

Transboundary Conservation Cooperation Through UNESCO World Heritage and Biosphere Reserves

An Update in East and Southeast Asia*

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Introduction

Recent years have seen an increasing interest in transboundary protected areas, for a variety of environmental, economic and political reasons, including the need for more effective management of shared ecosystems (MAB, 2000). Within the World Network of Biosphere Reserves, there are some examples of formally recognised transboundary reserves in Europe¹. In the East Asian Biosphere Reserve Network (EABRN), transboundary cooperation has been identified as one of the three priority subjects for cooperation. In Southeast Asia (SEA), a number of initiatives have laid down a basis for regional cooperation², although currently there is still lack of operational cases for transboundary conservation. The United Nations Educational, Scientific and Cultural Organization (UNESCO) and the Association of Southeast Asian Nations (ASEAN) have started promoting the establishment of transboundary conservation areas in SEA in a number of occasions such as during the 10th ASEAN Working Group on Nature Conservation and Biodiversity (AWGNCB) meeting in



Bogor and the ASEAN Regional Centre for Biodiversity Conservation (ARCBC) workshop in Hanoi, Vietnam in 2000. A number of proposals on bilateral and regional scales are being pursued with the participation of international non-government organizations (NGOs) and IGOs in the ASEAN region. The establishment of transboundary reserves, peace parks, friendship parks and other new types of multi-functional areas for conservation and development and for the reduction of chances of conflict will become a priority in the implementation of the Convention on Biological Diversity (CBD).

For UNESCO, transboundary

conservation cooperation has offered a new dimension for the development, both for the World Network of Biosphere Reserves and Natural World Heritage Sites. This paper tries to outline the needs, interests, possible modalities for

transboundary cooperation and the related constraints and updates on some recent initiatives.

The relevance for transboundary cooperation

The need for conservation cooperation crossing national borders has existed for a long time but interest in it has only been visible in recent years³. This growing interest for transboundary conservation cooperation comes partially due to the fast advancement of the countries in biodiversity conservation, especially in *in-situ* conservation. The establishment of the CBD and its relatively prompt ratification by many countries as well as conservation enforce-

* The main text of this paper is based on a few recent workshop papers on the same issue and some project documents. It represents only the opinions of the authors.

¹ The sites include Krkonoše/Katrkonoze (Czech Republic-Poland), Vosges du Nord-Platzwald (France-Germany); Tatra (Poland-Slovakia) and Danube Delta (Romania-Ukraine). There is also a trilateral Biosphere Reserve – the East Carpathians, located at the intersection of Poland, Slovakia and Ukraine, at the watershed of the Baltic and Black Sea Basins.

² Examples include the UNDP-WWF Forum for Transboundary Conservation in Thailand, Cambodia, Laos and Vietnam; Protected Areas Systems Review of Indo-Malayan Realm of ABC and WCMC; World Heritage Forest Meeting in December 1998, and the 2nd IUCN-WCPA Southeast Asia Regional Forum 1999

³ Some important works since 1994 include: a) CNPPA Workshop in Australia Alps in November 1996. The output was published by IUCN as "Transboundary Protected Area Cooperation", edited by L. Hamilton *et al.*; b) Pan-European Conference on Biodiversity Conservation in Transboundary Protected Areas in Europe", June 1996 at the Czech and German Bohemian-Saxonian Switzerland Park. The report was edited by Jan Cerovsky, Ecopoint Foundation; c) An international workshop was held in July 1995 in the Transfrontier Protected Landscape Area "Bili Karpaty" – White Carpathians (Czech Republic and Slovak Republic). The result was edited by Amy Arends, *et al.* and published by Ecopoint; d) Regional Workshop on Transborder Protected Areas organised by the Polish Academy of Sciences and the US Academy of Sciences in Tatra Mountain Poland, May 1994. The result was summarized in a joint publication of the two Academy of Sciences.

ment actions by many countries have led to a rapid increase of protected areas, with varying ecosystem types and geographical distribution. China, for example, has doubled its number of protected areas over the last 10 years. Mongolia has enlarged its conservation areas, with the aim of putting some 30% of its vast territory for natural conservation. Many new protected areas are located at or close to national borders (Figure 1).

The need for transboundary conservation has also been raised due to the advance of *conservation concepts and practices. The Ecosystems Approach advocated by scientific and conservation communities, for example, stresses that managing the conservation areas must come with appropriate spatial and temporal scales. This is in contrast to the fact that many ecological systems cut across the country frontiers and are managed according to different, and sometimes conflicting policies. Transboundary cooperation is therefore called if management is to be approached and undertaken at an appropriate scale for ensuring the ecological integrity of the area and maintaining an adequately diverse and sufficiently large gene pool (MAB, 2000).

In SEA, there are many sites that have been identified as having the need and possibility for transboundary conservation (Figure 2). Some of these sites may become transboundary biosphere reserves. On the border between the Lao Peoples Democratic Republic (Lao PDR) and Cambodia, the Siphandone and associated wetlands are home to a highly endangered endemic freshwater dolphin. Between Lao PDR and Vietnam, the Sai Phou

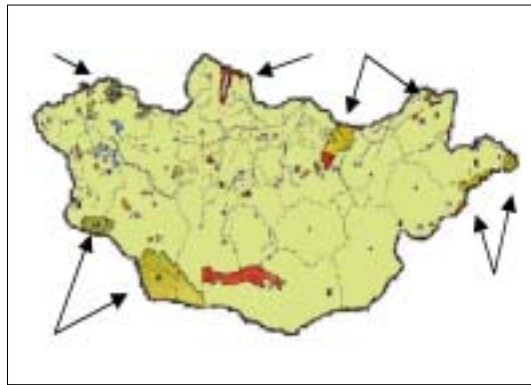


Fig 1. Many Mongolia protected areas are located at national borders. The success of the conservation largely depends on cooperation with its neighboring China and Russia Federation

Luang mountain range contains a cluster of protected areas on either side of the border, containing wide tracts of virtually undisturbed tropical montane rainforest, as well as multiple karst cave systems with as of yet unexplored biodiversity. In Thailand, on the border with Myanmar, the Thung Yai Nature Reserve is Thailand's most extensive remaining natural forest complex, and home to several threatened large mammals such as tigers and elephants. On the island of Borneo, the two Malaysian states of Sarawak and Sabah both share protected area borders with neighbouring Indonesian Kalimantan states covering lush Central Borneo montane forest – home to several species of primates as well as one of the world's most biologically diversified forest ecosystems. In addition to this Bornean rainforest, two more sites have been highly considered for in-

clusion in the World Heritage list in the coming years: Peninsular Malaysian lowland forest in Malaysia and Thailand, and Northern Borneo moist forest in Malaysia and Brunei (UNESCO and PHKA, 2002). Table 1 lists some of the current and potential transboundary reserves identified through several workshops related to World Heritage (WH) and ASEAN Heritage Parks (AHP).

There is also a transboundary cooperation issue linked with large river systems and watersheds. The Mekong River Basin provides one interesting and challenging case. While the Mekong River region has been the focus of much discussion – as well as the establishment of an intergovernmental body to ensure managerial coordination - only very modest results have emerged in the field of protected area cooperation and management. The ramifications of uncoordinated development in the Mekong reach far and wide – from disputes over the downstream effect of upstream dams, to the arguments on issues of spawning grounds and fishing rights. Encouragingly, the situation is starting to improve, thanks to the work of international NGOs. UNESCO is also approaching the subject through its MAB and Biosphere Reserve Network and institutional cooperation with ASEAN.

In East Asia, two adjacent Biosphere Reserves - Mount Changbai and Mount Paekdu - share the same volcano mountain and its mountain forest ecosystem, including a crater lake. Mongolia's East Steppe Restrict Protected Area for the Mongolian Gazelle (*Procapra gutturosa*) needs conservation support from China and Russia to achieve its objective to protect the migratory species. Anxi National Nature Reserve of China and Great Gobi "A" Biosphere Reserve of Mongolia are seen as natural partners for wild camel pro-



Fig 2. Current and potential-boundary reserves in Southeast Asia.

Table 1. Tentative list of current and potential transboundary reserves

No.	Name	Country	Sites Involved	Status	Source
1-1	Central Borneo Montane Forests (A)	Indonesia, Malaysia	Betung Kerihun NP, Lanjak Entimau WS, Batang Ai NP	TBCA* High biodiversity-value tropical forest ASEAN Heritage Park candidate site** WH nomination pilot site	ITTO WH Forests ¹ ASEAN Heritage Parks ² Trans-border WH Nominations ³
1-2	Central Borneo Montane Forests (B)	Indonesia, Malaysia, Brunei	Sebuku Sembakung NP, Kayan Mentarang NP, Bulungan Research Forest, Pulong Tau	High biodiversity-value tropical forest World Heritage potential site	World Heritage Forests Trans-border World Heritage Nominee
2	Peninsular Malaysian Lowland Forests	Thailand, Malaysia	Halabata NP, Belum NP (including Krau), Khao Sok/Khong Lan	High biodiversity-value tropical forest	World Heritage Forests Trans-border WH Nominations
3-1	Northern Borneo Palawan Moist Forests	Malaysia, Brunei, Indonesia, Philippines	Gn. Kinabaru, Gn. Mulu, Labi, St. Paul Subterranean Park, Palawan; Sarawak-Kalimantan area	High biodiversity-value tropical forest	World Heritage Forests
3-2	Northern Borneo Moist Forests	Malaysia, Brunei	Gunung Mulu NP, Labi FR	World Heritage potential site	Trans-border World Heritage nominee
4	Kaya-Karen Tenasserim Moist Forests	Thailand, Myanmar, Malaysia	Huai Kha Khaeng/Thung Yai (WH) Naresuan (WH), Andaman Coast, Myinmo Melatkat	World Heritage Site ² High biodiversity-value tropical forest World Heritage potential site	World Heritage Convention World Heritage Forests Trans-border World Heritage nominee
5	North Indochina Sub-tropical Moist Forests	Vietnam, Laos, Thailand, Myanmar, China		High biodiversity-value tropical forest	World Heritage Forests
6-1	North Annam Mountains	Vietnam, Laos		ASEAN Heritage Park candidate site	ASEAN Heritage Parks
6-2	Annamite Range Moist Forests	Vietnam, Laos, Thailand	Phong Nha, Vu Quang, Pu Mat, Kebang (Hin Namnu)	World Heritage potential site	Trans-border World Heritage nominee
7	Tri-state Park	Cambodia, Vietnam, Laos		ASEAN Heritage Park candidate	ASEAN Heritage Parks
8-1	Malaysia, Philippines			ASEAN Heritage Park candidate	ASEAN Heritage Parks
8-2	North Borneo/Balabac Strait/Turtle Islands	Malaysia, Philippines		World Heritage priority site	World Heritage Marine Biodiversity ⁴
9	Phuquoc/Namdu	Cambodia, Vietnam		World Heritage priority site	World Heritage Marine Biodiversity

*TBCA: Transboundary Biodiversity Conservation Area by ITTO

**mentioned as Lanjak Entimau/Bentuang in the source

Sources: 1. World Heritage Forests – the World Heritage Convention as a mechanism for conserving tropical forest biodiversity, December 1998, Berastagi, Indonesia

2. Workshop on the Guidelines and Criteria for the Selection and establishment of ASEAN Heritage Parks, September 2000, Hanoi, Vietnam

3. Technical Workshop on the Preparation of Cluster and Trans-border Natural World Heritage Nominations in the ASEAN Region, Lido lakes, Bogor, Indonesia

4. World Heritage Marine Biodiversity – filling critical gaps and promoting multi-site approaches to new nominations of tropical coastal, marine and small island ecosystems, February/March 2002, Hanoi, Vietnam.

tection. The establishment of Uvs Nuur Depression Biosphere Reserve brings together Mongolia and Russia (Tuva Republic) for the same conservation objectives. A trilateral case concerns the “CMR (China/Mongolia/Russia) – Daurian International Protected Area” (Dalaihu Nature Reserve of China, Mongol Daguur Strictly Protected Area of Mongolia and Dauruskiy Zapovednik of Russia). This is a cluster of wetlands that is home for many migratory waterfowls including some endangered crane spe-

cies. Tumen River basin is another case that involves three countries (China, DPR Korea and Russia). In Southeast Asia, there are also many such divided ecosystems.

At the UNESCO EABRN workshop in 1997, cross boundary conservation cooperation was considered for areas having the following common characteristics (see **Figure 3 on page 22**):

- The sites belonging to neighbouring countries are part of same ecosystems and home, same protected species

and habitats. Sometimes the reserves are geographically adjacent or close to each other and the protected species migrating from one site to another.

- Often the people living in and around these protected areas share the same culture and have similar traditions as well as ways of using the resources.
- Zonation of the adjacent conservation sites is not set up with the same concept and is often inconsistent; sometimes

there are no corresponding conservation systems across the borders.

- Differences in management policies and practices.
- Differences in terms of demands of resource uses and level of human pressure.
- Communication between such sites is often found poor, if it exists at all.
- Often the managers and researchers have little idea about what is going on over the borders, a vital information for conservation.
- Scientific researches are organized independently, and often have duplications.
- Protected areas connected through large hydrological regimes crossing national borders face similar problems.

This state of affairs can clearly cause ineffectiveness or even failure in conservation efforts. Lack of exchange of scientific data and monitoring, for instance may result in wrong calculation of the protected wildlife populations, a crucial piece of information for conservation. Countries sharing a border lake or wetlands may have different management concepts, with one site prohibiting economic production activities in the area, and the other site introducing economic fish species in the reserved water body or setting up factories that discharge pollutants into the system. If not properly handled, such situations will

have the potential to become a source of unpleasant feeling between the neighbouring countries and even a source of dispute between the countries. In certain cases, poaching and legal logging across borders have generated major problems, not to mention natural- or human-caused fires. Tourism activities are increasing also in many protected areas, bringing both challenges and opportunities that require improved cooperation.

UNESCO (EABRN-5 meeting in 1997 at Ulaabaatar) listed some advantages of transboundary conservation, categorised in terms of conservation, scientific research and education, monitoring, management and development (see Box):

Transboundary conservation cooperation as contribution to peace and stability

Certain areas in Asia have been under dispute over sovereignty such as the small islands and reefs in the South China Sea. In a contest with very high diplomatic and security stakes, the countries concerned have confronted each other on several occasions, and relations have, for this reason, often been tense over a period of several years. These are areas where the borders themselves are a problem. In such areas, it is not precise to talk about 'transboundary' cooperation, although the integrity of the ecosystems concerned remains the same and management issues are comparable. Whatever the final solution

as to sovereignty or ownership might be – determined through bilateral or multilateral negotiations between the states concerned – if biodiversity and its conservation are neglected in these areas owing to such disputes, the long-term interests that concern all parties will be seriously affected.

History has shown that it is unlikely that the disputes of sovereignty over territories, waters or the combination of the two, could be resolved in a short period of time. This is because, apart from historical, political and judiciary issues, the complexity due to the high profile of social-cultural aspects as well as emotion involved the people. It is in this context that the development of transboundary biodiversity conservation cooperation becomes relevant and may serve as a temporary solution for the problem. It may help in protecting the natural resources and ecosystems of common interest, stabilising the situation on the ground, reducing tension, and offering a new channel of communication for the countries to explore good will. It may provide a new angle of thinking and assessment over the values of the areas concerned.

Conserving the disputed areas and their biological diversity for future human generations could prove to be a wise and honorable option. It may turn out in the end as the sole and commonly acceptable way in order to accommodate the different positions and to achieve peaceful

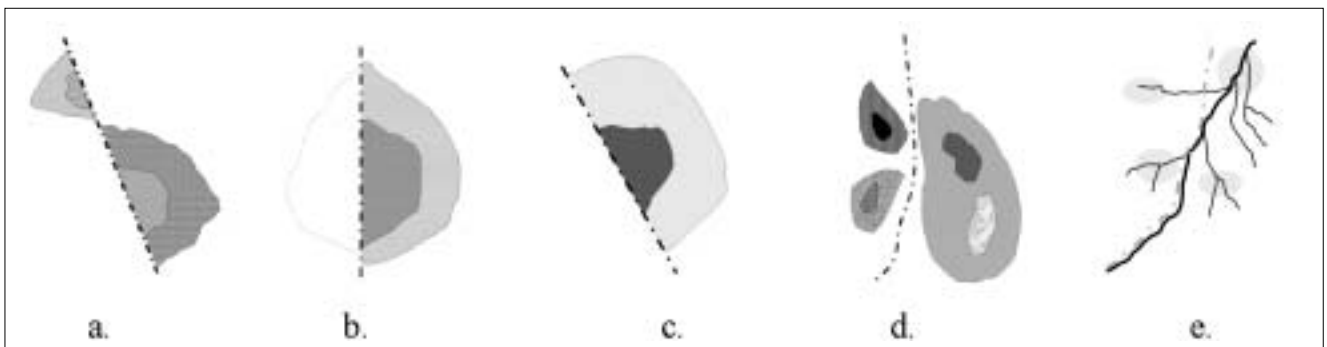


Fig 3. Five sketched situations related to cross border conservation. a. There are PAs at borders but they are not consistent in covering the ecosystem, b. Different zonation concepts and policies, c. Only one side has PA, d. Clusters over the borders but no management contact in between, e. Protected areas over border river systems, problems related to upstream-down stream issues.

Advantages for transboundary cooperation highlighted by EABRN countries

For Conservation

- Better knowledge and coherent data on protected species, especially migratory species.
- Conservation is based on the ecosystem approach and takes biodiversity as a whole.
- Sites may function as crossing backing-up *in situ* gene bases.
- Useful in re-introduction of species extinct on one side of the border.
- Identify gaps in setting up the establishment of protected areas
- Identify differences in conservation policy and management strategies.

Scientific research and education

- Reduce the chance of research duplication.
- Scientific exchange in terms of researches and scientific data as well as building up common scientific databases.
- Better chance for organising integrated scientific surveys and research projects.
- Better chance for receiving support from government and outside sources for this type of joint research.
- Possibility of providing better support for international research and training.

Monitoring

- Better data on migratory animals under protection categories.
- More effective in controlling illegal hunting and poaching crossing borders.
- Water and air pollution control and documentation.
- Nature fire monitoring and observatories cooperation.
- Exchange monitoring methodologies.

Management

- A better knowledge on the partners' management systems particularly "who is responsible for what" on the side of the partners.
- Possibility to exchange and compare maps owned by reserve authorities to develop clearer and consistent maps for conservation management.
- Better knowledge on the technical capacity and facilities for mapping, monitoring and communication, which might be shared when needed.
- Identify and understand the difference on each other's management strategies.
- Be better prepared to respond to emergencies such as pollution problems, disease and forest fires, etc.
- Possibility to develop joint management agreements and even management plans.

Development

- Better understanding of the difference of development policy adopted by the partners across borders.
- Opportunity to exchange and demonstrate examples of sustainable utilization of nature resources.
- Possibility in certain areas to design schemes for common economic activities such as ecotourism and cultural events.

Source: EABRN-5 Report, 1997

coexistence. For such an initiative to be successful, while the countries may and will retain their claims over the areas, they should not exercise major natural resource development in the area concerned, especially by not carrying out industry exploitation, unless it is mutually or multilaterally agreed upon.

Two areas in the East Asia region currently move toward this direction. One is the DMZ (demilitarized zone) dividing the Korean peninsula. The area has been proposed by Korean scientists (EABRN 95, 97, 99) as well as by scientists from around the world as a special zone for conservation and the study of ecosystem rehabilitation. Perhaps more importantly is that the area may become a heritage that has recorded the process from conflict to peace and reunifi-

cation. A DMZ Transboundary Biosphere Reserve has been seriously considered as a possibility for the area, which if established as such, would be a great legacy for future generations of Korean people and the people around the world.

Another area is a group of four islands, Kunashir, Iturup, Shikotan and Hanbomai, which concerns both Japan and Russian Federation. During the UNESCO/MAB-IUCN scientific workshop in January 2001, the participants composed of conservation specialists and scientists, agreed that it is necessary to develop a much closer scientific and conservation cooperation, given the value of biodiversity of the islands and the problems encountered such as poaching. They also agreed that the conservation of these islands and

its surrounding waters is for the best interest of Russian and Japanese people; a joint declaration for cooperation has thus been made, the first time in history regarding these islands.

International and regional instruments related to the issue

Although not specifically articulated, the Convention on Biological Diversity has also put a basis for transboundary conservation⁴. This is reflected in the provisions regarding *in situ* conservation and technical and scientific cooperation. Within the UNESCO framework, there are two international instruments that can promote and implement transboundary conservation cooperation: Seville Strategy for Biosphere Reserve and World Heritage Convention. In the regional framework, UNESCO and ASEAN have been working together to promote transboundary cooperation.

Seville Strategy for Biosphere Reserve

The Seville Strategy for Biosphere Reserve, developed in 1995, has special provisions for guiding transboundary conservation, using the biosphere reserve as a mechanism. These are:

- Objective 1.2: Integrate biosphere reserves into conservation planning. Recommendation at the international level: Encourage the establishment

⁴ Convention on Biological Diversity's provisions for transboundary conservation can be seen from these items: Item C of Article 14 on Impact Assessment and Minimising Adverse Impacts says: "Promote, on the basis of reciprocity, notification, exchange of information and consultation on activities under their jurisdiction or control, which are likely to significantly affect adversely the biological diversity of other states or areas beyond the limits of national jurisdiction, by encouraging the conclusion of bilateral, regional or multilateral arrangements, as appropriate. Item 5 of Article 18 on technical and scientific cooperation says: the Contracting Parties shall, subject to mutual agreement, promote the establishment of joint research programmes and joint ventures for the development of technologies relevant to the objectives of this Convention.

of transboundary biosphere reserves as a means of dealing with the conservation of organism, ecosystem, and genetic resources that cross national boundaries.

- Objective IV.2: Strengthening the World Network of Biosphere Reserves. Recommendation 6 at the international level: Promote and facilitate twinning between biosphere reserve sites and foster transboundary reserves.

In line with the Seville Strategy together with the development in the regions, UNESCO-MAB has set up an ad hoc task force on transboundary biosphere reserves (TBR). The work of the task force resulted in a set of recommendations during the MAB Seville+5 Conference in Pamplona, Spain. These recommendations were adopted by the 16th session of the MAB International Coordinating Council held in November 2000 in Paris.

The Pamplona recommendations for the Establishment and Functioning of Transboundary Biosphere Reserves provides a general provision and definitions about the: 1) Procedure for the Establishment of a TBR; 2) Functioning of the TBR; 3) Institutional mechanisms and 4) Responding to the Goals of the Seville Strategy. It is the mechanism for UNESCO-MAB to act in the promotion of transboundary cooperation. The process leading towards the official designation of a TBR can include many forms of cooperation and coordination among the existing and proposed areas on either side of a border.

World Heritage Convention

In parallel, UNESCO is looking into the transboundary conservation issue through the World Heritage Convention. Currently there are eight trans-border natural and mixed World Heritage sites inscribed, and involves 14 countries⁵. The significance of the World Heritage con-

cept is universal application for the protection and conservation of a cultural and natural heritage with outstanding universal value. The Convention stated that countries recognise that the sites located on their national territory and inscribed in the World Heritage List constitute a world heritage "for whose protection it is duty of the international community as a whole to cooperate" without prejudice to national sovereignty or ownership. By inscribing a site as World Heritage, the States Parties are expected to benefit in the protection and conservation of the cultural and natural properties in the form of: 1) building up public awareness, 2) receiving financial, technical and emergency assistance, 3) receiving international cooperation, and 4) promoting local people participation.

UNESCO, in cooperation with the United Nations Foundation (UNF) and the United Nations Fund for International Partnerships (UNFIP), launched a project, *the World Heritage Biodiversity Sites – filling critical gaps and promoting multi-sites approaches to new nominations*, in 2000. The main objective of multi-sites approaches is to increase the total area of internationally protected areas with minimum increase in the number of listed sites, in order to ensure the credibility of the World Heritage listing process and the maximisation and efficiency of the conservation effort. A trans-border approach, in particular, is expected to promote further international cooperation to protect ecosystems or management areas from an ecological point of view. One of the goals of this project⁶ is to assist in cooperation efforts among the ASEAN countries to develop pilot cases for cluster and trans-border World Heritage nominations for the conservation of the tropical forest biodiversity. As it is now, the World Heritage Biodiversity sites in this region are poorly represented in spite of the region's global

biodiversity significance and high potential of areas as World Heritage sites.

At the first regional technical workshop in Lido Lakes, Bogor in March 2001, the Central Borneo montane forests, located between Indonesia and Malaysia, was selected as a pilot project site for trans-border nomination, taking into account the preparedness of the countries and the sites concerned and operational conditions of the project. The target for submitting the nomination document to the World Heritage Centre by both governments was February 2003.

The project has two distinctive objectives as follows:

- To nominate the Central Borneo Montane Forests (Betung Kerihun National Park, Lanjak Entimau Wildlife Sanctuary and Batang Ai National Park) as a trans-border World Heritage site to contribute to conserving the tropical forest biodiversity in Southeast Asia.
- To learn modalities and procedures for preparing trans-border World Heritage nominations and to share experiences and knowledge obtained from among the rel-

⁵ These include: Belarus-Poland (1979, 92); Belovezhskaya Puscha Bialowieza Forest (N iii); Costa Rica-Panama (1983, 90); Talamanca Range-La Amistad reserves La Amistad National Park (N i, ii, iii, iv); Cote D'Ivoire-Guinea (1981); Mt. Nimba Strict Nature reserve (N ii, iv); Hungary-Slovakia (1995, 2000); Caves of the Aggtelek Karst and Slovak Karst (N I); USA-Canada (1979, 92, 94); Kluane/Wrangell-St. Elias/Glacier Bay/Tatshenshini-Alsek (N ii, iii, iv); USA-Canada (1995); Waterton Glacier International Peace Park (N ii, iii); Zambia-Zimbabwe (1989); Mosi-oa-Tunya/Victoria Falls (N ii, iii); France-Spain (1997, 99); Pyrenees-Mont Perdu (N I, iii/C, iv, v).

⁶ The other two main goals are: a) to establish the necessary conditions for improving global representation of World Heritage biodiversity sites in coastal, marine and small island ecosystems; and b) to study the global significance of biodiversity specific to tropical karst sites in Southeast and East Asia and improve application of the Convention for conserving tropical karst biodiversity.

evant authorities in the ASEAN region.

The project teams for both countries have carried out necessary documentary and field surveys and socialization activities for local communities on the project site in cooperation with the park management and NGOs. The compilation of the information and data for the nomination document is still in process. It is recognized that main constraints for implementing the project are not technical matters but rather those derived from historical, cultural, political and bureaucratic issues between the two countries. The recent diplomatic relations between the countries, which becomes relatively tense due to issues concerning illegal logging, labour and immigrants and haze pollution, are likely to have induced some delay in proceeding the trans-border nomination in central Borneo.

UNESCO-ASEAN cooperation

UNESCO and ASEAN have been working together to promote and establish transboundary conservation areas in Southeast Asia through the 19th AWGNCB meeting in Bogor and the ARCBC workshop in Hanoi, Vietnam in 2000. Recommendations from the workshop "Towards Harmonising the Management and Action Plans for Trans-boundary Reserves in ASEAN" in Phnom Penh, Cambodia in November 2002 are useful in reviewing the current and possible sites for transboundary cooperation and in preparing specific harmonised action plans for a few identified sites. It is also expected that UNESCO, ASEAN and other relevant organizations will take a more active role in contributing to creating links with the current protected area systems in the region, such as ASEAN Heritage Parks, World Heritage and Biosphere Reserves.

Conclusion

Transboundary conservation is a relatively new subject but is expected to become a very active field in biodiversity conservation in the com-

ing years. The needs and interests in pursuing this subject in the Southeast Asian region are by no means less than other regions, although currently there are a few operational cases. The direct beneficiaries through such cooperation are the countries that committed to the implementation of the Convention on Biological Diversity. Such cooperation would help improve each of the countries' natural resources management and effectiveness in protecting the habitats and species at cross border ecosystems, as well as bring long-term benefits to the countries. Through such cooperation, the communication, exchange and understanding between the people can be enhanced, as these are crucial ingredients toward friendship, trust and the spirit of peace. If we were successful in the cases mentioned in the papers (presented during the "Workshop Towards Harmonising the Management and Action Plans for the Conservation of Trans-boundary Reserves in ASEAN"), the Southeast Asian region would create a new paradigm toward the reduction of conflicts and building peaceful atmosphere through cooperation of science and biodiversity conservation.

In general, there is an obvious difference in terms of preparedness among the countries toward transboundary conservation. Apart from political will, the lack of technical capacity in countries is part of the reason; funding is also a constraint. Although there are already some international mechanisms and guidelines, countries still need to respond to the issues on a case-by-case basis, an approach which often takes its point of departure in bilateral diplomatic concerns rather than in a potentially more productive and wider, scientifically-based framework. Roles of national and international NGOs toward such issues have not yet been explored. For disputed areas, where borders themselves are a matter of disagreement, the framework of cooperation is largely un-chartered.

To move ahead on this issue, international communities and the countries must amass the needed institutional, intellectual and financial resources. The existing frameworks and instruments, such as Biosphere Reserves and World Heritage that offer room to accommodate transboundary conservation cooperation, should be used and explored. In this undertaking, science has a major role in initiating the cooperation. Effort should also be made to bring NGOs into the initiatives. For the countries involved in a new initiative, they must pay attention to identify and work the right partners and to the approaches used, given the sensitivity and political-legal complexity of the issue. ■

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