalayas’, Putao of Kachin State, Myanmar

October 25-29, 1999

Background

Sub-regional consultation on the conservation of the Hkakaborazi mountain ecosystem is a key activity as defined by the International Centre for Integrated Mountain Development (ICIMOD) together with the Government of Myanmar and it is also an important component of the Eastern Himalayan Programme for Collaboration in Biodiversity 1998-2000, supported by the MacArthur Foundation.

The biodiversity of the eastern Himalayan region located towards the southeastern end of the Himalayas is unique. The eastern Himalayas are a meeting point of the Indo-Chinese and Indo-Malayan tropical lowland flora, the Sino-Himalayan/east Asiatic flora and the western and central Himalayan flora. Towards the east elements of the alpine flora of western China are also evident. The significance of the Hkakaborazi region lies in the fact that it is considered an Asiatic centre of endemism and centre of origin for angiosperm flora.

Hkakaborazi is a snow-capped mountain and the highest peak in Myanmar (5,881m). It is situated in the far northern part of Myanmar, in Kachin State. In 1996, 3,812 sq.km of mountain area had been reserved for nature conservation under the Wildlife Protection Law of Myanmar.

The Hkakaborazi mountain system is shared by Zayu Nature Reserve in Tibet, an autonomous region of China, which is situated in Zayu County and was established in 1985. Zayu Nature Reserve has an area of 1,014 sq.km. Forest types typical in the reserve are subtropical, evergreen, broadleaf forests and pine forests. Another natural protection area in China that falls into the Hkakaborazi region is the Gaoligong Shan Nature Reserve, covering an area of 1,233 sq.km. This reserve was established in 1983 and has been recently extended into the Dulong Jiang area that is actually in the Hkakaborazi mountains. Forest types found in the reserve are subtropical, evergreen, broadleaf forests, alpine forests and coniferous forests. Rare and endangered flora and fauna inhabit the reserve and represent a rich biodiversity.

Aspects of interest when considering conservation of the Hkakaborazi mountain ecosystem are

- Hkakaborazi is the highest mountain peak in Myanmar and the far eastern Himalayas,
- of the eastern Himalayan natural ecosystem forests it is one of those that has been least affected by modern development intervention,
- it is still a very inaccessible area, covering about 80% of Kachin State, with closed forests in Myanmar and good forest cover in parts of China,
- there is scope for transboundary collaboration and this needs to be addressed as soon as possible,

“ethnic minorities still have low population densities and practise traditional shifting agriculture”

- only limited research has been undertaken in this area and there is considerable scope for joint research initiatives,
- ethnic minorities found in the area include Kachin (Jinpo), Tayon, Dalaung (Dulong), Lisu, Tibetan, Phun, Ya-wan, and Shan-ta-yok, and
- these ethnic minorities still have low population densities and practise traditional shifting agriculture. They have their own traditional cultures and beliefs, and hence cultural diversity is also very high.

Objectives of the Workshop

The long-term objective of the workshop is to contribute to the conservation of the rich natural biodiversity of the Hkakaborazi mountain ecosystem.

Immediate objectives are

- to exchange and share information on the Hkakaborazi region between Myanmar and China,
- to create spatial and ecological databases for the future management plan of the park,
- to discuss and recommend strategies and approaches for conservation, including transboundary collaboration, and
- to identify potential sources for providing support to conservation in the region.

“twenty-nine participants from government and research institutions in Myanmar and China”

Participants

Twenty-nine participants from government and research institutions in Myanmar and China, and representatives of the Wildlife Conservation Society (WCS) (an international non-government organisation) and ICIMOD participated (see Appendix 1).

The Workshop Venue

The workshop took place in Hkakaborazi Guest House in Putao, Kachin State, which is situated in the northernmost part of Myanmar and borders with Yunnan Province and Tibet, an autonomous region of China, in the north and east, and with Arunachal Pradesh State of India in the west. Putao Town is the capital of Putao District. The people living in this region still keep their traditional life customs.

The Workshop Programme

The workshop agenda included the following.

- An inauguration session
- Session I — An Introduction to the Hkakaborazi ecosystem
- Session II — Biodiversity conservation in the eastern Himalayas
- Session III — Institutional profiles and their related activities
- Session IV — Priorities for biodiversity conservation in the Hkakaborazi mountain ecosystem
- A field trip to Mular-Shi-Di Village and Ma-chan-baw
- A plenary discussion and closing ceremony

The detailed programme is shown in Appendix 2

Inaugural Session

An inaugural address by U. Shwe Kyaw, Deputy Director General of the Forest Department, gave a warm welcome to the participants and introduced the general conditions and history of expeditions to the Hkakaborazi mountain area.

An opening speech was made by Mr Maung Myo, the Chairman of the Peace and Development Council, Putao District, Kachin State.

An opening address, given by Professor Chen Guangwei, Division Head of Mountain Natural Resources, ICIMOD, introduced the mandate of ICIMOD and its efforts in biodiversity conservation.

The background and objectives of the project were defined by Mr Ajay Rastogi, a biodiversity specialist from ICIMOD.

The schedule and key activities of the workshop were outlined by U. Htun Paw Oo, Deputy Director of the Forest Department, Myanmar.

Summary of Thematic Papers Presented at the Workshop

The 15 thematic papers presented at the workshop covered a wide range of topics related to biodiversity conservation in the eastern Himalayas and many of them introduced important information about this region to the outside world. Selected papers are included in Part II of this book. Titles have been modified in Part II in compliance with good English usage.

The non-government organisation (NGO) collaboration for the development of Hkakaborazi National Park in Myanmar presented by U. Saw Htun Khine introduced the the biogeography of and biological expeditions to this region, with detailed data and histories of related activities. An interesting paper on socioeconomic and cultural conditions of ethnic communities in Hkakaborazi National Park presented very detailed, first-hand information obtained through an expedition. One paper described the vegetation and key floristic features of the region, two papers presented information about orchids, and one paper introduced the rhododendrons endemic to the Myanmar snow-capped mountain region. One paper introduced the current status of and threats to the survival of large mammals in north Myanmar and one paper presented recently recorded birds of the Hkakaborazi region. The other topics presented included ecotourism, policy and management issues, and institutional profiles. All of these data are valuable for furthering understanding of this inaccessible region and for future collaborative cooperation.

Session I – An Introduction to the Hkakaborazi Ecosystem

“NGO collaboration for the development of Hkakaborazi National Park in North Myanmar” addressed WCS activities in Myanmar. This organisation has been providing support for field surveys (on tigers and tortoises, for example), basic training on wildlife conservation, and small research grants. “Vegetation and key floristic features of Hkakaborazi National Park” presented information on the history of botany and the vegetation and flora in northern Myanmar, as well as study methodology, field activities, and results. Special papers covered “Rhododendrons endemic to the Myanmar snow-capped mountain region”, “An introduction to Myanmar native orchids of the Hkakaborazi Area”, “Some endemic species and new records of orchids of Hkakaborazi and surrounding areas”, and “Birds Recently Sighted in Hkakaborazi Region, Northern Myanmar”. A paper on “Socioeconomic and Cultural Conditions of Ethnic

“interesting data, some at family level. Data on physical conditions and ethnic groups (their ways of living, their languages, their religion and beliefs, shifting cultivation, and hunting) were presented”

Communities in Hkakaborazi National Park” presented interesting data, some at family level. Data on physical conditions and ethnic groups (their ways of living, their languages, their religion and beliefs, shifting cultivation, and hunting) were presented. In this section “Hkakaborazi National Park and its related management issues” and “Pidaung Wildlife Sanctuary” (the oldest protected area in Myanmar, established in 1913) were also addressed.

Session II — Biodiversity Conservation in the Eastern Himalayas

A study on existing and potential areas for transboundary conservation in India along the Sino-Indian border of the eastern Himalayas was described, briefing the vegetation, natural reserves, and related issues of Arunachal Pradesh and Sikkim. Remote sensing and geographic information systems (GIS) were used for analysis of land cover and use and the characteristics of protected areas. The presentation on “Emerging policy and legislation regime for biodiversity conservation in protected areas” assessed new concepts in conservation, including community forestry and ecodevelopment buffer zones.

Session III — Institutional Profiles and Their Related activities

“Current status and threats to the survival of large mammals in north Myanmar” reviewed the expedition and survey of nature and history of nature conservation in Myanmar. The illegal trade of wildlife is a key driving force threatening the survival of wild animals. Based on field survey, hunting activities and the prices of animal parts were summarised. A set of recommendations for the protection of wildlife was also suggested. A presentation was given on ICIMOD as an important international organisation working in the Hindu Kush-Himalayan eco-region and undertaking a wide range of activities related to mountain farming systems, watershed management, management of mountain commons, mountain enterprises, and infrastructure, information systems, and data dissemination. China’s experiences of nature conservation in Yunnan and the Tibetan Plateau were discussed. The biodiversity characteristics of the Grand Canyon of the Yarlung Zangbo River in the eastern Himalayas were discussed in a special presentation by the expedition team leader Professor Li Bosheng, Chinese Academy of Sciences (CAS)

“the illegal trade of wildlife is a key driving force threatening the survival of wild animals”

Session IV — Priorities for Biodiversity Conservation in the Hkakaborazi Mountain Ecosystem

Two groups were formed to discuss the ‘hot’ issues of Hkakaborazi National Park. Group I focused on ‘Management and socioeconomic issues: policy regulation, incentives for community participation, institutional mechanisms, etc.’ and Group II on ‘Scientific surveys and conservation planning: gaps in information and knowledge’. These were followed up with group presentations and deliberations on the scope of regional collaboration.

The outcomes of the discussion on 'Scientific survey and conservation planning: gaps in information and knowledge' are

- The geographic limits of the 'Greater Hkakaborazi' ecosystem within the countries of India, Myanmar, and China should be identified. ICIMOD will play a key role in coordinating efforts by the respective countries in the delineation of the geographic limits.
- Standardised land-use, land-cover, and vegetation maps for the ecosystem should be generated. Technical assistance from ICIMOD (GIS analysis, Land Observation Satellite (Landsat) images) is required.
- Biodiversity surveys need to be initiated with the aim of collecting baseline data on plants, animals, reptiles, amphibians, birds, and insects. Species' inventories need to be developed.
- Preliminary identification of rare, threatened, and endangered species (based on categories of the International Union for Conservation of Nature and Natural Resources (IUCN) should be refined with the accumulation of additional information.
- Biodiversity mapping requires the training of taxonomists and para-taxonomists.
- There is a need for the exchange of scientific data, personnel, and relevant literature among the three countries. ICIMOD could play a key role in facilitating this exchange.
- Scientific research projects need to be initiated within the area. Training in research methods is an important requirement. These activities could be supported by ICIMOD and other NGOs (such as WCS).
- Scientific studies on wildlife trade, medicinal plant use, traditional resource use, density and distribution of threatened plants and animals (habitats), and anthropogenic dependence on natural resources should be initiated.
- Permanent plots in representative habitats for purposes of research, vegetation sampling, and monitoring should be established.
- Shifting cultivation and hunting for the wildlife trade are perceived as serious threats to biodiversity in the area. The management plan needs to identify and test sustainable alternatives to these activities.
- The establishment of research stations will help in surveying, monitoring, and data collection in the long term.
- It is important to share information on migratory and threatened bird and mammal species.
- Environmental education and awareness are significant issues that need to be addressed. Local language posters on endangered species, the value of wildlife, sustainable use of natural resources (over harvesting of wildlife and medicinal plants), and wildlife laws need to be designed and disseminated. Environmental education activities could be undertaken through mobile workshops and the introduction of environmental curricula in schools. Awareness of conservation issues should occur at all levels: from administrative authorities at district level to the local people.
- Past successes of collaborative, interdisciplinary expeditions indicate that future surveys and expeditions should also be collaborative – and should include representatives from neighbouring countries.
- It is critically important to clearly identify and quantify the threats to the area and to design appropriate solutions. Conservation solutions should be directly linked to threats and should be site specific.
- Ecotourism has unintentionally resulted in the illegal collection of butterflies, insects, birds, and orchids. Appropriate steps need to be taken to ensure that illegal collection activities are stopped and all research activities in the country are conducted in collaboration with the Forest Department.

“participants studied land cover, land use, the forest, infrastructure, and the way of life of local people”

Field Trip to Mular Shidi Village and Machanbaw Township

A one-day field trip to Mular Shi Di Village and Ma-chan-baw was organised. On the way participants studied land cover, land use, the forest, infrastructure, and the way of life of local people. The villagers of Lisu and Rawan danced, sang, and served a variety of local food to present their warm welcome to the delegation in Mular Shi Di Village. Delegates visited local markets and observed people's activities in the Machanbaw Township: ethnic housing, family gardens, suspension bridges, and shifting agriculture (taungya) scattered among the hills provided a picturesque view. A more detailed study would allow species of plants to be identified and discussion with the local people to learn more about their daily life and income.

Plenary Discussion and Closing Ceremony

A plenary discussion was held on 29 October 1999 to finalise the recommendations for the following (see Appendix 3): (1) The Greater Hkakaborazi mountain ecosystem; (2) a southern extension to Hkakaborazi National Park; (3) wildlife trade; (4) scientific studies; (5) management of Hkakaborazi National Park; (6) an education and awareness programme; (7) world heritage site status. This was followed by the closing ceremony. Participants were pleased to have had the opportunity to visit Putao District, a remote area of Myanmar.

Appendix 1: Participants List and Addresses

International Centre for Integrated Mountain Development (ICIMOD)

Professor Chen Guangwei
Division Head
Mountain Natural Resources, ICIMOD
Jawalakhel, Kathmandu, Nepal
Tel: +977 1 525313
Fax: +977 1 524509
E-mail: chen@icimod.org.np

Mr Ajay Rastogi
Biodiversity Consultant, ICIMOD
Bungalow 2, Bhujjapani, Bagdogra, District of Darjeeling, West Bengal 734422, India
Tel: +91 353 550093
E-mail: aree@dte.vsnl.net.in

Wildlife Conservation Society (WCS)

Dr Madhu Rao
Scientist, WCS
185th Street and Southern Boulevard, Bronx,
New York, NY 10460, USA
Tel: +1 718 220 5261
Fax: +1 718 364 4275

People's Republic of China

Professor Li Bosheng
Institute of Botany, Chinese Academy of Science, 4-402-22 Building, Beili Shuangyushu, Haidian, Beijing 100093, People's Republic of China
Tel: +86 10 62591431, ext. 6233 (office) / +86 10 62542950 (residential)
Fax: +86 10 62542950 (residential)
E-mail: zhchen@caf.forestry.ac.cn (residential)

India

Mrs Ruchi Pant
Director, Ashoka Trust for Research in Ecology and the Environment (ATREE)
Bungalow 2, Bhujjapani, Bagdobra, District of Darjeeling, West Bengal 734422, India
Tel: +91 353 550093
E-mail: atree@dte.vsnl.net.in

Myanmar

U. Thein Aung
Park Warden, Hkakaborazi National Park
Nature and Wildlife Conservation Division,
Forest Department, Putao, Myanmar
Tel: c/o +95 1 524893

U. Myo Khin
Lecturer, Botany Department, University of Yangon
Myanmar
Tel: +95 1 531030 (office) / +95 1 525592 (residential)

U. Saw Htun Khine
Country Programme Coordinator, WCS
Myanmar Programme
Building No. 1, Ayeeyekmon 1st Street, Ward 3, Hlahtg Township, Yangon, Myanmar
Tel: +95 1 524893 (office) / +95 1 531193 (residential)
Fax: +95 1 512838

U. Win Ko Ko
Staff Officer, Forest Department
Bayintnaung Road, Insein, Yangon
531(A), Malar Myaing Avenue, Pyay Road,

Kamayut, Yangon, Myanmar
Tel: +95 1 663421 (office)/+95 1
530210 (residential)

U. Shwe Kyaw
Deputy Director General, Forest
Department
Bayintnaung Road, Insein, Yangon,
Myanmar
Tel: +95 1 681758
Fax: +95 1 665592

U. Sein Htoon Linn
Assistant Director, Planning and
Statistics Department, Ministry of
Forestry
344, Mahabandoola Garden
Street, Yangon, Myanmar
Tel: +95 1 650291 (office)/+95 1
281991 (residential)
Fax: +95 1 664459

Daw Kalyar Lu
Demonstrator, Botany Department,
University of Myitkyina
Myitkyina, Myanmar
Tel: +95 74 22662

U. Saw Lwin
CEC Member, Myanmar
Floriculturists' Association
No. 42/A Inya Myaing Road,
Shwe-Taung Gyar, Ward II, Bahan
Township, Yangon, Myanmar
Tel: +95 1 511926/533833
Fax: +95 1 9 28047

U. Saing Than Maung
Head of Branch, National
Commission for Environmental
Affairs (NCEA)
48/390, P. Moe Hnin 1st Lane,
Northern Dagon Myothit, Yangon,
Myanmar
Tel: +95 1 221106

Lieutenant Colonel Maung Myoe
Chairman, District Peace and
Development

Council of Putao, Kachin State,
Myanmar

U. Tun Nyo
Deputy Director, Forest Department
Kachin State, Myitkvina, Myanmar
Tel: +95 74 22331

U. Kyaw Nyunt
CEC Member, Myanmar
Floriculturists' Association
No. 352/356, 10th Lane, Shwe
Nant Thar Model Village,
Mingladon, Yangon, Myanmar
Tel: +95 1 244746, extension 17
Fax: +95 1 244745

U. Htun Paw Oo
Deputy Director, Nature and
Wildlife Conservation Division,
Forest Department
Bayintnaung Road, Insein, Yangon,
Myanmar
Tel: +95 1 663324
Fax: +95 1 665592

U. Zin Oo
Park Warden, Pidaung Wildlife
Sanctuary
Nature and Wildlife Conservation
Division, Forest Department,
Myitkyina, Myanmar
Tel: +95 74 23751

Colonel Tin Shein
Northern Command Myitkyina,
Kachin State, Myanmar

U. Aung Than
Pro-Rector, Institute of Forestry
(Yezin), Forest Department
Bayintnaung Road, West Gyogone,
Insein, Myanmar
Tel: +95 67 21436
Fax: +95 1 665592/681761

U. Aung Win
Lecturer, Geography Department,
University of Yangon

Building (6), R. (22) Pyi Yeik Mon Housing
Avenue, Kamayut Township, Yangon,
Myanmar
Tel: +95 1 5329453 (office)

Secretariat

Daw Thandar Kyi
Ranger Officer, Nature and Wildlife
Conservation Division, Forest Department
West Gyogone, Insein, Yangon, Myanmar
Tel: +95 1 681920 (office)/+95 1 663191
(residential)

U. Myint Sein
Assistant Director, Nature and Wildlife
Conservation Division, Forest Department
West Gyogone, Insein, Yangon, Myanmar
Tel: +95 1 681920

U. Nay Myo Shwe
Ranger, Chatthin Wildlife Sanctuary, Nature
and Wildlife Conservation Division, Forest

Department
West Gyogone, Insein, Yangon, Myanmar
Tel: +95 1 681920

Daw Thuzar Thwin
Ranger, Nature and Wildlife Conservation
Division, Forest Department
West Gyogone, Insein, Yangon, Myanmar
Tel: +95 1 681920

U. Hla Tun
Ranger, Nature and Wildlife Conservation
Division, Forest Department
West Gyogone, Insein, Yangon, Myanmar
Tel: +95 1 681920

Daw Khin Than Win
Veterinary Surgeon, Nature and Wildlife
Conservation Division, Forest Department
West Gyogone, Insein, Yangon, Myanmar
Tel: +95 1 681920 (office)/+95 1 222351
(residential)

Appendix 2: **Workshop Programme**

26th October 1999

- 08:20-08:30 : Opening Ceremony
- 08:30-08:45 : Welcome Address by U. Shwe Kyaw
(Deputy Director General, Forest Department, Myanmar)
- 08:45-08:55 : Welcome Address by Lt Col. Maung Myoe (Chairman of the
Putao District Peace and Development Council)
- 08:55-09:05 : Opening Remarks by Prof. Chen Guangwei
(Division Head, Mountain Natural Resources Division,
ICIMOD)
- 09:05-09:15 : Background and Objectives of the Project
by Mr Ajay Rastogi (Biodiversity Specialist, ICIMOD)
- 09:15-09:25 : Schedule and Key Activities by U. Htun Paw Oo
(Deputy Director, Forest Department, Myanmar)
- 09:25-10:00 : Group Photo and Tea
- Session I : An Introduction to the Hkakaborazi Ecosystem**
(Chairperson — U. Shwe Kyaw)
- 10:00-10:25 : Presentation on the 'NGO Collaboration for the Development
of Hkakaborazi N.P. in Northern Myanmar' by U. Saw Htun
Khin, Country Coordinator of WCS, Myanmar
- 10:25-10:50 : Presentation on the 'Vegetation and Key Floristic Features of
Hkakaborazi N.P.' by U. Myo Khin, Lecturer, Botany
Department, Yangon University
- 10:50-11:15 : Presentation on 'Rhododendrons Endemic to Myanmar
Snow-capped Mountain Region' by Daw Kalyar Lu, Tutor,
Botany Department, Myitkyina University
- 11:15-12:00 : Discussion
- 12:00-13:00 : Lunch

Session II : **Afternoon** (Chairperson – U. Aung Than)

- 13:00-13:25 : Presentation on 'Some Endemic Species and New Records of Orchids of Hkakaborazi and Surrounding Areas' by U. Kyaw Nyunt, CEC Member, Myanmar Floriculturists' Association
- 13:25-13:50 : Presentation on 'An Introduction to Myanmar Native Orchids of Hkakaborazi Area' by U. Saw Lwin, CEC Member, Myanmar Floriculturists' Association
- 13:50-14:15 : Presentation on 'Social Economic and Development Context of Hkakaborazi N.P' by U. Aung Win, Lecturer, Geography Department, Yangon University
- 14:15-15:00 : Discussion
- 15:00-15:30 : Tea
- 15:30-15:55 : Presentation on 'Pidaung Wildlife Sanctuary' by U Zin Oo, Park Warden, Pidaung Wildlife Sanctuary, FD
- 15:55-16:20 : Presentation on 'Hkakaborazi National Park and its Related management Issues' by U. Tun Nyo, Deputy Director, FD, Kachin State
- 16:20-16:45 : Presentation on 'Birds Recently Sighted in Hkakaborazi Region, Northern Myanmar' by U. Thein Aung, Park Warden, Hkakaborazi National Park
- 16:45-17:30 : Discussion

Film on 'Hkakaborazi N.P' at Dinner

Session II : **Biodiversity Conservation in the Eastern Himalayas** (Chairperson — U. Saw Htun Khaing)

27th October 1999

- 08:30-09:00 : Presentation on the Eastern Himalayas by Mr Ajay Rastogi, Biodiversity Specialist, ICIMOD
- 09:00-09:30 : Presentation on 'Emerging Policy and Legislation Regime for Biodiversity Conservation in Protected Areas' by Ms. Ruchi Pant, Policy Analyst and Director, Eastern Himalayas Programme Ashoka Trust for Ecology and the Environment — ATREE
- 09:30-10:00 : Tea

Session III : **Institutional Profiles and their Related Activities** (Chairperson – Prof. Chen Guangwei)

- 10:00-10:30 : 'Current Status and Threats to the Survival of Large Mammals in North Myanmar' by Dr Madhu Rao, Science Director of the International Programme, WCS
- 10:30-11:20 : Presentation on ICIMOD by Prof. Chen Guangwei
- 11:20-11:50 : Presentation on Ecotourism by Prof. Li Bosheng, Senior Staff, Department of Forestry, Yunnan Province, PRC
- 11:50-12:00 : Brief on National Commission on Environmental Affairs by U. Saing Than Maung, Staff Officer, NCEA
- 12:00-13:00 : Lunch

Session IV : Priorities for Biodiversity Conservation in the Hkakaborazi Mountain Ecosystem

- 13:00-16:00 : **Group I:** Management and Social-Economic Issues: Policy Regulation, Incentives for Community Participation, Institutional Mechanisms, etc.
- Group II:** Scientific Surveys and Conservation Planning: Gaps in Information and Knowledge
- 16:00-17:00 : Group Presentations and Deliberations on the Scope of Regional Collaboration in Hkakaborazi Mountain Ecosystem for Biodiversity Conservation
- 17:00-17:30 : Orientation and Information on Field Trip

28th October 1999

Field Trip to Mular Shi Di Village and Machanbaw

29th October 1999

- 08:30-10:00 : Plenary Discussion
- 12:00 : Check Out and Departure for Yangon

Appendix 3 : Recommendations of Workshop

Hkakaborazi mountain ecosystem lies in the globally important biodiversity 'hotspot' region of the eastern Himalayas encompassing tropical, subtropical, temperate, and alpine zones. This unique area is a reservoir of biodiversity representing a transition zone between the temperate and alpine flora and fauna of the Sino-Himalayas and that of tropical Indo-Malaysia. This workshop was jointly organised by the Forest Department of the Government of the Union of Myanmar and the International Centre for Integrated Mountain Development, Kathmandu, at the headquarters of Hkakaborazi National Park, Putao, from 25-29 October 1999. The deliberations and presentations on the Hkakaborazi mountain ecosystem encompassed scientific, managerial, and socioeconomic aspects. The participants came from diverse disciplines representing government departments, universities, and local administration from the Union of Myanmar, the Chinese Academy of Sciences, an Indian NGO (ATREE), an international NGO (WCS), and regional institutions such as ICIMOD. The exchanges of views, information, and ideas were focused on identifying key issues related to the conservation of the Hkakaborazi National Park. At the outset, all participants applauded the Government of the Union of Myanmar for their sustained efforts to upgrade the conservation status of the Hkakaborazi region within a short period to that of a national park, with active involvement and support of WCS. This important decision ensures long-term commitment to the conservation of the region. At the same time, it poses an enormous challenge of ensuring conservation in an extensive and remote mountainous region. The workshop participants made the following recommendations.

The Greater Hkakaborazi Mountain Ecosystem

Historically, the ethnic communities inhabiting this region have shared similar biophysical resources, cultural background, and some extent of interdependence for barter and trade across the political borders of the Union of Myanmar, India, and China. By virtue of the rich wealth of flora and fauna, the majority of trade from Myanmar to China has been in natural products. This trade has gone on unabated to date, despite the fact that both countries are parties to international conventions such as the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) and are thus obliged to stop these transactions. The communities living here have never faced regulations restricting their use of natural resources and at the same time are living in a very remote region devoid of many alternative opportunities for income generation. The challenge that lies in this task of conserving Hkakaborazi National Park and the much-needed international cooperation to facilitate this important endeavour are widely recognised. Therefore, the workshop recommends the constitution of a Greater Hkakaborazi mountain ecosystem to conserve more effectively the natural resources of the region. In this context it becomes imperative to identify the geographic limits of this ecosystem within the countries of India, Myanmar, and China. It is necessary to generate standardised land-use, land-cover, and vegetation maps for the ecosystem, with technical assistance from in-country and

“in Hkakaborazi Park, the trade in hunting for illegal wildlife constitutes the most serious threat”

international organisations. ICIMOD, as a regional institution, is also suited to play a key role in coordinating the required efforts.

A Southern Extension to Hkakaborazi National Park

The current extent of the park in Myanmar begins at an average elevation of 914m. The tropical forest belt (below 914m) is biologically significant yet not included in the current coverage of the park. On the south-western boundary of the park, there are relatively undisturbed tracts of tropical forest remaining. It is therefore advisable to undertake a feasibility assessment to explore the possibility of extending the southern border of the park with a suitable buffer zone in order to ensure a more complete representation of vegetation and habitat types.

Wildlife Trade

In Hkakaborazi Park, although factors such as habitat loss and fragmentation are causes for concern, the trade in hunting for illegal wildlife constitutes the most serious threat. Of relevance is the fact that the market for wildlife products originating from within the park lies outside the country, mainly in China. In order to address this issue, a three-tier strategy is envisioned.

- At local level, the Government of the Union of Myanmar prohibits hunting for trade, by law. There is a need to enhance enforcement of wildlife laws to curb this activity locally, within and outside the park.
- At national level, there is a need to strengthen enforcement measures exercised by other departments, such as the Immigration and Manpower Department, to help curb these activities by monitoring the traders crossing over the border from India and China.
- At regional level, while all three countries are signatories to the CITES convention, adequate steps to enforce the provisions are lacking in all three countries in this region. It is therefore imperative that a regional institution such as ICIMOD initiates a process of regional discussions on the wildlife trade issue in consultation with government and non-government organisations such as TRAFFIC

“imperative that a regional institution such as ICIMOD initiates a process of regional discussions on the wildlife trade issue in consultation with government and non-government organisations such as TRAFFIC”

Scientific Studies

Scientific studies on wildlife trade, medicinal plant use, traditional resource use, density and distribution of threatened plants and animals, and anthropogenic dependence on natural resources should be initiated. ATREE, WCS, CAS, and ICIMOD can provide key assistance for the exchange of scientific and socioeconomic data, technical and legal literature, and expertise.

Management of Hkakaborazi National Park

- A management committee comprising of representatives from the Nature and Wildlife Conservation Division (Forest Department, Union of Myanmar), local departments (general administration, education, and health), International NGOs (WCS), and members of the local community needs to be set up.

- The committee will oversee the development of a conservation strategy to enhance protection, capacity building, and community welfare measures for Hkakaborazi National Park.

An Education and Awareness Programme

Environmental education and conservation awareness are significant issues that need to be addressed. The Nature and Wildlife Conservation Division (Forest Department) with assistance from WCS is in the process of establishing an education and information centre at Putao, the headquarters of Hkakaborazi National Park. Organisations such as ICIMOD, the Chinese Academy of Sciences, and ATREE, who are interested in contributing to the greater Hkakaborazi system, should forge linkages with this centre; it should be treated as a focal point for sharing resources.

World Heritage Site Status

The uniqueness and relatively pristine nature of the Hkakaborazi ecosystem warrants its consideration as a World Heritage Site. The Government of the Union of Myanmar, in its commitment for the long-term conservation of the area, is in the process of developing a proposal to the United Nations Educational, Scientific and Cultural Organization (UNESCO) for consideration of the park as a World Heritage Site. With knowledge of the significance of the area, neighbouring countries, and regional and international organisations working on issues of biodiversity conservation and sustainable development in mountain areas should support the recommendation. This would help focus greater international attention on the region and may result in generating much-needed financial and technical resources to help conserve the ecosystem.



Hkakaborazi: the highest mountain in South East Asia (5,881m) northern Myanmar — *U Shwe Kyaw*



Putao Basin – fertile land with a sub-tropical climate — *Chen Guangwei*



A village in Putao basin, well planned by Christian missionaries with road, clinic, church and houses matched with garden — *Chen Guangwei*

Local market in Putao - farmers sell their products in the morning — *Chen Guangwei*



Children dressed in local style, Putao — *Chen Guangwei*

Sub-Regional Consultation on Conservation of Hkakaborazi Mountain Ecosystem, Putao, Myitkina — *U Shwe Kyaw*





Dr. Madhu Rao , Science Director, International Programme, WCS, making a presentation — *Chen Guangwei*



Workshop Display



Plant exhibition at the workshop in Putao — *Chen Guangwei*

Field work organised by the workshop on local land use in Putao — *U Shwe Kyaw*



Participants are warmly welcomed by local villagers (Kachin, Lisu) — *U Shwe Kyaw*

General Meeting at the workshop — *Chen Guangwei*

