The 10th Meeting of UNESCO-MAB East Asian Biosphere Reserve Network (EABRN-10)

Protection of Sacred Natural Sites: Importance for Biodiversity Conservation

1-5 September 2007
Terelj National Park, Mongolia

Organized by
Mongolian National Commission for UNESCO
Mongolian MAB National Committee
Ministry of Nature and Environment of Mongolia
EABRN Project Secretariat, UNESCO Office Beijing

Sponsored by
Korean National Commission for UNESCO
Ministry of Environment, ROK

Note from the Editiors

This report on the 10th Meeting of the East Asian Biosphere Reserve Network comprises three parts: summaries, presentation papers, and appendices. The presentation papers include key note addresses, case studies, country reports, special presentations, follow up reports on the previous MAB activities and future planning. In addition, several papers were contributed from those who could not attend the meeting. On the other hand, we regret that a few presentation papers could not be included in this report due to failure of submitting those papers to the organizers.

The editors changed the format of the papers for the sake of uniformity, from which we hope readers to feel comfortable, and rearranged the order of papers in order to reflect better where their contents are categorized into. However, only a minimum modification was made to the papers.

The editors give thanks to all the participants for their valuable contributions to the Meeting and this final report. The editors are also grateful for the kind support on photos from IUCN. As always, we welcome any comments from readers for the improvement of EABRN publication.

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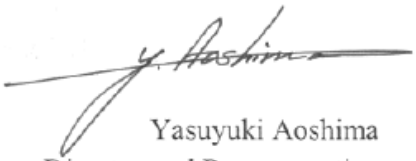
Foreword

As the regional network in East Asia for the World Network of Biosphere Reserves, the East Asian Biosphere Reserve Network was initiated in 1994 with three priority themes for cooperation: eco-tourism, conservation policy and trans-boundary conservation. It includes the Democratic People's Republic of Korea, Japan, Mongolia, the People's Republic of China, the Republic of Korea and the Russian Federation as the member countries. EABRN facilitates information exchange between reserves and governing bodies, and conducts regular regional meetings on various issues. It also serves a mechanism to facilitate training and site-to-site cooperation. The UNESCO Office Beijing, as secretariat from January 2003, has placed great importance on this regional network and provides supports to this network.

The 10th EABRN Meeting held in Terelj National Park, Mongolia has accomplished communication and discussion among the experts of Biosphere Reserves, as well as sharing of the information gained from the activities carried out in the member countries. This final report covers the comprehensive summaries and papers presented at the meeting. There were around 30 papers presented at the meeting; the editorial team has provided the consolidated report including the original papers with minimum corrections. I sincerely hope that this publication will preserve valuable experiences and ideas to aid the Biosphere Reserve Managers and researchers around the world.

I would like to express thanks to the MAB Committee, the Mongolian National Commission for UNESCO and the Ministry of Nature and Environment for the excellent organization of this meeting, and the Government of Republic of Korea for its professional and financial contribution to EABRN.



Yasuyuki Aoshima
Director and Representative
UNESCO Office Beijing

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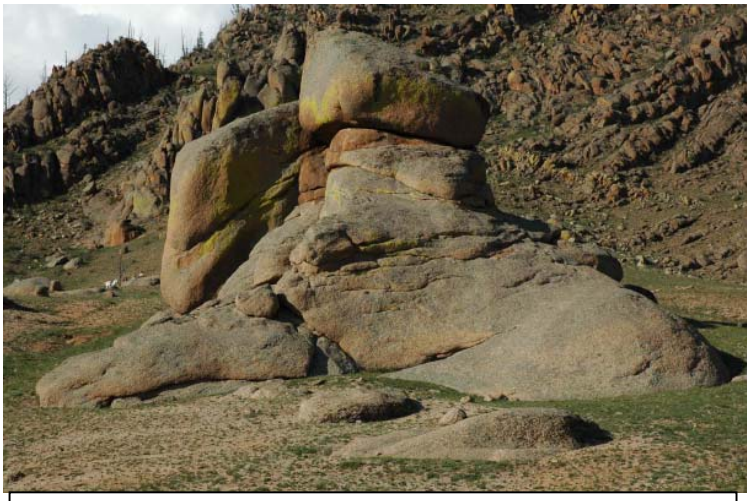

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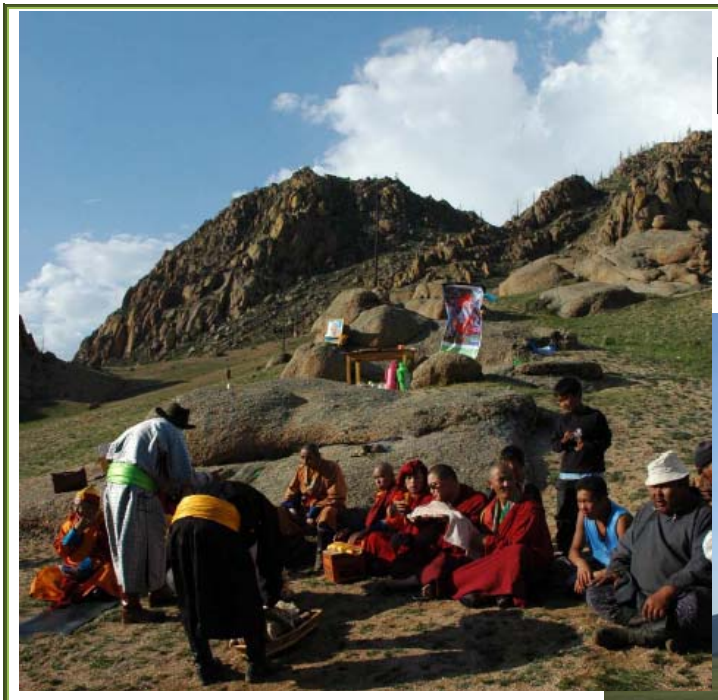

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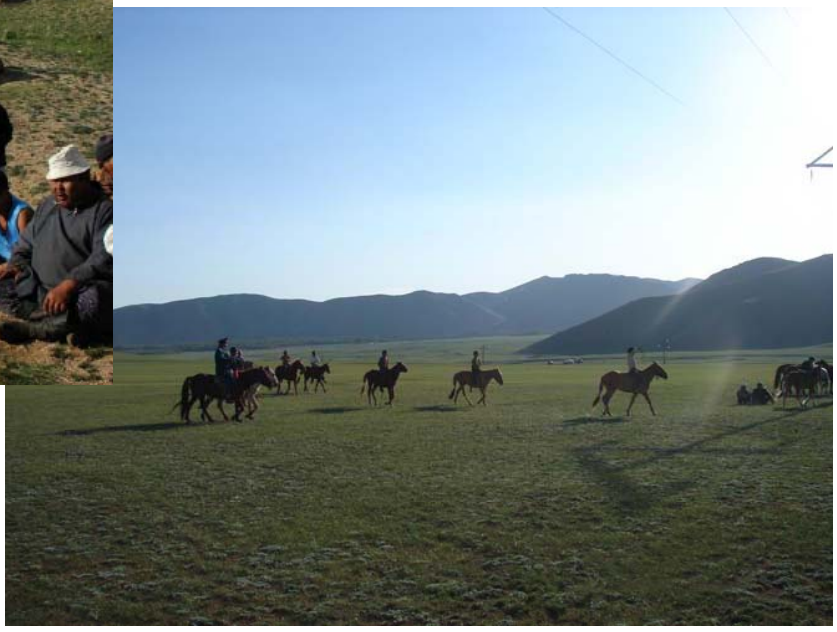

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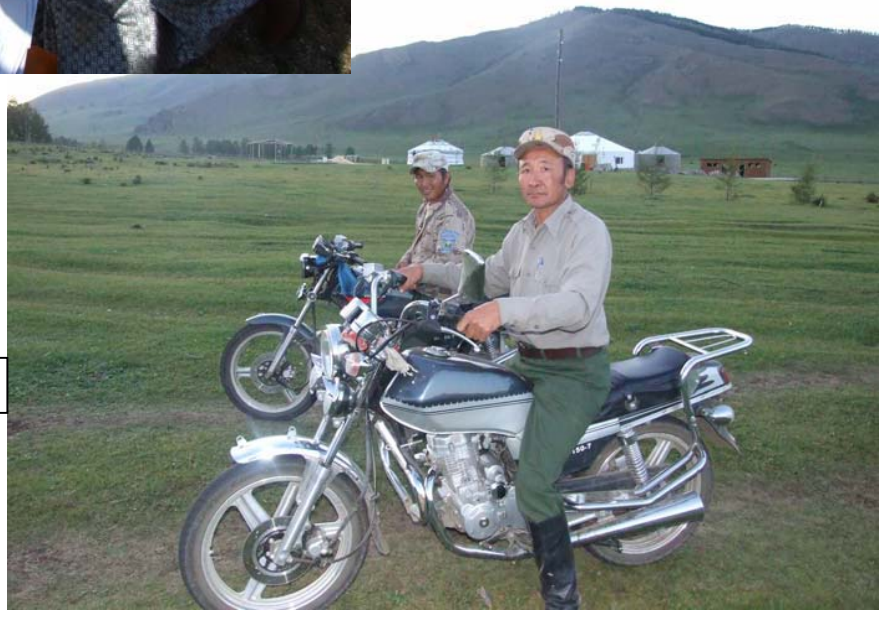

Rangers

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Executive Summary

The 10th Meeting of UNESCO-MAB East Asian Biosphere Reserve Network (EABRN-10) was held in the Terelj National Park and Ulaanabaatar, Mongolia from 1st to 5th of September 2007. This meeting was held in the Bogd Khan Biosphere Reserve of Mongolia upon the proposal from Mongolian delegates and consultation with the member states during the EABRN-9 meeting (30 August – 3 September 2005 in Jeju Island) and it was hosted jointly by Mongolian National Commission for UNESCO, MAB National Committee of the Mongolia, Ministry of Nature and Environment of Mongolia, and UNESCO Office in Beijing, supported by the Ministry of Environment of RO Korea and Korean National Commission for UNESCO.

The Meeting brought together around 60 participants including delegates and experts from six EABRN member countries as well as representatives of UNESCO MAB, SACAM (South and Central Asia MAB Network), National/International NGOs (IUCN, ARC, TNC) and religious leaders from Buddhist Monastery.

The main theme of the meeting was "Protection of Sacred Natural Sites: Importance for Biodiversity Conservation." There was six technical sessions in total, ranging from country case studies and other technical sessions related to sacred natural site concepts on biosphere conservation. Those sessions aimed particularly to achieve the following objectives:

- ✓ Exchange information and experiences on conservation and management of biosphere reserves and other similarly managed protected areas in the East Asian countries in light of the Seville Strategy and multi-functions of the biosphere reserve;
- ✓ Discuss the cooperative projects for Protection of Sacred Natural Sites in Biosphere Reserve Management;
- ✓ Review and update EABRN activities on its priority issues;
- ✓ Elaborate an activity plans for EABRN cooperation for the period of 2008 - 2009.

One day field visit with particular focus on Sacred Natural Sites concept was organized in the Bogd Khan Biosphere Reserves and participants were given opportunity to observe the praying ceremony and Mongolia's famous Naadam Festival at Bogd Khan Sacred Mountain.

UNESCO Beijing organized an Ad-Hoc meeting with representatives from the MAB National Committees of the six member states, Korean National Commission for UNESCO, UNESCO MAB and SACAM. During this meeting, the following issues related to EABRN project activities were discussed: the next EABRN meeting venue, the 3rd EABRN training course in 2008, EABRN atlas development, and preparation for the 3rd World Congress of Biosphere Reserves.

On the final day, declarations from all the participants were emerged in the Terelj Statement which is included in the report.

The participants of the 10th EABRN Meeting expressed their gratitude to the Mongolian National Commission for UNESCO, Mongolia-MAB Committee and the Ministry of Nature and Environment of Mongolia for hosting the meeting. They also extended their thanks to the Korean National Commission for UNESCO and the Ministry of Environment for its continued professional and financial supports to the EABRN and to UNESCO Office Beijing for its coordination.

This report was edited by the Secretariat of the EABRN, UNESCO Office Beijing, based on the inputs and supports from all the speakers, chairpersons of the sessions and the raporteurs.

Opening of the Meeting

The 10th Meeting of UNESCO East Asian Biosphere Reserve Network (EABRN) was opened by **Dr. A. Namkhai, Chairperson of Mongolian National Committee for MAB** in the Terelj Camp, Mongolia, at AM 9:00 on 2 September 2007. On behalf of MAB-Mongolia, Dr. Namkhai welcomed participants from 5 EABRN member states, international organizations and academic institutes. He expressed his delight to hold the meeting in a beautiful biosphere reserve in Mongolia, and gratitude to the government of Republic of Korea for its continued financial contribution to EABRN.

He briefly explained the history of the Mongolian MAB, and what activities have been done through EABRN. Mongolia has successfully implemented many projects supported by this regional network such as the publication of the Atlas of the Mongolian Biosphere Reserves, the renewal of the database of the Mongolian SPA, and the organization of professional seminars and workshops, etc. He extended his wish that all EABRN member countries further cooperate in dealing with the challenge of solving conflicts between conservation and economic development interest encountered in sacred places. Closing the speech, he bid fruitful outcomes of the meeting, eventually contributing to improvement of the environment.

Mr. Erdenbaatar Ichinkhorloo, Minister for Nature and Environment of Mongolia expressed a warm welcome to all of the participants. He mentioned the importance of wild flora and fauna protection because of the huge coverage of ecological area in Mongolia - 14% of the country territory and he also emphasized its active involvement in the activities of MAB network. After having joined in 1990 Mongolia has undertaken systematic measures and focused on promoting multi and bilateral cooperation and capacity building for the improvement of the biosphere reserves management.

With regard to the theme of the meeting *"Significance and value of sacred places for biodiversity conservation,"* he pointed out the worshiping ceremony of the sacred places to conserving wild nature. Mongolia has the custom and tradition to worship the sacred mountains and rivers with 7 sacred mountains under the order of the President of

Mongolia and a number of other mountains worshiped by the decisions of local governments. Those concepts have flourished in Mongolia for many centuries, handed down to future generations as tradition and culture. He also introduced several Special Protected Areas which showed the Mongolian's respect and willingness to protect the environment and conserve the nature. Then he ended up his speech remarking that worship ceremony has the main role to overcome the existing problems, to find solutions, to create awareness, and to make opinions regarding the global environmental challenges emerged.

Mr. Enkhbayar Nambar, the President of Mongolia delivered his message through the delegate Dr. D. Nergui, the Advisor to the President of Mongolia. He opened his speech with stress on Mongolia's well preserved natural resources and this was for many years due to its inherited culture and tradition through the network of sacred places such as sacred mountains and rivers for the heritage of next generation. Then he briefly mentioned about the activities of UNESCO-Cultural Heritage and MAB programmes, with the achievement of registering Uvs Lake and sacred Orkhon valley into the list of World Heritage.

He shared the success story making Mongolia recognized as specific ecological feature of Central Asia and accepted as World Biosphere with the support of international community which has drawn several important projects for the protection of environment and conservation of nature. Finally, he expressed his gratitude to the members of National Committees of MAB for their contribution in promoting welfare of human beings.

Mr. N. Urtnasan, Secretary General of Mongolian National Commission for UNESCO, extended warm welcome to all the participants, expressing delight to have this second chance to hold the EABRN meeting in Mongolia. He recalled Mongolia's cooperation with UNESCO in education, natural and social science, culture, and communication, which gave a huge contribution to the Mongolian development. He further stressed the fruitful results from various activities of UNESCO-MAB programme through EABRN after having joined the MAB network in 1990.

He mentioned Mongolia's efforts on the protection of Special Protected Areas: all the regional administrations have improved their management plan and subsequently implemented the plans successfully. Then he briefly reported the outcomes of the joint work with the Mongolian MAB Committee and the UNESCO Office Beijing as well as other MAB Committees of the EABRN member countries. Finally, he invited active participations from all the participants, and he closed his remark giving thanks for all the supports made by various parties to make the meeting possible.

Mr. Y. Aoshima, Director of UNESCO Office Beijing, joined the opening speech and congratulated Mongolian MAB Committee, Mongolian National Commission for UNESCO and Ministry of Nature and Environment for the excellent arrangement and coordination. He defined the EABRN's activities which are facilitating not only exchange and transfer of information between the member states but also training and site-to-site cooperation including regular regional meetings. Concerning the topic of the meeting, Sacred Natural Sites, he introduced an important concept of the mutual interaction between human and nature for a better understanding of ecosystems, and the potential of those sites in preserving cultural and biological diversity.

He pointed out the long standing collaboration between Natural Science Sector and Culture Sector within UNESCO for World Heritage Programme that worked on the sacred sites concepts. He further mentioned the active joint work of UNESCO with the World Conservation Union (IUCN) on preparing guidelines for sacred natural sites and a pilot project in Mongolia to support maintenance of the local protected areas. In terms of capacity building, EABRN has successfully organized a regional training workshop on GIS technology for BR management in cooperation with Chinese Academy of Sciences. He also informed that UNESCO Office Beijing has published the excellent Biosphere Reserve Atlas of China and Mongolia will be prepared and it will be immediately followed by DPRK, and the second phase Atlas of Japan, ROK and Russian Federation. Finally, he expressed sincere thanks to all the participants, especially to the Government of Republic of Korea for its professional and financial

contribution, and he finished his talk hoping the meeting would contribute to expand EABRN and achieve our goals

Dr. Cho Do-Soon, the Vice Chair of UNESCO MAB National Committee of R. Korea, delivered an opening speech and extended thanks to the Mongolian National Commission for UNESCO, Mongolian MAB National Committee, and the Ministry of Nature and Environment of Mongolia for organizing the meeting so that EABRN members could join together and communicate for the improvement of this regional network. He briefly introduced history of the EABRN activities since its inception and he drew attention on the purpose of this joint network and the importance of the national cooperation in environmental protection.

He shared the delight that, thanks to the support from MAB-ROK, Jeju Volcanic Island and Lava Tubes was inscribed into the list of World Heritage this year, after the establishment of the Jeju Island Biosphere Reserve under the UNESCO MAB Programme a few years ago. This reserve, together with Mt. Sorak Biosphere Reserve has played an important role in EABRN activities such as taking leading roles in bilateral exchange programme with Mongolia. Then he shortly mentioned Jeju Initiative: Asia-Pacific Inter-linkage of Island and Coastal Biosphere Reserves for Environmental Governance and Socio-Economic Development, which might be a showcase of successful international cooperation network between insular biosphere reserves with similar natural environments and cultural aspects such as the presence of many sacred sites. Finally, he gave special thanks to the UNESCO Office Beijing for networking member countries, and finished his talk hoping for fruitful outcomes from the meeting with greater participation of the local managers and this regional network contribution to the sustainable development of East Asian countries.

Session 1. Sacred Natural Sites – Key note address

Chair: *Prof. Kunio Iwatsuki*, Japanese MAB Committee
Rapporteur: EARBN Project Secretariat

❖ **Management Issues of Biodiversity Conservation through Sacred Sites Concept**

Dr. N. Urtnasan, Secretary General of Mongolian National Commission for UNESCO, opened the session first introducing how the traditional Mongolian society has developed its nomadic culture. It coexisted with its environment, modifying nature but actively maintaining it in a diverse and productive way, based on locally evolved traditional ecological knowledges, socio-cultural practices and religious beliefs. Mongolians have numerous traditions that venerate and protect nature and the environment, such as the worship for land (mountains, hills, forests, and rocks), water resources (rivers, lakes, springs and water lands) and animal species. According to estimates by prominent Mongolian scholars, there are about 800 sacred sites and venerated mountains in Mongolia. This traditional knowledge system has been ignored or even prohibited for a certain period of time, in the late 19th and early 20th centuries. Recently, it has been identified the need to revitalize this lost traditions of venerating sacred sites and traditional knowledge system and to create national inventories.

Mongolian National Commission in cooperation with UNESCO Office Beijing jointly undertook a pilot project in Mongolia. This project aimed at supporting the maintenance of the local protected areas through integrating sacred sites concept into policy making process and education activities while ensuring a greater involvement of the local community.

Mongolian believe that each mountain, stream, river, spring, and lake has its own life. This is illustrated by the proverb “A mountain has a deity and water has a spirit”. This belief was adopted in Buddhism philosophy, later becoming an inseparable part of the religion and the lives of its followers.

The general recommendations are:

1. Record history and peculiarities of worshipping traditions of sacred mountains for future generation, and promote the role of traditional knowledge in environmental conservation.

2. Publish and distribute the worshipping scripture used for offerings to sacred mountains.
3. Each year before a worshipping ceremony, local and protected area administrations should organize activities involving the public in environmental conservation efforts. This may include cleaning up the surrounding areas, planting trees, protecting spring and river sources, and publishing and distributing educational leaflets.
4. The carrying capacity in and around the pasture areas of sacred mountains are leading to a 'tragedy of the commons' state, which may cause irreversible land degradation. In order to prevent this ecological disaster, traditional seasonal rotations of the pasture should be promoted. Some areas will require the implementation of a pasture tenure policy. As the majority of sacred mountains are within the protected areas, community-based ecosystem conservation actions should be implemented involving all the relevant stakeholders.
5. Taboo or prohibition regulations should be promoted with the aim of being adopted as habit. Such taboos include not polluting sacred places, cutting trees, overgrazing, hunting wildlife or polluting the water.

❖ **Involvement of UNESCO-MAB and UNESCO World Heritage Centre in Biodiversity Conservation through Sacred Natural Sites**

Dr. Thomas Schaaf, Programme Specialist of MAB UNESCO Paris, provided general introduction to what is biosphere reserve and how it is established under WBRN: the traditional system is an alternate system to legal approach in conservation of biodiversity.

He explained the concept of Sacred Natural sites with the example from UNESCO-MAB "Cooperative Integrated Project on Savanna Ecosystems in Ghana" (1993 - 1997).

He concluded with

- **A sacred natural site (SNS) is a significant place linking nature and culture**
- **A SNS often determines local/national cultural (and political) identity**

- **A SNS can constitute an effective means for biodiversity conservation, as it is embedded in local and traditional belief systems**

In World Heritage Convention under Para 39 (iii) explains that: The final category is the **associative cultural landscape**. The inclusion of such landscapes on the World Heritage List is justifiable by the virtue of the powerful religious, artistic or cultural associations of the natural element rather than material cultural evidence, which may be insignificant or even absent.

❖ **Guidelines for Protected Area Managers**

Mr. Robert Wild, Task Force on Cultural and Spiritual Values of Protected Areas IUCN-World Commission on Protected Areas, presented the guidelines jointly worked out by IUCN and UNESCO. These guidelines are mainly aimed at improving the management of the sacred natural sites in government protected areas, as well as supporting those that lie outside protected area boundaries. At best, sacred natural sites are supported by government protected area systems and managers; however, they are often ignored or some parties are in conflict.

The primary targets for these guidelines, therefore, are the managers of protected area systems as well as of individual protected areas. It is hoped that other stakeholders, such as a natural resource ministries, state planning departments and private protected area managers will also find these guidelines useful. It would be inappropriate for IUCN or UNESCO to advise traditional custodians on the management of sacred sites for which they have successfully cared for many generations. They hoped, however, that custodians, from indigenous and mainstream faiths and their support organizations will find the guidelines useful in interacting with protected area managers and integrating ecological concepts into sacred site management. If this endeavor is successful it is anticipated that lasting and productive partnerships would ensure sacred natural sites and their managing cultures to survive long into the future.

The guidelines have evolved over the past five years. In their current form they are fairly detailed and prescriptive. The 37 guidance points below are grouped into six clusters.

1. Recognize Sacred Natural Sites in Protected Area System
2. Incorporate sacred sites into management and other planning processes
3. Promote participation inclusion and collaboration
4. Encourage improved knowledge and understanding of sacred natural sites
5. Consider access protection use and management
6. Respect the rights of sacred natural site custodians

Session 2. Biodiversity and Cultural Spaces of Sacred Natural Sites in East Asia

Chair: ***Dr. SON Kyong Nam***, DPRK MAB Committee

Rapporteur: **EARBN Project Secretariat**

- **Religions and Conservation: The Potential**

Mr.Guido Verboom from Alliance of Religious and Conservation introduced the concept of religious activities in relation with environment. He pointed out religion as a good counterpart to raise environmental awareness in Mongolia, which was supported by the result of the activities that ARC has done.

- **EABRN Case study 1: Conservation and Tibetan Culture: A Case Study in Northwest Yunnan, P. R. China**

Mr. Ma Jianzhong, the manager of Community Engagement Program, The Nature Conservancy, China Program, showed the culturally and naturally diverse Kawagebo Mountains which are important especially for the Tibetan. Kawagebo Mountain has the highest peak in Yunnan and it became impossible to climb from 1920. Regarding biodiversity, it carries thousands of species of plants and animals. It reserves 2700 species of vascular plant including lots of rare and endemic species, more than 50 species of big mammal and more than 20 species of pheasant in Kawagebo. Such diversity partly comes from various flora/fauna groups according to elevation. Culturally, the place has been regarded as a sacred place and a place for pilgrims.

According to his study, main forms of Sacred Nature Sites in Kawagebo area are

- Sacred Mountains: Mountains are venerated by the entire Tibetan region and at the same time it is a regional, communities' or family's sacred mountain.
- Rigua: It is a traditional resource management zone declared as a special protected area through religious way and it only allows limited use of natural resource. It functions as protection of water resources, prevention of mountain slope erosion and water/soil loss.
- Sacred Sites: Temple forests, sacred lakes, sacred waterfalls and forest and grassland
- Pilgrimage routes

He also addressed the efforts for the conservation of Kawagebo area. For the protection of the traditional resource management zone, "Rigua", special area was declared through religious way where only limited use of natural resource is allowed and there was a petition of climbing ban for Kawagebo. Furthermore, thorough studies on sacred geography are going on for a better understanding and management of the area. Environmental education has also been provided through cultural practice and also a conference for raising awareness and public support was held.

❖ **The Role of Sacred Sites in Conservation of Ecosystems of Lake Baikal Basin-Joint Mongolian and Russian Research**

Mr. Yu. Drobyshev from Institute of Ecology and Evolution explained the role of sacred sites in conservation of ecosystems of Lake Baikal Basin. The Baikal Lake basin can be considered as a common ethno-natural territory described not only by a common hydrography and similar environment, but also by the spreading of Mongolian people, which for centuries they conducted a similar way of lifestyle based on the nomadic cattle breeding. In this extensive territory there were similar beliefs and cults, by the right considered as "ecophylous": Shamanism, Tengrism, and later - the Buddhism. Each religion created cult objects and sacrifice still exists.

He compared the sacred or forbidden landscape objects with modern categories of especially protected natural territories. For example, sacred rocks, trees, springs (especially mineral and thermal), lakes, rivers can be regarded as natural monuments and also as cultural monuments, and sacred mountains, valleys, etc can become resorts or national parks. Moreover he showed the influence of Buddhism on cultural heritage of Lake Baikal Basin; Buddhism prohibited disturbance and plowing land.

He suggested the issues which should be included in natural-science analysis of territories and objects. He closed the talk mentioning that Lake Baikal needs organization of the most extensive transboundary territory with a special status and a special mode of protection.

- **Sacred Sites in Southwestern China: Biodiversity Importance and Management**

Prof. Luo Peng from Center for Ecological Studies, Chengdu Institute of Biology, Chinese Academy of Science, introduced the sacred sites in Southwestern China. In southwestern China, mountain and hilly areas, which are a major forest area with the richest biodiversity in China, have a few plains and the richest temperate biodiversity in the northern hemisphere and high variation in water resource. Culturally, most were traditionally inhabited by ethnic minorities and it has long history of cultural beliefs in highland.

Then he elaborated on the characteristics of SNS in south western China where big sacred mountains are mostly distributed in Hengduan Mountains with hierarchical systems and complicated cultural backgrounds. Interestingly SNS, in high variable or unstable environments, are better preserved and also traditional management in lowland and hilly areas or near densely populated areas are stricter. He also found that most SNS are involved in some economic resource uses. He stressed about biodiversity of the area that most of reserved ones are also sacred mountains. Unfortunately, before the logging ban, many SNS had been destroyed by the government policy. Currently, many SNS are conserved under the modern conservation systems such as UNESCO framework. With rapid disappearing of cultural beliefs to SNS, there is a movement to rehabilitate SNS in

lowland and near densely populated areas as well as a movement to create SNS for tourism development.

Lastly, he pointed out that the major issues in sustainable SNS are increasing tourism development in many mountain areas, which distorted the cultural identities of SNS and caused the exclusion of local people from the tourism development in SNS. Overlapped and conflictive management is also a big issue. Then he suggested a study on inventory, classification, mapping/zoning for important SNS to promote official recognition, setting an international/national standard of principle or indicators for sustainability and promotion of SNS, case studies of the standard, and capacity building for empowerment of local stakeholders.

Session 3. Sacred Natural Sites Case Study from Members of EABRN

Chair: ***Dr. Yi Zhijun*****,** Chinese MAB Committee
Rapporteur: **EARBN Project Secretariat**

❖ **EABRN Case Study 2: Mt. Paektu, the Sacred Mountain of Korea, DPRK**

Dr. Yun Chol Nam, the director of Center of Biodiversity and Eco-engineering, Biological Branch of State Academy of Sciences, introduced Mt. Paektu which is the highest mountain in Korea bordering with China in north and west. It is a mountain which gives 50,000 different kinds of inspirations resulting from mysterious natural phenomena.

It has been regarded as an Ancestral mountain and cradle of the national history, which call Mt. Paektu with different names. Topographically, Korea is formed into contiguous line of terrestrial stratum stretched from Mt Paektu. From the ancestry, it has been a sacred mountain for the nation and it is respected as a sacred site.

He also provided information about biodiversity conservation as a sacred mountain. The reserve includes hundreds of species, higher plants over bracken and 48 endemic species. He explained the previous and current legislative framework for conservation in

DPRK, and concluded saying that capacity building, incorporation of advanced technologies and modern facilities are asked for improvement of natural resource management.

❖ **EABRN Case Study 3: Sacred Sites and zoning of Japanese Archipelago, Japan**

Prof. Kunio Iwatsuki, the chairperson of Japanese National Committee for MAB, explained the sacred sites and zoning of Japanese archipelago with reference to the worship to Chinju-no-mori. He introduced the concept of harmonious coexistence between nature and human kinds, the idea of "living together," for sustainable development.

From his talk, Japanese archipelago comprises three zones-core area, buffer zone, and residential area; A quarter of whole archipelago is for residential area, another quarter for buffer zone providing supplementary resources and protecting wild animal activities, and the rest 50% is conserved very well as a core area. Previously the buffer zone has been developed and destructed severely by civilization. After destruction of buffer zone, it could be restored by worshiping nature and life, which implies the potential of sacred biosphere reserves.

❖ **EABRN Case Study 4: Sacred Sites in Republic of Korea**

Dr. Cho Do Soon, Vice Chair of Korean MAB Committee and professor of Department of Life Science, the Catholic University of Korea, gave a speech about the case study of sacred sites in ROK mainly focusing on the small scale sacred sites, such as Seongwangnim (Tetelary forest), Evergreen Hardwood forest, and Gwangneung Royal Tomb forest. Seongwangnim, meaning shrine woods for a local god, is a representative Korean forest of the temperate zone, consisting of about 50 species of trees and it has been protected by the villagers from ancient times due to the belief that it was the home of the tutelary deity of Mt. Chiaksan. Evergreen Hardwood Forests in Wando County have been protected as sacred sites for windbreak, protection of marine resources, and shamanistic worship toward more productions. Gwangneung Royal Tomb Forest in Gyeonggi province has been well preserved historically and was designated and

protected as a historic site and as a natural monument for the habitat of White-bellied black woodpecker.

He pointed out that the sacred sites have been playing an important role in the conservation of biological diversity in Korea because indigenous people protected those sites for spiritual or cultural values, however people now do not worship the sacred place as ancient people did. Therefore, modern protected area system such as national parks and natural monuments replace the role of sacred sites. The examples of sacred sites designated as natural monuments are big and old trees, virgin forests, forests of tutelary deity, windbreak forests, village forests, and natural reserves.

- **EABRN Case Study 5: Role of the Specially Protected Areas of the Khanty-Mansisk Autonomous Okrug-Ugra, Russia**

Ms. T. Merkushina from Khanty-Mansisk Autonomous District-Ugra presented the role of the specially protected areas of the Khanty-Mansiysk, autonomous Okrug-Ugra. She explained the features of the protected areas, and pointed out that the protection of Khanty-Mansiysk resulted in preserving the local and regional significant sacred sites, such as Malaya Sosva and Numto Lake, etc. The main tasks of the specially protected areas of the Khanty-Mansisk are protection of natural complexes and ecologically, historically and ethnographically significant objects and protection of the indigenous people of the North traditional livelihood. Thanks to conservation areas, it turned out to be possible to preserve local and regional significant sacred sites.

She concluded by remarking that religious value of wild nature once again confirms that man's work can't overshadow god's work. Wild nature itself as a sacred notion can't be estimated. To hold wild nature in respect is insufficiently. It should be considered as expression of divinity.

- **EABRN Case Study 6: Conservation Management Issues of Worshipped Bogd Khan Mountain BR, Mongolia**

Ms. R Enkhtuul, Officer of Bogd Khan Special Protection Authority, introduced the conservation management issues of worshipped Bodg Khan Mountain. First, she

explained the history of management of the mountain and main goals of protected area administration. The research monitoring on natural resources has been done in cooperation with many research institution and researchers. Then she introduced the implemental research output and increasing public awareness among residents in buffer zones. The fruitful output covers a book about the ecosystem, database on natural conditions, the conference, forestation within about 30 ha and taking restriction measures within 6000 ha. To conserve the mountain, they applied patrolling and inspection by rangers and the public awareness activities are conducted among the residents of SPA buffer zone areas for a better understanding and enforcement of environment legislation including Mongolian Law on Special Protected Areas.

There are constraints in Bogd Khaan Mountain conservation management such as lack of funding, increased human pressure on the SPA and mis-management or improper policies in the past. Insufficient budget resulted in harsh working condition of the rangers and not proper cooperation with research institutions. Moreover, the inspection is inadequately conducted; the rangers have to face frequent changes of management and staff and enforcement of the regulation law is poorly conducted.

She pointed out that implementation of naturally adaptive, ecologically oriented economic and social policies, internationally carried out, have recognized some obligations to conserve World Biosphere Reserve and furthermore, preservation of healthy environment for the Capital City population, and the development of scientific conservation justifications should be drawn into the state policy issues.

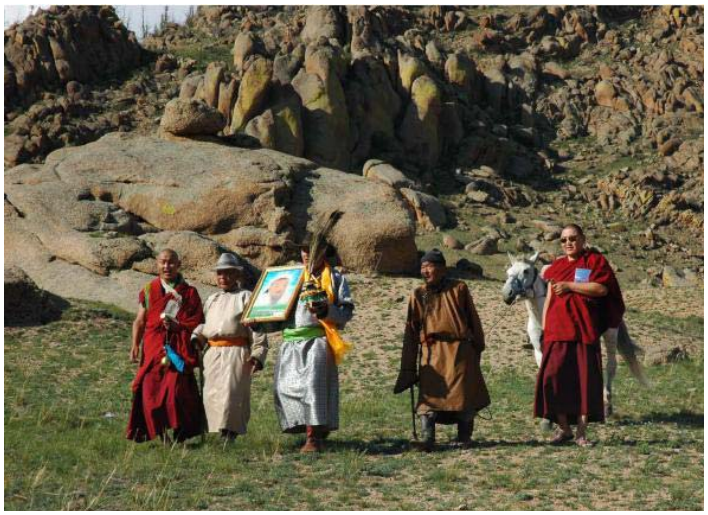
❖ **Field Visit to the Bogd Khan Mountain**

Chair and Team Leader: Dr. N. Urtnasan and Dr. A. Namkhai

1. Bogd Khan Mountain

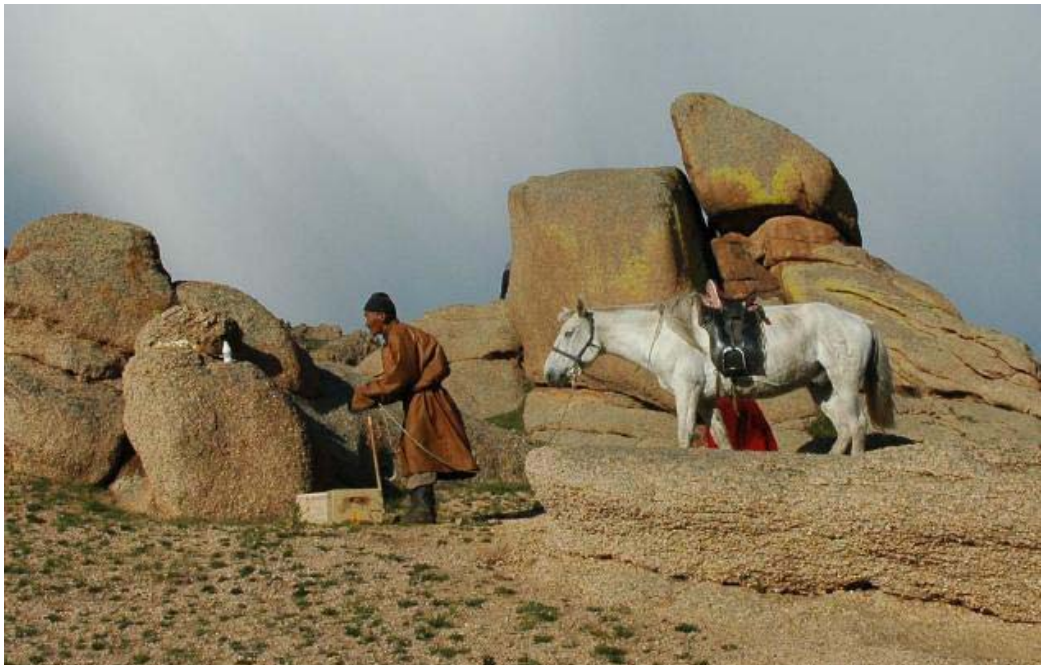
During the meeting, all participants took field visits to the Mongolian Sacred Natural Sites. Bogd Khan Uul Biosphere Reserve is located in the south of Ulaanbaatar, in the southern most forest steppe zone and the Khentei Mountain area. The mountain is the world's oldest official protected area. In 1778, the Emperor of Manchur passed the resolutions to formalize the sacred values of the Bogd Khan Mountain and provide official protection of the site. The northern slopes of the mountains are covered by dense coniferous forest and the southern slopes by bare rocks. Among the most threatened animal species in the biosphere reserve are the Musk deer (Moschus moschiferus), Roe deer (Capreolus capreolus), sable (Martes zibellina) and Artic hare (Lepus timidus). Nature conservation dates back to the twelfth and thirteenth century when the Toorl Khan of Mongolian Ancient Khereid Aimag-who prohibited logging and hunting activities-claimed the Bogd Khan as a holy mountain.

2. Worship ceremony at the Sacred Bogd Khan Mountain



In the afternoon, all the participants and local people have gathered at Sacred Bogd Khan Mountain to witness a ritual worship ceremony. Sacred mountains have honored their deities who have been believed to prevent disaster, help people to harvest a lot, and increase sacred animals. Mongolian nomads have been revered such nature for long time and prayed gods to avoid natural disasters, for instance, drought and heavy snowfall. Besides, they also believe that deities would punish those who do not respect them. Such reverence shows the strength of the sacred natural sites in improving the livelihood of local communities and a sustainable management of natural resources.

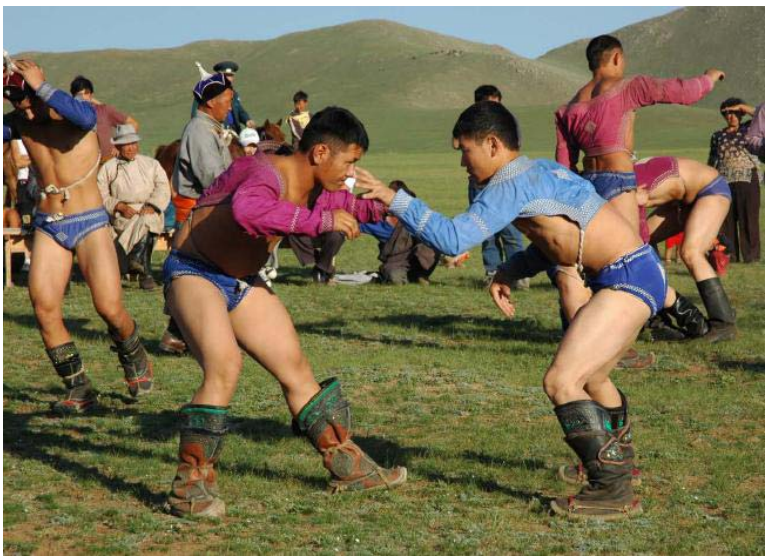
During the ceremony, lamb meat, horse milk, cheese and other dairy products were generously offered and people bid for peace, happiness, and natural riches.



3. Naadam Festival

After the worship ceremony, there was a small Naadam festival. Naadam is one of the public holidays and ceremonies of Mongolia. It is the manly games or suur-kharbaan, as it is called in Buryatya; it is a festival of the three major traditional sports in Mongolia: wrestling, horse racing and archery. It is celebrated throughout the nation on the 11th and 12th of July, and it brings all the best sportsmen from whole Mongolia to Ulaanbaatar. Originally it was a religious festival as an annual sacrificial ritual honoring various mountain gods to celebrate a community endeavor. Now it formally commemorates the 1921 revolution when

Mongolia declared itself a free country. The 2006 National Naadam was introduced as the 85th Anniversary of the revolution and also the 800th celebration of Mongolian Statehood.



For archery game in Naadam, many of the best archers from all the corners of the country compete. The winner is given the title, Erkhiimergen kharvaach, which means the excellent marksman of the country. While the archery and horse riding now allow female participants, wrestling is still remains to be a men's game. To be a winner of wrestling, the player should win nine rounds and even if he loses in only one round, he is dismissed.

One of the most fascinating games for the Naadam is the horse racing. Five or six year old boys and girls ride on horseback and race at an average speed of about 70~80 km/h, over a distance of 25km. UNESCO declared the 'horse racing of Mongolia' as one of the 'heritages and wonders of the world.'

Session 4. Special Presentations and Country Reports - Part I
Chair: ***Dr. Valery M. Neronov***, Russian MAB
Rapporteur: **EARBN Project Secretariat**

❖ **Metal Accumulation by Natural Plants**

Prof. Tomoko M. Nakanishi from the University of Tokyo, Graduate school of Agricultural and Life Sciences showed the scientific understanding regarding natural metal resource strategy in relation to plants. Historically, plants provided many economical values, spices, cotton, sugars, rubbers, etc and at the same time they tell where they were grown. Some plants accumulate certain heavy metals well, for instance, the New Caledonian Sebertia acuminagta exudes a sap containing 11% nickel. Such absorbing utility could be used for practical purpose such as mine survey.

❖ **Country Report of China**

Dr. Yi Zhijun, Deputy Chair of Chinese National Committee for MAB, started presenting the country reports. First, he reported development of the CBRN which is a vehicle of UNESCO MAB Programme in China and stated their activities such as training, annual conference, cooperation and exchange, policy study, publications, public education and project implementation. Also, he shared Biosphere Reserve Periodic Review which should find out changes, problems, practical measures for management improvement.

China-MAB has also conducted policy study about the reserves as a linkage between science and policy for sustainable management practice and the results of the case study at Jiuzhaigou BR valley has been adopted by that reserve. Furthermore, efforts for international cooperation such as twining or sister biosphere reserves have been made, exchanging professional managers and tourism management. Their regular publication as well as BR Atlas illustrate and discuss issues through wonderful pictures and stories to disseminate the MAB and BR concept, and also indicate various management issues, problems, and practical experiences.

He also explained the biosphere reserve experience and the dialogue with Metropolis for an exchange of the belief and the value between people toward sustainable lifestyle. In light of UN Decade of Education for Sustainable Development, it was a Chinese case of

public education for implementation. On 19 April 2007, 12th member meeting of national committee was held and reviewed the China-MAB activities in the past 4 years.

❖ **Country Report of DPRK**

Dr. Son Kyong Nam, President of Biological Branch of State Academy of Sciences, reported on the activities in the Biosphere Reserves of DPRK. He opened the talk speaking about the activities done for Mt. Paektu and Mt. Kuwol biosphere reserves. To conserve and develop Mt. Paektu biosphere in a sustainable way, many efforts have been put, such as the joint study on the biodiversity of Mt. Paektu. Furthermore, the nominated document of Mt. Myohyang as a biosphere reserve has been prepared and promoted under the concern of the government and MAB National Committee.

MAB-DPRK organized a national workshop on conservation of eco-environment once each year in 2005, 2006. 100~200 participants were involved to discuss environmental issues about the protection of ecology and improvement of reserve management. For capacity building of biosphere reserve management, there were training courses and projects supported by UNESCO. Besides above mentioned activities, he explained the activities to keep forestry from vermin damages.

Session 5. Country Reports - Part II

Chair: *Dr. Choi Chung-il*, ROK MAB Committee

Rapporteur: EABRN Project Secretariat

❖ **Country Report of Japan**

Prof. Kunio Iwatsuki, chairperson of Japanese National Committee for MAB, reported on Japan MAB activities. Japanese national commission has published 2nd Catalogue of Monitoring of 4 BRs. It contains 4 National Parks which suffers the common obstacles: increasing visitors and decline of wild fauna or flora. He addressed that Japan is actively carrying out scientific researches for the Biosphere Reserves resulting in sustainable development of these areas.

MAB-Japan in coordination with UNESCO Jakarta Office collaborated with IHP in holding the workshop and it made Biosphere reserves in Malaysia, Laos, Cambodia and Oceania additionally registered. He ended the report by introducing activities done within Japan: nominating future biosphere reserves, PR publications, collection of data for EABRN Atlas, and participating MAB training course.

❖ **Country Report of Mongolia**

Dr. A. Namkhai, Chairperson of Mongolian National Committee for MAB, presented the country report of Mongolia. He introduced previous designation of Special Protected Area (SPA) and MAB biosphere reserves and activities done in the past two years, 2006-2007. Later, he presented the changes of size of SPA, the structure of the SPA network, the state budget for SPA, the number of tourists visiting SPA, showing continuous increase in all sectors. Mongolia organized the regular meeting of Joint Commission in collaboration with Russia focusing on international Transboundary Specially Protected Areas. He also mentioned the 2nd EABRN Atlas from Mongolia has been published which is distributed in this meeting, and Assessment Report has been published as well.

He addressed difficulties threatening SPA, such as climate change, mining exploration, increase of tourists and conflicts between preservation and economic growth. He finished his talk by suggestions for the next 2 years: research and plan on SPAs before development, support training experts, and intensify scientific research.

❖ **Country Report of ROK**

Ms. Kim Eun Young, MAB focal point for ROK and programme specialist of Korean National Commission for UNESCO, reported on the MAB activities. She reported that the *Act on the Activities of UNESCO* in Korea has been revised and entered into force on 7 July 2007, and MAB–ROK which consists of 15 representatives from 4 central governmental bodies, became newly established as a specialized committee under the Korean National Commission for UNESCO.

She elaborated on the activities of Jeju Island BR and Mt. Sorak BR. The World Heritage Committee inscribed the Jeju Volcanic Island and Lava Tubes on the list of World Heritage, and it began a 6-year Funds-in-Trust project entitled Jeju Initiative. Mt. Sorak, designated in 1982, accommodated a few activities such as posting introductory bulletin and holding children's painting contest. MAB-Korea also works for BR candidates for the future nomination. Additionally, there were Mongolia-ROK exchange programme for UNESCO Biosphere Reserve Managers. The ROK government through UNESCO Beijing voluntarily funded the project *Mt. Kuwol Biosphere Reserve, DPR Korea*

❖ **Country Report of Russian Federation**

Dr. M. Neronov, Vice-President of ICC MAB/UNESCO and deputy chair of Russian MAB Committee, presented the activity report of Russia. He stressed the importance of TransBoundary Protected Areas, referring to Mongolia and China. The joint team of Mongolian and Russian specialists has conducted a field survey of present status of the Mongolian gazelle. Several recommendations for conservation of this unique ungulate species spread on steppes of Mongolia, China and Russia have been elaborated.

The importance of the protection of local region such as Volga River Basin and Amur River Basin was also addressed. Many useful recommendations for sustainable development, conservation of biodiversity and improvement of livelihoods of local people have been proposed by teams of national and international experts and now we are waiting for governmental decisions concerning how to use them in practice.

❖ **Activity Report of the East Asian Biosphere Reserve Network (EABRN), 2005-2006**

Dr. R. Jayakumar, Programme Specialist of UNESCO Office Beijing, provided a report on EABRN for 2005-2006. First, he briefly explained the natural science programmes of UNESCO including MAB and EABRN. 8 activities were explained as the main activities done by EABRN secretariat; 1) mid term evaluation of EABRN activities was carried out and the outcome of the second phase of EABRN activities has been evaluated as a relative success, 2) 9th EABRN meeting focusing on "Conservation and sustainable use of insular biosphere network" was held in 2005, adapting Jeju Statement, 3) Based on the recommendations of the 9th EABRN meeting, Mongolian, Chinese Atlas was prepared, and DPRK's will be finished by 2007, 4) 2nd EABRN training course was provided by Chinese Academy of Sciences for GIS application in biosphere reserve management, 5) small scale EABRN projects were carried out which gained overall

evaluation as a successful one, 6) EABRN biosphere reserve directory was prepared, and distributed to all the member countries, as well made available for download and reference at EABRN web site 7) after consultation with EABRN member countries one regional logo was adapted, 8) EABRN website was updated for a better communication whereas Project Secretariat could also provide members web space for information exchange.

Session 6. Follow up for the 9th EABRN Meeting and Future Planning of the EABRN Activities

Chair: *Dr. A. Namkhai*, Mongolian MAB Committee

Rapporteur: EABRN Project Secretariat

❖ **Report on the 19th MAB ICC Session and Bureau's Meeting**

Dr. Valery M. Neronov, Vice-President of ICC MAB/UNESCO briefly reported on the nineteenth session of the ICC MAB held at UNESCO Headquarters in Paris from 23 to 27 October 2006. He shared the summary of the reports delivered at the meeting which stressed the importance of networking at the national, sub-regional and regional levels as well as networking around specific themes, raising the question of how the activities of these networks could be used as the main drivers of the MAB Programme actions and activities. He also gave members news about new officers to the bureau of the MAB Council.

Then he briefly explained what was presented and discussed during the meeting:

- Report of the Secretary on programmes and activities since MAB-ICC-18
- Presentation of national reports and regional networks
- Special session with the minister of environment of the Kingdom of Spain, the Director-General of UNESCO and the President of the General Conference
- Reports from the regional networks
- MAB ecosystems themes
- Past, present and future of the world network of biosphere reserves
- Partnerships
- Capacity building
- UN Decade of Education for Sustainable Development

- Communication and public awareness
- UNESCO medium-term strategy and programme & budget

❖ **Report from the EABRN Ad-hoc Committee meeting and EABRN work plan for 2008-2009**

Dr. R. Jayakumar, Programme Specialist of UNESCO Office Beijing, reported the summary of EABRN ad-hoc committee meeting as well as work plan for the next 2 years. During the meeting, the committee members discussed the next venue for EABRN meeting in 2009, the next training course, preparation for the 3rd World Congress on Biosphere Reserves, and other activities including publishing Atlas, etc.

- China has agreed to organize if DPRK could not manage.
- For the next training course, GIS training with more application oriented courses will proceed.
- Continuing the previous activity on EABRN Atlas, Japan and ROK will prepare Atlas in the 2nd phase.
- A small project and guidelines for field evaluation of biosphere reserves was suggested
- Discussion about the way to expose EABRN to other regional networks during the 3rd World Congress on Biosphere Reserves
- 10 years review of biosphere reserve by guideline or expertise such as IUCN is suggested, which can be accommodated in the session for country reports on the next meeting.

❖ **Report from SACAM and other regional Networks**

Mr. Ram Bhooj, Programme Specialist of Ecological and Earth Science, UNESCO Office New Delhi, began his talk with a brief introduction on the MAB regional networks, followed by reasons for the formation of SACAM: the needs for sub-regional network for the south and central Asia for closer collaboration. The network operates in the context of biosphere reserve. There were 2 SACAM meeting so far from which a news letter was launched, and sustainable eco-tourism in BRs and similarly managed areas was pursued.

He also showed the Biosphere Reserves in SACAM member countries-India, Islamic Republic of Iran, Pakistan and Srilanka. Finally, he announced that the 3rd SACAM network meeting will be held soon, which will have the 12 priority themes and 3 objectives such as identifying specific research priorities for Asian dryland countries, spelling out specific dryland research and education themes, and identifying pilot/field demonstration projects as study sites for national and international dryland collaboration. Not only SACAM members but other MAB dryland experts from neighboring dryland countries and representatives of national/international organizations working on dryland issues will participate in the meeting. He ended the presentation explaining the workshop structure and a tentative workshop programme.

❖ **Experience of exchange programme between MAB ROK and Mongolia**

Mr. Shin Won-Woo, a member of Korean MAB Committee and Executive Director of Park Conservation, Korea National Park Service, explained the current status of Korea's biosphere reserves-Seoraksan Biosphere Reserve and Jeju Island Biosphere Reserve, and national park management services, such as ecological restoration, resource management, visitor services, and expansion of visitor facilities, etc. He showed the organizational structure of the Korean national parks and their major management operation sectors. Those management operations cover various efforts for protection and restoration of the national parks and services for visitors.

For strengthening international cooperation, ROK and Mongolia carried out exchange programme which facilitated experts exchange from each country. MAB National Committee chairman and other from the two countries visited the biosphere reserves of ROK in 2006 and Mongolia in 2007. Then he presented activities done in Mongolia: meeting with the Ministry of Nature and Environment and field visit to Orkhon valley, Kharakhorum, Khongno-tarina National Park, Khustai National Park, and Terelj National Park. He wrapped up his speech stating future action plans such as exchange of staffs, joint seminars and researches, and assigning sister national parks. After his presentation, UNESCO MAB secretariat promised supports for such an exchange programme between other member states.

❖ **Jeju Initiatives on Insular Biosphere Reserves.**

Mr. Moon Kyung-Jin, Assistant Director of Environment Policy Division, Jeju Provincial Government informed us about Jeju initiatives, which was proposed during the 9th EABRN Meeting held in Jeju. It has been implemented by regional cooperation by the fund-in-trust with Jakarta UNESCO Office to strengthen activities and networks for conservation and development of Biosphere reserves on island and coastal areas in the Asia-Pacific region. He elaborated on the goals of "Jeju Initiative" and urged close contact among biosphere reserves for exchange of information.

The project for conservation and communization of Gotjawal is now underway turning Gotjawal into a public land from which creation of an environment-friendly community is expected. He closed the presentation with the proposal for the establishment and operation of a cyber network of Asia-pacific biosphere reserves, and international cooperation project for Earth BRs.

Session 7. Preparatory Discussion on Third World Congress on Biosphere Reserves, Madrid (Spain) – Open discussion

Facilitators: *Dr. Choi Chung-il, Dr. Thomas Schaaf*

❖ **Overview on Objectives and Expected Results of the 3rd World Congress on Biosphere Reserves, Madrid, Spain, 4-8 February 2008**

Dr. Thomas Schaaf, Programme Specialist of MAB UNESCO Paris, shared information about the 3rd World Congress on BRs which is the following of the previous 2 General Congress held in Minsk (Belarus), 1983 and in Seville (Spain), 1995. The expected number of participants is around 1000 comprising representatives of all MAB National Committees, site managers of biosphere reserve, possibly Ministers of Environment and other MAB regional networks.

He introduced 5 point agenda for the General Congress 2008 as: 1) working methods and practices of the ICC in relation to the same of executive board and general conference of UNESCO as a tool for improving science-policy practice within UNESCO's planning and programming agendas. 2) What are the implications for each of the biosphere reserve zones contributing to conservation and development taking into

consideration of the constraints and opportunities inherent in each zone? 3) How BRs can be used for innovative research and capacity building enhancing the role of ecosystem goods and services in development? 4) How can MAB and the BR Regional Networks be strengthened to become the main drivers of MAB and BR agendas? 5) How can BR be used for learning, governance and adaptive management approaches for sustainable development of land and seascapes?

From the GC Madrid, Action Plan (MAP) for Biosphere Reserves and Madrid Declaration will come out, and publication on the World Network of Biosphere Reserves is also expected. Additionally, the film of Spanish TV on Biosphere Reserves Worldwide will be aired. Though it was not the final version, he briefly explained the draft agenda and time table for preparation of documents.

❖ **Input of EABRN to the World Congress on BRs in 2008**

Dr. Choi Chung-il, Chairperson of Korean MAB Committee, facilitated open discussion among EABRN-MAB Committees on future plan and EABRN inputs to the 3rd World Congress on Biosphere Reserves. In principle, all members of EABRN are strongly encouraged to participate in the congress, however, the concern about expenses for transportation and logistics has been raised because no funds so far are promised to support participants. Furthermore, it was suggested to invite enterprises or stakeholders as potential donors for MAB programme to flourish sustainably.

Regarding EABRN activities during the congress, it was agreed to organize a special session on EABRN with presentations from all the member countries on facts and figures of BRs, bylaws in BR management, success stories of Biosphere Reserves, challenges faced, current status and problems and solutions. The EABRN session might be held simultaneously with other regional session or take a certain period exclusively for EABRN, or alternatively we can exhibit each of our member's presentations on computers which would be operated by observers. It was also called upon to prepare a summary report of EABRN to be distributed during the congress in the form of a brochure which needs each member state's contribution for the inputs. Additional tangible outcomes of the EABRN to be distributed to all the congress participants are also considered. To expose EABRN and let other MAB members know better about our regional network, EABRN can prepare free meals to all the participants.

II

KEY NOTE ADDRESSES ON SACRED NATURAL SITES

- Management Issues of Biodiversity Conservation through Sacred Sites Concept
- The Involvement of UNESCO-MAB and UNESCO World Heritage Center in Biodiversity Conservation through Sacred Natural Sites
- Guidelines for Protected Area Management

Management Issues of Biodiversity Conservation through Sacred Sites Concept

N. Urtnasan

Secretary-General, Mongolian National Commission for UNESCO

1 Introduction

Today conservation and protection of biological and cultural diversity are issues of global concern. Warning bells tell us that biodiversity is being lost at the most accelerated rate ever in human history.

In this regard, UNESCO Convention (1972) and Program on Man and the Biosphere (MAB), with its World Network of Biosphere Reserves are unique global instruments recognizing and protecting both cultural and the natural heritage in the world. Sacred natural sites concept-new perspectives in the implementation of the UNESCO Convention. This concept is a milestone in the identification, protection, conservation and transmission of this threatened heritage for future generations. In the condition of the homogenizing forces of globalization, sacred natural sites and cultural landscapes have vital importance for safeguarding cultural and biological diversity and for the spiritual well being of indigenous peoples and local communities.

Bearing in mind, the interface of biological and cultural diversity, UNESCO has initiated and organized a number of international seminars, workshop and symposium on the topic of sacred sites: “The role of sacred groves in conservation and management of biological diversity”, India 1997; “UNESCO Thematic Expert Meeting on Asia Pacific Sacred Mountain”, Japan 2001; workshop on “The Importance of Sacred natural Sites for Biodiversity Conservation” in which experts from all the world’s regions have participated.

UNESCO has been playing a key role in conservation of biological diversity and cultural heritages through its MAB program and World Network of Biosphere Reserves. The Seville Strategy and Statutory Framework of the World Network of Biosphere Reserves, elaborated at UNESCO Conference in 1995, are main tools for implementing the biosphere reserve concept. MAB program have become important and driving forces for conservation not only of biodiversity but also culture and interactions between man and nature. As the regional network in East Asia for the World Network of Biosphere Reserves, EABRN facilitates biodiversity conservation and cultural heritage protection in the East Asia and serves as mechanism of exchange and transfer of information between our countries.

Traditional society of Mongolians have developed nomadic culture and coexisted with its environment, modifying nature but actively maintaining it in a diverse and productive way, based on locally evolved traditional ecological knowledge, socio-cultural practices and religious beliefs. Mongolians have numerous traditions that venerate and protect nature and the environment, such as the worship for land (mountains, hills, forests, and rocks), water resources (rivers, lakes, springs and water lands) and animal species. According to estimates by prominent Mongolian scholars, there are some 800 sacred sites and venerated mountains in Mongolia. This traditional knowledge system has been ignored or even prohibited for a certain period of time, in the late 19th and early 20th centuries. Recently, the need has been identified to revitalize this lost traditions of venerating sacred sates and traditional knowledge system and to create national inventories.

In the framework of the UNESCO sacred sites concept Mongolian National Commission for UNESCO with the generous assistant UNESCO SC- MAB and Beijing office as a secretariat of EABRN carrying out pilot project "On integration of sacred sites system into the practice of protected areas management."

The Pilot project is been implemented within 7 selected sacred sites using research methodologies and a special questionnaire with prime purpose to asses the local community's perception and existing practices related to the conservation of sacred

selected sites. During project activities, research team tried to identify how the tradition of worshipping sacred sites have inherited for the next generation as well as assess their importance for biodiversity conservation.

The 10th meeting of the UNESCO – MAB East Asian Biosphere Reserve Network (EABRN - 10) is held from 1 to 5 September, 2007 in the Gorkhi Terelj camp in Mongolia. This meeting attaches much importance to biodiversity conservation through sacred natural sites concept of biosphere reserves.

2 Identification of Sacred Sites

The sacredness is usually attached to the elements of nature such as trees, caves, mountains, rivers, lakes and places on belief that there are mysterious powers in them. The recommendations of the UNESCO thematic expert meeting on Asia-Pacific Mountains held in Japan in September 2001, noted that the process of identifying sacred sites and their specific characteristics is complex, as they often comprise of both natural and cultural heritage values that are difficult to quantify. However, some indicators or characteristics can be defined, such as:

- The highest point of a sacred site is often considered to be the centre of the cosmos of the world, thus representing power, and is home to either a deity or deities;
- Representing part of the identity of a nation or group of people and indigenous communities;
- A sanctuaries to rare or endangered animals and plants
- Sacred sites are often places of worship and of sacred rituals and practices;
- Sacred sites are often considered the place of residence of spirits or ancestors;
- A place of association with sacred persons through thousands of years
- A place of inspiration or transformation; and
- A place of pilgrimage.

Appreciation for mountains, lakes, rivers and forests and worshiping them in Mongolia and other East Asian countries began since ancient time and Bogd Khan mountain in Mongolia, mythical mounts to the Himalayas in china, India, Nepal, mountain Fuji in

Japan, Lake Baikal in Russia and mount Huang Shan in China have long been regarded as sacred.

According to estimates by prominent Mongolian scholars, there are some 800 sacred sites and venerated mountains in Mongolia

Most of the sacred sites in Mongolia are mountains. Mongols consider most the elevated land in the Great Mongolian Steppes as sacred to hold spiritual significance.

Peaks such as Otgontenger of the Khangai range, the five peaks of the Altai Mountain range, and the remote peaks of Burkhan Khaldun and Bogd Khan of the Khentii Mountain range were some of the first areas in Mongolia to be termed "sacred". These mountain areas have well-established systems of myths, beliefs, legends, rituals and religious practices for mountain- worship. They also contain sacred objects such as temples, monasteries, stupas, stones, springs, and ovoos (shamanistic rock cairn). Every venerated mountain or hill in Mongolia has an ovoo built at its peak, which serves as a religious site in mountain- and sky-worshipping. Ovoo are also found at the source of rivers and springs, as these areas represent spiritual cross-roads.

3 Value and Importance of Sacred Natural Sites in Biodiversity Preservation and Conservation

Value and importance of sacred sites for biodiversity conservation are apparent in the following aspect:

- Sacred sites have kept pristine nature and natural biodiversity for hundreds of years.
- Sacred sites are worshipped by people interested in safeguarding the sacred environment, and this way facilitates the conservation and protection of biodiversity.
- They are the heritage bestowed for present and future generations as a legacy of the national traditions, customs, sutras, chronicles, history, culture, and sciences passed on from the ancestors.

- They ratify people's belief in maintaining the equilibrium between ecology and nature protection.
- Sacred sites have great significance for the spiritual well being of indigenous people and local communities.
- Sacred sites have great importance to respect, support and promote the role of indigenous people and local communities as custodians of sacred sites and holders of traditional knowledge and rituals which is fundamental for the preservation of biological and cultural diversity.
- Sacred mountains hold an immense ecological value for not only the country they are located in, but also the world.
- Sacred sites are often the last remaining habitat of rare and endangered animals and plants.
- Sacred sites educate younger generations on how to relate with the nature.
- Conservation traditions of sacred sites protect both cultural and biological diversity which hold the key to ensuring resilience in both social and ecological systems.

4 Management Issues of Biodiversity Conservation Through Sacred Sites Concept

We are considering that sacred natural sites concept is relevant to the concept of cultural landscapes, especially to the category of the "Associative cultural landscape" as defined in the Operational guidelines for the World heritage convention. This definition provides new opportunities for the recognition of sacred natural sites and their inclusion on the World Heritage List. Such landscape is justifiable by virtue of the powerful religious, artistic or cultural associations of the natural element rather than material cultural evidence, which may be insignificant or even absent. "Natural sacred sites" or a sacred landscape requires adequate protection and management mechanisms to ensure the conservation of natural and cultural values and sometime outstanding universal values of the site.

The key management objective in sacred sites is to sustain these landscapes while allowing both continuing use to local communities who are dependent on them for a livelihood, biological and cultural diversity to be to conserve. In order to conserve these values of sacred sites which are important reservoirs of biological diversity, the many governments use legal and traditional mechanisms and protected area networks. In more recent times, the government of Mongolia has been implemented certain measures in establishing and expanding its protected areas and improving management practices. For instance, Law on Special protected areas (SPA)(1994), Law on Buffer zones of SPA (1997) and the national programme for SPA (1998), Law on The Protection of cultural heritage (1994, amended in 2001) were issued. Mongolian government also actively participates in the international networks as world heritage network and the World Network of Biosphere Reserves. The sacred mountains of Bogd Khan and Khan Khentii (Burkhan Khaldun) were included in the category "Strictly protected areas" by a Mongolian parliamentary resolution in 1992, and Otgontenger Mountain has been accorded special protection. The Mongolian sacred sites: Mongolian famous salt Lake – Uvs was inscribed on the world heritage list in 2003, Sacred Orkhon Valley Cultural Landscape was inscribed in 2004. the government has a scheme to gradually include Sacred Khan Khentii, Bogd Khan and Otgontenger mountains in the World Heritage List, and in 1996 Bogd Khan mountain nature reserve was included in the UNESCO`s World Network of Biosphere Reserves. Other mountains, including Otgontenger and Burkhan Khaldun are planned to be included in the network.

Since 1990, a new time of social change, it has become possible to revive national traditions and customs of nature protection in Mongolia, and to incorporate these traditions and customs into state policy. On 16 May 1995, the first President of Mongolia issued a new decree "supporting initiatives to revive the tradition of worshiping Bogd Khan Khairkhan, Khan Khentii, and Otgontenger mountains". The decree pronounces the state's support for initiatives to revive mountain-worshiping tradition as they were described in the original Mongolian Legal Document, "set out according to the official decree" and adjusting traditions to present – day conditions. Since the summer of 1995, Khan Khentii, Burkhan Khaldun, and Bogd Khan Khairkhan

mountains have been worshipped as state sacred mountains. The president has participated in some of the ceremonies.

There is an urgency to establish a protected zone in this region, with the objective of providing sustainable local social and economic development, assisting in improving living conditions of local people, and strengthening environmental protection in the region. In establishing protected zones, specific ecological, social, and economic criteria are taken into consideration.

Many of the sacred sites are included in SPA network, 5 sacred sites-in WNBR (MAB), sacred lake Uvs nuur, Holy land of Orkhon valley Cultural landscape were inscribed on the world heritage, and sacred mountains of Otgontenger, Burkhan Khaldun and Bogd Khan have been included in the national tentative list for world heritage.
Sacred Orkhon Valley Cultural landscape-world heritage site is discussed here as an example.

Management involves all the process of issuing legal instrument for the conservation, preparing a management plan, implementing the actions in the plan, monitoring and reviewing the management actions. Management has general requirements, but some issues stand out as particularly important in managing sacred landscapes and require specific management policies for conservation of biological and cultural diversity of the site:

- To use a values-based management rather than an issues-based management approach;
- To consider both a natural, archaeological and cultural values of sacred site in harmony. Integrity of nature or culture with nature is need, not the integrity of nature or culture alone.
- To fully use sacredness including the role of myths, oral traditions, rituals and history in the location of sacred sites
- To recognize and apply the links between sacred landscapes and identities of the nation, minority or indigenous group.

- To take into account relationship between the ongoing culture of the local people and natural landscape. The survival of sacred places depends not only on the maintenance of the environment and biodiversity but also on sustaining living cultures, traditions and used beliefs of the people.
- To consider a possibilities for a viable and sustainable of natural resources.
- To use adequate and efficient pasture, farming and forestry policies
- To provide managing tourism to ensure continuing visitor access to
- To support local communities which maintain heritage values within the sacred landscapes and involve indigenous peoples who are the traditional custodians of the cultural values and beliefs in decision making process
- To develop a strategy for a sustainable partnership within the sacred sites. Sacred sites usually have multiple stakeholders with differing interests, practices and traditions.

5 Project Review

Most of the Mongolia's biodiversity remains outside international and national legal protected areas and will be managed by local people and communities living mostly in within and round of the sacred sites.

In the framework of the UNESCO sacred sites concept, Mongolian national commission for UNESCO with the generous assistant from UNESCO SC-MAB and Beijing office carrying out pilot project on the topic "Integration of sacred sites system into the practice of protected area management".

Project team has carried out activities during the one year from October 2006 to October 2007.

The field surveys have conducted within the following sacred places using special methodologies and a questionnaire with prime purpose to assess the local community's perception and existing practices related to 7 sacred sites.

- Khangain Ovoo, the Kharkhorin soum, Ovorkhangai aimag

- Khogno Khaan mountain, the Rashaant soum, Bulgan aimag
- Bat Khaan mountain, the Erdenesant soum, Tuv aimag
- Avzaga Khairkhan uul, the Mogod and Gurvanbulag soums, Bulgan aimag
- Sain uul mountain, Erdenesant soum, Tuv aimag
- Eej Khairkhan mountain, the Tsogt soum, Gobi-Altai aimag
- All the sacred places, Ongi river basin, which passes the territory of Ovorkhangai, Dundgobi and Omnogobi

The sacred places and worshipping tradition are the precious practice to conserve natural and cultural heritages and sustain the environment. Also, it is considered as an appropriate traditional way to protect the diversity of biological resource and culture as well as support the balance between social development and environment.

Mongolia is one of the countries which kept those traditions in some extent. During this research many sacred places with the specific difference of worshipping rituals and meanings conserved to date have been surveyed. For instance, Bat-Ulziit soum of Ovorkhangai aimag from ancient time famous by its fast and strong horses and local population worshipping the "Alag Khairkhan" mountain as it supports horses. Until now the mountain worshipping tradition have conserved and each year local people offering accordingly to the traditional procedures.

Also, surrounding the "Domii ovoo", located in the territory of Kharkhorin soum, monks from the Erdene Zuu monastery used to camp during 4th of the last month of the summer (by the lunar calendar) for holding religious disputations, reciting sutras and procedure magic medicine. Until 1937 this tradition were inherited and to date it is totally lost, but the stories are still kept by elders.

Moreover, the rock named "Khadagt khoshuu" that "supports poor, cares orphan and bestows child for families", situated in Hogno Khan Mountain, traditionally used as sacred place by prayers. The rocks, located in Chinggis Mountain of Gorkhi Terelj National Park, anciently were places for calling heaven by shamans.

Furthermore, Eej Khairkhan mountain of Gobi-Altai aimag, also called as Mother Queen Mountain is the largest sacred mountain Gobi, where traditionally during the lunar New Year, people offered tea, milk and dairy whispering their wish and praying.

The results obtained from the survey were different from the common knowledge and skills which we have to date, for instance, that everyone understands mountain worshipping is used to conserve the nature and environment. Whilst, over 66.2 percents of rural population answered to the question about the purpose of worshipping that it is the traditional way to wish the sufficient rainfall. Also, 80 percents of respondents asked for question: 'Do you use the resource from the sacred mountains?' answered 'No'. According to them, due to the fact that the place is occupied by the ferocious deities, they restricted using resources, even cutting a tree.

The sacred mountains and worshipping ceremony involves everyone becoming the public tradition. Thus, based on this involvement as well as the common understanding for conserving the nature and environment, it can be used as a tool for promoting ecological education. In this respect, the separate educational activities as well as demonstrations of environmental protection activities can be a part of the traditional worship ceremony.

The intangible heritages as ancient graves, burials, ruins of ancient cities and monasteries, and cultural heritages from Stone and Bronze Age are conserved as valuable historic and cultural inheritances. Unfortunately, those heritages have not been fully researched yet and used for conservation purposes.

The research was specific, because of its relation to the rural social issues such as poverty, livelihood, as well as impact of such industries as tourism, mining and other. As a concluding remark of this part of our research, it needs to be noticed that not only the willing of population should be an essential part of environmental protection, but also the involvement and support of the government and all level decision makers should be implemented.

As the result, the sacred places are not only the subject to conserve and inherit the tradition, but also the significant places for gaining and sharing the scientific knowledge and cognition about the nature and environment, history and culture of Mongolia. So, it is necessary to conduct detailed researches within such places involving scientists from different discipline in the future and to use them for biological and cultural diversity conservation.

6 Khogno Khan Mountain

The mountain occupies the bordering territory between Gurvanbulag and Rashaant soums of Bulgan aimag. Geographically, it falls in to the Orkhon Selenge Rivers' basin with low height mountains which creates an amazing complex of different landscape types. From the northern foot of Batkhaan mountain large sand massive extended over 80 km in length and continues up to Ondor Khuremt eastern from the center of Rashaant soum. This sand massive is called "Elsen tasarkhai", which means "sand fragment' in English. The Tarnii river flowing western from the Elsen tasarkhai, became a major water source for the locals.

The main peculiarity of this region is distribution of both forest taiga and steppe vegetation, which formed a suitable habitat for endangered wildlife species. Along the veins of pale colored granites such minerals as amethyst, smoky quartz, quartz, topaz, black and red tourmaline, biotitic, muscovite and wolfram are spread. The northern mountain valleys are covered by forests from Cedar, Larch, Birch, Poplar, Elm and Aspen trees as well as shrubs as Cotoneaster, Ramous, Rhododendron, Amygdales, Armeniaca, Myricaria, Spiraea and Padus. The cedar forest here is considered as relict due to its remoteness from the major Khangai Khentii Mountain's cedar forest distribution by over 200 km.

In Khogno Khan totally 17 rare and endangered and 399 commonly growing Neogen relict plant species are registered, of which 7 species are included in to the "Mongolian red book". The flora of this region has a great importance, because of, it is comprised from 100 medicinal, over 100 forage, 80 aromatic, 10 fruit, 5-6 tea, 3-4 palatable plant species as *Polygonum aloperucuroides*, *Lillium pumilum*, Allium's senescence and so on.

The wildlife represented by manul, fox, corsac, badger, rabbit, wolf and so on. Moreover, mammals as hedgehog (*Erinaceus dauricus*), whiskered bat (*myotis mystacinus*), little brown bat (*myotis spp*.), long tailed suslik (*Citellus undilatus*), silver backed vole (*Alticola argentatus*), striped hairy-footed hamster (
Phodopus sungorus), Brandt's vole (*Microtus brandti*), Mongolian gerbil (*Meriones unguiculatus*) and Mongolian five toed jerboa (*Allactaga sibirica*) are widespread. The region is also famous for its bird composition represented by golden eagle (*Aquila chrysaetus*), hawk saker falcon (*Falco cherug*), upland buzzard (*Buteo hemilasius*), kestrel (*Falco tinnunculus*), merlin (*Falco columbarius*), little owl (*Athene noctua*), wheatear (*Oenanthe oenanthe*), carrion crow (*Corvus corone*), magpie (*Pica pica*), great eagle owl (*Bubo bubo*), owl (*Aegolius spp*.), partridge (*Perdix spp*.), some migrating birds as cuckoo (*Cuculus canorus*), hoopoe (*Upupa epops*), kite (*Milvus spp*.), and some water birds as ruddy shelduck (*Tadorna ferruginea*), goose (*Anser spp*.), duck (*Anas spp*.), bustard (*Otis tarda*), green plover (*Vanellus vanellus*) and redshank (*Tringa totanus*).

In order to conserve as well as inherit ecosystem integrity, the natural heritage for the area of 46990 ha was given natural reserve land status in 1997. Later, to develop both natural conservation and tourism industry, an area of 84390 ha was given national park status.

The mountain was worshipped since the first Bogd Gegeen of Mongolia, Zanabazar. The worshipping traditions were recovered since 1990s, and the local community is now continuing the offering ceremony as it was in Zanabazar`s time.

The spirit of the Khogno khan is a male local genie, named "Tudevvaanchig", who is grid on bow and quiver and ride the grey-beard horse with light-pink colored hooves. Here are such sacred places as offering ovoo, baga hanii ovoo, huuhdiin ovoo, Khadagt khoshuu located. The daughter of the Khairkhan is a genie with green silk "deel" (traditional costume of Mongols), and local population believes that she loves children and supports the poor.

The peculiarity of this region is in existence of the old and young monasteries of Tarna`s upper and lower monasteries which are closely related with ancient, middle and recent expansion of the Buddhist religion in Mongolia. The mountain is famous by its historic heritage of Turkish history and culture in Mongolia.

One of its significance is that there are some rock paintings of ancient time.

Historically, Ondor gegeen zanabazar has established the Khogno tarna`s monastery or Erdene Khamba`s khuree for his religious teacher Erdene tsorj (tsorj means "king of the law", the lamaist title) in southern foots of the Khogno khan mountain. While ascending mountain valley the stone ruin of Ovgon monastery representing in the first stages of Buddhist religion development in Mongolia can be seen. The architecture of this monastery was similar to the Potala in Tibet. However it was destroyed during the period of Khalkha-Oird war.

7 Recommendations

1)The mountain is used for winter pasture by relatively low number of herder's family: totally 15 families and 8500 herds. This stipulates the overgrazing here is not severe, however, with the global warming the land degradation and water desiccation tend to increase.

2)We conducted a questionnaire, interviewed and discussed with 24 respondents belonging to 10 families as well as local officers. During the discussions, people at all level mentioned that degradation, desiccation of water bodies and deforestation is critical.

3)The establishments of the unregulated number of tourist camps surrounding the mountain as well as in its foot have significant impact on the environment and the wildlife population. To reduce the negative impact of the tourism on local environment it is recommended to elaborate the management planning for tourist camps as well as encourage them to participate in worshiping activity running under the patronage of the soum government.

4)The negative influence of ecological changes occurred in a region had a great impact on the birch forest deterioration, spread over the northern foot of the mountain. In this respect local government as well as the relevant officials has to implement actions to restore the birch forest in collaboration with professionals and local community. Else, this naturally adapted soil-water regulation mechanism can be lost causing the land degradation in nearest future.

5)Record history and peculiarities of worshipping traditions of sacred mountains for future generation, and to promote the role of traditional knowledge in environmental conservation.

6)Publish and distribute the worshipping scripture used for offerings to sacred mountains.

7)Each year before a worshipping ceremony, local and protected area administrations should organize activities involving the public in environmental conservation efforts. This may include cleaning up their surrounding areas, planting trees, protecting spring and river sources, and publishing and distributing educational leaflets.

8)The carrying capacity in and around the pasture areas of sacred mountains are leading to a 'tragedy of the commons' state, which may cause irreversible land degradation. In order to prevent this ecological disaster, traditional seasonal rotations of the pasture should be promoted. Some areas will require the implementation of a pasture tenure policy. As the majority of sacred mountains are within the protected areas, community based ecosystem conservation actions should be implemented that involve all the relevant stakeholders.

9)Taboo or prohibition regulations should be promoted with the aim of being adopted as habit. Such taboos include not polluting sacred places, cutting trees, overgrazing, hunting wildlife or polluting the water.

10) An environmental protection day should be organized; public awareness rising should be carried out, before worshipping day.

11) Ovoos should be cleaned from all rubbish. The tradition of offering diary and tea must be promoted rather than substitutes such as bottles, crutches, sticks, etc.

12) In sacred places where traditional practices have been lost, worshipping customs should be restored and legends, tales and folklore written down and recorded.

13) The secondary school curriculum should incorporate lessons about the nature and environment of sacred places, and their traditions and history, especially in Soums that fall areas in sacred sites. Within the framework of this activity, excursions should be organized to natural and cultural heritage places. Demonstrations of traditional ways to conserve the nature, as well as participating in yearly organizing offering ceremonies, will help in the transfer of traditional knowledge. The notion of environmental protection with the involvement of all people should be established.
14) The use of motor vehicles to access sacred mountains is significantly degrading the land. Such vehicles should be forbidden during times of worshipping ceremonies, and walking must be promoted as the traditional methods of pilgrimage.
15) The environmental law system developed by Chinggis Khan has much relevance today in conserving vast areas which hold socio-economic importance. These policies should be further explored to be implemented as rules for preserving sacred sites.

The Involvement of UNESCO-MAB and the UNESCO World Heritage Centre in Biodiversity Conservation through Sacred Natural Sites

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For nearly 15 years, UNESCO has worked on biodiversity and environmental conservation by using an approach that also takes into account traditional belief systems and their relationships to conservation. This work was in particular carried out within the context of the UNESCO Man and the Biosphere (MAB) Programme through pilot projects; in later years, the World Heritage Convention, through the recognition of "cultural landscapes", made a similar step in recognizing the potential of sacred natural areas for biodiversity conservation. In this paper, the author provided an overview on UNESCO's work on the importance of sacred natural sites and cultural landscapes for the conservation of biological diversity and the recognition of cultural identity.

The UNESCO Man and the Biosphere (MAB) Programme is an international and intergovernmental environmental research and conservation programme. One of its objectives is to study and improve the relationship between people and their environment; another objective is to conserve the environment through the sustainable use of natural resources, which is primarily accomplished through the biosphere reserve concept. Biosphere reserves, with their multiple zonation patterns into core, buffer and transition zones, are contributing to sustainable development in line with conservation objectives.

According to the Statutory Framework of the World Network of Biosphere Reserves, a core area should be legally constituted and be devoted to long-term protection according to the conservation objectives of the biosphere reserve (Article 4, paragraph 5a of the Statutory Framework refers). The benefit of this criterion is that the legal protection of the core area aims at the long-term protection of environment and its biodiversity. However, despite its legally protected area status, core areas of biosphere reserves are not always respected by local people, who are often compelled to revert to poaching or illegal logging even in the protected core areas so as to satisfy their immediate livelihood needs.

This far from satisfactory *de facto* situation led us to think of how environmental conservation could be based on means other than "only" legal protection. One answer was that sacred natural sites, which are based on locally and culturally accepted belief systems could, indeed, be an effective means of conserving the environment. Moreover, the national and international recognition of such sites could instill a sense of pride for local communities in charge of sacred natural sites and help preserve their cultural integrity.

From 1993 to 1997, the international Secretariat of the UNESCO-MAB Programme implemented a pilot project on the study of sacred groves in Ghana, Western Africa. The title of this project, namely "Cooperative Integrated Project on Savanna Ecosystems in Ghana (CIPSEG), suggests that the project endeavored to put environmental conservation in an inter-disciplinary context drawing on the expertise of natural and anthropological scientists.

In Ghana, as in most other African countries, rapid population growth and expansion of economic activities have lead to deforestation and degradation of the environment. In some parts of northern Ghana, the natural population increase between 1960 and 1984 has reached some 490 per cent. This has had increasingly distressing socio-economic consequences for people who are compelled to widen their resource base to the detriment of environmental conservation. In many parts of the country, the natural

vegetation has been seriously affected by bush fires, agricultural cultivation, overgrazing, fire wood cutting and even urbanisation and village sprawl.

Although environmental degradation is widespread in northern Ghana which is a dry sub-humid savannah of the Guinea type, small pockets of residual closed canopy forests remain near human settlements. Many of these forest pockets are, in fact, "sacred" or "fetish" groves which have survived environmental degradation because of religious beliefs. The groves cover small areas and may vary from 0.5 to 20 hectares each. Village communities have actively protected their sacred environments and thus, deliberately though unconsciously, have contributed to environmental conservation at large.

It is estimated that over 80 per cent of the sacred groves in Ghana serve as watershed or water catchment areas that protect drinking sources and provide readily available essential herbs of medicinal value. Almost all existing sacred groves in Ghana have been, and continue to be protected by taboos, traditional beliefs and some local customs. Because of the reverence people attach to the sacred groves, people's general perception of the groves has resisted encroachment or unwarranted exploitation of resources within the groves.

The CIPSEG Project focused on three different sacred groves which were selected as study and intervention sites; Malshegu sacred grove, Tolon sacred grove and Yiworgu sacred grove. One of the main aims of the project was to assess whether the sacred groves could be indicator sites for the potential natural vegetation of the savannah area. Could they give an idea of how the savannah of the Guinea type looked like before human pressure on the savannah grew too strong? In this vein, the project's goals were to develop a scientific knowledge base on the relict fetish groves ecosystems and to study the sacred groves in terms of their plant and animal species composition.

This knowledge base was then geared towards achieving the second main aim of the project: to restore the adjacent and degraded savannah areas by using native plant species from the sacred groves' gene-pools. The project, therefore, had both a scientific

orientation (study of the sacred groves' genetic resources), and a development orientation (rehabilitation of degraded environments).

In order to address these two main objectives, several scientific teams were needed which would work in a harmonized, interdisciplinary approach. As the project was embedded in the overall integrated research philosophy of the UNESCO Programme on "Man and the Biosphere (MAB)" and the counterpart institution was, in fact, the MAB National Committee of Ghana (the Secretariat is within the Ghana Environmental Protection Agency), it was no problem in setting up different study teams.

The Botany Department of the University of Ghana carried out an in-depth plant inventory of the three sacred groves which had been selected for the project. The Geography Department of the same university looked into the overall land use systems of the three districts in which the sacred groves are located, with a view to elaborating environmentally sound development and management plans.

The University of Science and Technology in Kumasi with its Institute for Renewable Natural Resources (IRNR) and its Forestry Research Institute of Ghana (FORIG) were concerned with assessing the area's edaphic, climatic and socio-economic conditions which were needed as baseline factors for overall development interventions. Scientists of these two universities were actively engaged in carrying out modern ecological and applied research and several of their graduate students were using the project's facilities for preparing their Master's degrees (Schaaf, 1995, p.44).

The newly established University of Development Studies in Tamale with its researchers in the wildlife department undertook a detailed study which was divided into 3 modules: (a) vertebrate wildlife aspects, (b) invertebrate wildlife aspects, and (c) the socio-cultural and economic aspects of wildlife, both within and outside the sacred groves.

Apart from purely ecological research, the project also attached great importance to the socio-cultural dimensions of the sacred groves. The Centre for National Culture in

Tamale undertook in-depth studies of the traditional beliefs which had led to the protection of the sacred groves; the same Centre also analysed the sacred groves' functions for ceremonial purposes performed by the fetish priests. Moreover, studies focused on traditional resource use by village communities such as tree planting, ownership of tree and forestry products and marketing hereof. These studies were particularly important for the restoration of degraded savannah environments in order to meet the specific needs of village communities without violating cultural values.

Gender issues with regard to resource use were addressed by the Northern Region Rural Integrated Programme (NORRIP), since the different roles of women and men in restoration and development activities needed to be fully understood for any kind of intervention activities.

Environmental education on the importance of conservation and involving local people in all project stages was considered essential for the success of the project. The project's main counterpart institution, the Environmental Protection Agency (EPA) of Ghana, carried out multi-layered education programmes: for example, seminars were organised on the control and prevention of bush-fires which could seriously affect the sacred groves, and on the establishment of shelter belts around the groves; women were trained in tree planting, in particular using the micro-catchment technique; men were trained on the usage of fodder banks to provide feed to livestock during the lean seasons and to reduce pressure on the sacred groves; environmental awareness seminars and seminars on sustainable land use planning and implementation were geared towards the general public.

Finally, mass media were utilized to diffuse project activities to the entire Ghana nation: the Ghana Broadcasting Corporation (national television station) made several features on the project with the aim to inform on environmental conservation practices using sacred groves. A "docu-drama" was produced for video presentation using villagers of the sacred groves as actors.

It would lead to far here, to enumerate all the scientific results which the project yielded. However, a few results are quite interesting to mention here.

One of the working hypotheses had been that the biodiversity within the sacred grove would be much higher than in the adjoining non-sacred areas. However, this was only half true. In terms of animal species diversity, birds, reptiles and mammals were more abundant within the sacred groves than outside the sacred groves. This was not a surprising result as the sacred groves also function as wildlife sanctuaries in which hunting is outright prohibited and trespassing of this customary law is penalized by the custodian of the sacred grove. An antelope, for example, can be hunted outside the grove, but as it enters the sacred grove, hunting has to stop.

However, as regards plant species, a higher species-diversity was found at the edges of the sacred groves than within the sacred groves. We assume that the edges of the sacred groves function like ecotones where two different environmental settings meet: an ecosystem with a closed canopy cover (sacred grove), and a human-impacted ecosystem where bush fallow or agriculture occurs. Hence, the differing light conditions at the edges of the sacred groves give rise to more heterogeneous plant diversity than within the groves. It may also be assumed that the sacred groves in this savannah environment are dry forests in their climax or sub-climax stage which are less species rich than groves with secondary undergrowth.

Research on the cultural aspects and significance of the sacred groves also provided fascinating results: Through interviews with the village elders and extrapolation of historic events, we assume that some of the sacred groves are at least some 300 years old (lack of written history in Africa makes a time assessment over longer periods difficult). They originated either as the abodes of a god or several gods. The three selected groves were the respective abodes of a python god, a leopard god and a monkey god; they can command plenty or lean harvests. Other sacred groves in the study area served and still serve as burial grounds of ancestors and have become taboo over time. In some cases, it was possible to trace back the specific point in time and the occasion when a sacred grove became taboo; during tribal warfare, a chief sought

shelter in a grove where a god made him invisible from the raiding enemies and he was saved. Since that time, the grove was venerated as sacred.

The power of a chief is intrinsically linked with his function as supreme custodian of a sacred grove. No matter whether the chief is a practising Muslim or Christian, his power over the community derives from his role as protector of the sacred grove. Should he relinquish this function, his power as chief would be forfeited.

Some interesting taboos were brought to the fore. For example, it was considered a taboo for a young man to plant a tree in particular during the day: if the shade of the tree fell on the young man, the man would be doomed to die. This view was held high and may explain why many afforestation projects or projects on the rehabilitation of degraded lands failed in the savannah areas of Ghana. However, there is a way to go about the taboo in planting trees in the early morning hours or at sunset. The Centre for National Culture explained that this taboo did, indeed, make sense in an ecological sense. If a tree is planted at dawn or at dusk, the higher moisture content in the soil would also ensure a higher survival rate for the planted tree.

The taboos and obligations, i.e. the "do's" and "don'ts", vary from one sacred grove to the other, but there are also several common features. For instance creating shelter belts around the groves through communal labour is an obligation to everybody in the village community. The strict observance or adherence of the rules associated with the sacred groves is considered important and cannot be compromised.

Perhaps one of the most interesting lessons learned from the project was that it was not enough to convince village communities on the importance of planting trees around the sacred groves to enhance the protection of the groves and to combat environmental degradation. The grove has first and foremost a spiritual significance as the abode of a god. The god could dwell in a single tree or rock and still exert his/her power. This is a view held by many young people who would wish to extend their agricultural lands even if this extension would feed into the sacred grove. As the long as *the* sacred tree or rock still exists, no harm is done to the religious integrity of the sacred grove.

The project, therefore, re-oriented its activities with regard to the rehabilitation of degraded lands around the sacred groves. We abandoned the idea of solely using plant genetic resources of the sacred groves for restoration activities, but focused on agro-forestry methods which also permitted cash-crop production (e.g. cashew nuts, mango etc.). These cash-crops provided an economic income to local people, especially women and young men, and permitted the restoration of a vegetation cover in particularly degraded areas. The establishment of woodlots and fodder banks were additional means to create a "buffer zone" around the sacred groves which in turn reduce the pressure on the sacred site itself.

Experience from the CIPSEG Project has shown that the rehabilitation of degraded areas is possible if based on cultural beliefs which tie in well with the religious and spiritual views shared by a specific community. We also think that sacred groves can be used as indicators for potential natural vegetation. It is essential, however, that not only the groves but also the wider spatial area around the sacred sites are considered and embedded in integrated development schemes. Income-generating activities beyond the confinements of the sacred groves have to be developed for local people as the modern socio-economic contexts and constraints necessitate viable resource bases. Ideally, one should seek to combine people's traditional concepts of sacred groves with modern and legal instruments to enhance the conservation of the environment.

UNESCO also provides the Secretariat for the "Convention concerning the Protection of the World Cultural and Natural Heritage", which was adopted by UNESCO in 1972. In essence, the World Heritage Convention (as it is known by its shortened name) postulates that there is a set of places that are of such outstanding universal value that their deterioration or destruction constitutes a loss to the heritage of all humanity, and not just to the country in which they are located. These cultural and natural places make up the world's heritage. The World Heritage Convention has met with tremendous success: ratified by 184 States Parties, the list now comprises 660 cultural sites, 166 natural sites and 25 mixed sites, which have both cultural and natural properties.

In 1992, the World Heritage Committee adopted new "cultural landscapes categories", which paved the way also for the recognition of sacred sites and areas. According to paragraph 39 (iii) of the convention's operational guidelines, the inclusion of "associative cultural landscapes" on the World Heritage List is justifiable by virtue of the powerful religious, artistic or cultural associations of the natural element rather than the material cultural evidence, which may be insignificant or even absent. Based on this new perspective, Tongariro National Park in New Zealand became the first world heritage site inscribed on the World Heritage List in 1993 as a cultural landscape. This site is one of the most sacred areas for the Maori population in New Zealand. The mountains at the heart of the park have cultural and religious significance for the Maori people and symbolize the spiritual links between this community and its environment. The park has active and extinct volcanoes, a diverse range of ecosystems and some spectacular landscapes.

In the context of the UNESCO MAB Programme and the World Heritage Convention, a number of international workshops, experts meetings and major events have been organized that helped shape the recognition of sacred natural sites and their intrinsic value the world over. In December 1997, the UNESCO Office in New Delhi organized a sub-regional workshop on "The Role of Sacred Groves in Conservation and Management of Biological Diversity". The proceedings of the workshop were edited and published in 1998 by P.S. Ramakrishnan, K.G. Saxena and U.M. Chandrashekara under the title "Conserving the Sacred for Biodiversity Management".

Hosted by the Government of Japan, a "UNESCO Thematic Expert Meeting on Asia-Pacific Sacred Mountains" took place in Wakayama City from 5 - 10 September 2001. Organized by the UNESCO World Heritage Centre, the Agency for Cultural Affairs of Japan, and Wakayama Prefectural Government, this expert meeting formulated a number of recommendations pertaining to the identification, significance and values of sacred mountains.

In February 2003, the international MAB Secretariat organized an international workshop on the theme "The Importance of Sacred Natural Sites for Biodiversity

Conservation" which was held in Kunming and Xishuangbanna Biosphere Reserve (China). Attended by experts from different world regions, this workshop used a SWOT analysis (= strengths, weaknesses, opportunities, threats) in order to work out a first set of guidelines for the conservation and management of sacred natural sites. These draft guidelines were then presented and discussed at a side event to the World Parks Congress in Johannesburg (South Africa) in September of the same year.

A landmark event was the international symposium on "Conserving Cultural and Biological Diversity: The Role of Sacred Natural Sites and Cultural Landscapes" at which the above-mentioned guidelines were further discussed and refined. Organized by UNESCO and hosted by the United Nations University (UNU) in Tokyo from 30 May to 2 June 2005, the symposium also benefited from the support of other international organizations, in particular the Secretariat of the Convention on Biological Diversity (CBD), the United Nations Permanent Forum on Indigenous Issues (UNPFII), the United Nations Food and Agriculture Organization (FAO), and IUCN - The World Conservation Union. Within UNESCO, the MAB Secretariat was the principal organizer of this event, in collaboration with the Secretariat of the World Heritage Centre, the International Hydrological Programme and the Intangible Cultural Heritage Section at UNESCO. This plethora of different institutions underlines the fact that the phenomenon of sacred natural sites is of interest to experts from the natural sciences and cultural domains.

One of the symposium's objectives was to generate new knowledge of and insights on traditional ways in preserving cultural and biological diversity, and in managing natural resources. Accordingly, session 1 explored the "Phenomenon of sacred mountains – traditional worship and conservation"; Session 2 looked at "Sacred landscapes, biodiversity and traditional resource use"; Session 3 was concerned with "Sacred spaces and routes"; Sessions 4 and 5 underlined the interlinkages of water, culture and the environment. Session 6 raised the issue of "Food security and livelihoods" in the context of sacred natural sites. Another symposium objective was to explore the linkages of tangible and intangible heritage in the light of nature-culture interactions as evidenced in sessions 7 and 8. A third symposium objective was to preserve traditional knowledge

of indigenous and local communities on the conservation and sustainable use of biological diversity and to increase respect for traditional knowledge in view of an ethical maintenance of cultural diversity and the creation of economic and social benefits for indigenous and local communities.

In conclusion it can be said that in the international arena, UNESCO has spearheaded work on the recognition of the values of sacred natural sites for many years. They can be an important complement to legally protected areas in helping to conserve biodiversity. Moreover, their recognition can underpin the preservation of cultural integrity of a given society and community. Currently, UNESCO collaborates with IUCN - The World Conservation Union to publish guidelines for the conservation and management of sacred natural sites within the IUCN Best Practices publication series.

In a world marked by unprecedented species loss, the conservation of biological diversity becomes an imperative. In a world moving towards globalization, the safeguarding of cultural diversity is essential to remind us of our identities. Sacred natural sites and cultural landscapes are places where biological and cultural diversity can reinforce each other.

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CONSULTATION ON THE NEW DRAFT IUCN/UNESCO GUIDELINES FOR THE MANAGEMENT OF SACRED NATURAL SITES IN PROTECTED AREAS

These guidelines are mainly aimed at improving the management of sacred natural sites in government protected areas, as well as supporting those that lie outside protected area boundaries. At best, sacred natural sites are supported by government protected area systems and managers; however, they are often ignored or parties are in conflict. The primary target for these guidelines, therefore, is managers of protected area systems as well as of individual protected areas. It is hoped that other stakeholders, such a natural resource ministries, state planning departments and private protected area managers will also find these guidelines useful. It would be inappropriate for IUCN or UNESCO to advise traditional custodians on the management of sacred sites for which they have successfully cared for many generations. It is hoped, however, that custodians, from indigenous and mainstream faiths and their support organizations will find the guidelines useful in interacting with protected area managers and integrating ecological concerns into sacred site management. If this endeavour is successful it is anticipated that lasting and productive partnerships will ensure sacred natural sites and their managing cultures survive long into the future.

The guidelines have evolved over the past five years. In their current form they aim to be on the one hand to be sufficiently detailed and prescriptive to be of use but on the other hand be sufficiently general and circumspect to cover the wide range of sacred site situations and applications. The 37 guidance points below are grouped into six clusters.

These guidelines will form the core of a volume in the IUCN WCPA best practice series. Each of these points will be described in more detail and case studies will be presented. Background information and supporting material will also be included. In commenting on the guidance point it would be useful if reviewers agree/disagree with a) the concept of the point b) its articulation. Please return comments to the e-mail or mail addresses below. A form is appended and can be used for comments.

Thank you very much for taking the time to comment on these guidelines.

Sacred Natural Sites: Guidelines for Protected Area Management

1. Recognize Sacred Natural Sites in Protected Area Systems

1.1 ***Recognition:*** *Initiate policies that formally recognize the existence of sacred natural sites within or near national or other government protected areas and affirm the rights of traditional custodians to access sacred sites and play an appropriate role in their management*

1.2 ***Prior consent:*** *Ascertain the prior, free and informed consent of custodians before including sacred natural sites within national protected area systems and while developing management policies affecting sacred places*

1.3 ***Original Models:*** *Recognize many sacred natural sites as original models that integrate and balance social, cultural, environmental and economic values into a holistic management system, that are part of the tangible and intangible heritage of mankind*

2 Incorporate sacred sites into management and other planning processes

2.1 ***Park planning:*** *Initiate planning processes to revise protected area management plans to include management of sacred natural sites in collaboration with custodians*

2.2 ***Zoning:*** *Establish support, buffer and transition zones around and near sacred sites, especially those that are vulnerable to damage*

2.3 ***Linkages and restoration:*** *Create corridors between sacred natural sites and other areas of similar ecology for continuity, and use sacred natural sites as core recovery areas in degraded landscapes*

2.4 ***Landscape approach:*** *Take a landscape approach to sacred natural sites, recognizing their role in wider cultural landscapes, protected area systems, corridors and other ecologically valuable land uses. Seek support for sacred natural sites from development planning authorities*

2.5 ***Demarcation:*** *To enhance protection clearly demarcate sacred sites where appropriate (subject to 3.2), using methods that help reduce disturbance that is inappropriate to that particular site.*

3 Promote participation, inclusion and collaboration

3.1 ***Voluntary participation:*** *Ensure that state or other stakeholder involvement in the management of sacred natural sites is with the consent and voluntary participation of custodians*

3.2 ***Respect secrecy;*** *Ensure that pressure is not exerted on custodians to reveal the location or other information about sacred natural sites and, whenever requested, establish mechanisms to safeguard confidential information shared with protected area agencies*

3.3 ***Inclusion:*** *Make all efforts to ensure the full inclusion of all relevant stakeholders, including marginalized parties, in decision making about sacred natural sites and carefully define the processes for such decision making, including those related to higher level and national level policies*

3.4 ***Conflict resolution:*** *Use conflict resolution and mediation methods where appropriate to promote mutual understanding between traditional custodians and new 'owners', occupiers or managers where relevant*

3.5 ***Legitimacy:*** *Recognize that different groups have different levels of legitimacy in*

decision making about sacred natural sites

4 Encourage improved knowledge and understanding of sacred natural sites

4.1 ***Multidisciplinary approach:*** *Promote a multidisciplinary and integrated approach to the management of sacred natural sites calling on, for example, local elders, religious and spiritual leaders, protected area managers, natural and social scientists, local communities, non-governmental organisations, and the private sector where relevant.*

4.2 ***Biodiversity values:*** *Research biodiversity values and assess the contribution of sacred natural sites to biodiversity conservation*

4.3 ***Integrated values:*** *Explore the philosophical, spiritual and scientific contribution of sacred natural sites in understanding the relationship between humans and nature. Extend the emerging concepts of caretaking and stewardship to conservation and management policies and programmes*

4.4 ***Inventories:*** *Subject to the approval of custodians especially of vulnerable sites (and consistent with guideline 3.2), carry out regional, national and international inventories of sacred natural sites and include sacred natural sites in the UN Global data base of protected areas*

4.5 ***Communication:*** *Develop supportive communication, education and public awareness programmes and accommodate and integrate different ways of knowing, expression and appreciation in the development of policies and educational materials regarding the protection and management of sacred natural sites*

4.6 ***Traditional Knowledge:*** *Consistent with article 8(j) of the Convention of Biological Diversity (CBD), support the respect, recording, preservation and maintenance of the traditional knowledge, innovations and practices of indigenous and local communities specifically related to sacred natural sites. Recording will preferably by custodians themselves, or at a minimum with their consent*

4.7 ***Cultural renewal:*** *Recognize the role of sacred natural sites in maintaining and revitalizing diverse cultural expressions and the environmental ethics of indigenous, local and mainstream spiritual traditions*

4.8 ***Networking:*** *Facilitate the meeting and sharing of information, ideas and networking of traditional custodians of sacred natural sites as well as among and with new owners or managers of sacred natural sites*

4.9 ***Intercultural dialogue:*** *Promote intercultural dialogue through the medium of sacred natural sites in efforts to build mutual understanding, respect, tolerance, reconciliation and peace*

5 Consider access, protection, use and management

5.1 ***Access and use:*** *Develop appropriate policies and practices that respect*

custodian access and use, where sacred natural sites fall within national protected areas

5.2 ***Tourism:*** *Well managed tourism, preferably ecotourism, provides the potential for economic benefits to indigenous and local communities, but tourism activities must be culturally appropriate, respectful and guided by the value systems of communities that are the custodians of sacred sites*

5.3 ***Decision-making control:*** *Strong efforts must be made to ensure that custodians of sacred natural sites retain the decision-making control of tourist activities, and checks and balances should be instituted to reduce damaging economic pressures from tourism and other programmes*

5.4 ***Visitor pressures:*** *Understand and manage visitor pressures and develop appropriate policies, rules, codes of conduct, facilities and practices for visitor access to sacred sites, making special provisions for pressures brought about by pilgrimages and other seasonal variations in usage*

5.5 ***Dialogue and respect:*** *Encourage ongoing dialogue between local, indigenous, religious and community leaders and recreational users to control inappropriate use of sacred natural sites through both protected area regulations and public education programmes that promote respect for local cultural values*

5.6 ***Sustainable use:*** *Appropriate harvesting for traditional purposes should be negotiated and regulated to make sure that use is sustainable*

5.7 ***Cultural use:*** *The limitation of the harvest and use of animals and plants that form part of regalia or have ritual uses from within government protected areas should only take place in exceptional circumstances, e.g. in cases where species are endangered.*

5.8 ***Development pressures:*** *Take into account cultural, social and environmental considerations before taking decisions on development projects. Use environmental, social and cultural impact assessment tools and where appropriate apply the Akwé:Kon Voluntary guidelines for the conduct of cultural, environmental and social impact assessments regarding developments proposed to take place on, or which are likely to affect, sacred sites and on lands and waters traditionally occupied or used by indigenous and local communities, as articulated within the Convention on Biological Diversity.*

5.9 ***Desecrations and resanctifying:*** *Safeguard against the unintended or deliberate desecration of sacred natural sites and promote the recovery, regeneration and re-sanctifying of damaged sites where appropriate*

5.10 ***Protection:*** *Enhance the protection of sacred natural sites by identifying, researching, managing and mitigating overuse, sources of pollution, fires, floods, climate change and other human derived threats, and develop disaster management plans for unpredictable natural and human caused events*

5.11 ***Financing:*** *Where appropriate pay due attention to the appropriate financing of sacred sites and develop mechanisms for revenue generation and sharing which balance ethical, equity of benefit and other considerations*

6 Respect the rights of sacred natural site custodians

6.1 ***Tenure:*** *Where sacred natural sites have been incorporated within national protected areas or privatised land explore collaborative and contract management options for the full engagement of traditional custodians in management. Where appropriate explore the appropriate return of tenure and ownership rights*

6.2 ***Institutional analysis:*** *Understand traditional management institutions and enable and strengthen the continued management of sacred natural sites by these institutions. Make appropriate arrangements for the adoption and management of sacred natural sites with no current custodians, for example by heritage agencies*

6.3 ***Rights based approach:*** *Root the management of sacred natural sites in a rights-based approach respecting basic human rights, rights to self-determination and freedom of religion and worship, as well as the existence rights of non-human nature*

6.4 ***Legal protection:*** *Advocate for legal, policy and management changes that reduce human and natural threats to sacred natural sites, especially those not protected within national protected areas and other land planning frameworks*

Comment Form Next Page

Please forward comments to: Robert Wild, Leader of the IUCN-WCPA Task Force on the Cultural and Spiritual Values of Protected Areas. **rob-wild@ltsi.co.uk** , **www.csvpa.org**

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Invitation to Task Force Membership

As with all IUCN Commission work the activities the Task Force on the Cultural and Spiritual Values are progressed by the voluntary efforts of a network of committed individuals

Membership of the Task Force is therefore invited and welcomed to individuals interested and active in the domain of the cultural and spiritual values of protected areas. Participation by custodians of sacred natural sites is particularly welcomed. Please contact the Task Force Leader or via the above website

Comment Form: **Date:**_____

Name:_____e-mail _____

Address_____

Please commend on concept, clarity, tone and gaps

Overall Comments on the guidelines:

Strong guidelines:

Weak guidelines:

Gaps:

Please forward comments to: Robert Wild, Leader of the IUCN-WCPA Task Force on the Cultural and Spiritual Values of Protected Areas

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CASE STUDIES

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Sacred Natural Sites and Biological Conservation in Kawagebo Region

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Abstract

This paper is based on the concept of "sacred natural sites (SNS)" in order to systematically introduce Kawagebo region's various SNS geographical distribution, its characteristics and rules. Through the analysis of the 3 main cultural functions of "sacred sites" - the religious core function, the morality function and group identity function, and the analysis of the biodiversity and ecological safeguard function, this paper will point out that only when the various modern conservation activities, government ecological protection projects and development programs have sufficient respect, and have integrated the indigenous traditional religious beliefs and knowledge, will there be a required result.

1 Introduction

Kawagebo is located in the northwestern part of Yunnan Province, in Deqin County of Diqing Prefecture. It ranges in a north by northwest to south by southeast direction, and is erected between the 2 river gorges of Nu River and Lancang River. The main peak of Kawagebo is Yunnan's highest peak, and is a sacred mountain in the heart of the Tibetans living in the 5 provinces of Yunnan, Tibet, Sichuan, Qinghai and Gansu. Due to the various factors like topography, terrain, climate, etc, Kawagebo has a very rich biodiversity. According to surveys, the wildlife within the preserve of the Kawagebo region and its neighboring region comprises 2700 species, including many rare and special species. On the wildlife aspect, the region (including Baima Snow Mountain) has been identified to have mammals of more than 50 species, including musk deer

(*Moschus berezovskii*), dwarf blue sheep (*Pseudois schaeferi*), snow leopard (*Uncia uncia*), red goral (*Naemorhedus cranbrooki*), and other rare and precious animals. In addition, various birdlife like Lady Amherst pheasant (*Chrysolophus amherstiae*), white eared pheasant (*Crossoptilon crossoptilon*), and blood pheasant (*Ithaginis cruentus*) are included in the 113 species of birds (Cheng, 2000). The indigenous people in the Kawagebo region are mainly Tibetans, comprising about 97.5% of the region's total population. In the long course of history, Kawagebo region have gradually evolved into a predominantly Tibetan cultural region with Naxi, Han and Hui multi-cultural characteristics. From the region's excavated cultural relics, it shows that, 2000 years ago, humans have started to live and work in the Lancang river-flow areas of the Kawagebo region. Since the spread of Buddhism into the Tibetan region, it became the Nyingma sect dominated region (Wang Xiaosong: 2000). Around the 13th century A.D., the Black Hats Karma Kagyu sect's second generation leader, Karma Pakshi and the third generation living Buddha, Karma Rinpo Dorje respectively went to the region to spread the Buddhist teachings and paid a formal visit to Kawagebo, leaving behind offerings of scriptures (Rinchen Dorje: 1999). From then onwards, this region became one of the most famous pilgrimages in the Tibetan region.

2 Kawagebo Region's "Sacred Natural Sites" and its Distribution Pattern

Kawagebo region is situated on the highest altitude in Yunnan, has one of the lowest human population densities in the province, and also one of the best preserved natural ecological environment. Here, most of the inhabitants rely on a direct usage of resources in the natural environment, falling into a self-sufficient (autarky) natural economic state. Therefore within the communities, its daily production, livelihood, and various cultural activities maintained a close relationship with their natural world. For a thousand years, this relationship has enabled people and their ecological environment to gradually adapt to one another, reaching a relatively high degree of integration. The distribution "sacred natural sites" all over the Kawagebo region is the most focused embodiment of this integration.

Sacred natural sites are an integration of a type of cultural sites and natural ecosystems. Through natural ecological processes and human cultural practices, they reached a level of equilibrium flow of matter, energy and communication between its internal and external environment. Guo Jing sum up a few basic characteristics of sacred natural sites: 1) an embodiment of the integration of culture and environment; 2) on the foundation of religion, they partition the space in the natural environment, and endow them with cultural significance; 3) they apply different methods of natural resource usage in each partitioned space; 4) using religion, morals and village rules to be the main management methods (Guo Jin: 2004). Overall, sacred natural sites are a complex combination of nature and culture; they formed a traditional resource management model; and also formed a dynamic concept (closely related to the people's religious requirements, the natural environment, the status of resources, human historical activities, and the socio-economic changes). Kawagebo region's sacred sites have 4 main types of representation: sacred mountains, "Rigua", sacred marks and pilgrimage routes.

Sacred mountains, "Rida" in Tibetan, are the main form of sacred natural sites. According to their degree of influence, sacred mountains can be categorized into 4 types. The first type consists of mountains venerated by the entire Tibetan region like Tibet's Gang Rinpoche and Nianqing Tangula Mountain, and Kawagebo region's Kawagebo belongs to this same type. Second type consists of the regional sacred mountains that are venerated by the people living in a specific region. In Kawagebo region, the regional sacred mountains are principally Shuola Gunbu, Zhala Queni etc. The third type consists of one or several specific communities' sacred mountains, where other communities possibly may not know. Kawagebo region consists largely of this type of sacred mountains, totaling over 50. The last type is the clan or familial sacred mountains, but due to their relative small scale and sparse distributive pattern, they have very limited influence on the community.

"Rigua" is as well a traditional method of sealing mountain regions, directly protecting the environment, and also a major contribution of the Tibetan people to human

environmental conservation work. Within "Rigua" many production activities are strictly controlled, generally allowing only collection of Non-timber Forest Products (NTPs), limited herding and other activities. The reasons for setting up "Rigua" are many, but the main reason is to allow the sustainable utilization of community's resources, protection of water resources, and prevention of mountain slope erosion, water and soil loss. The administering of "Rigua" is one of the most important religious practices.

Temple landscape forests, lands on which eminent monks undergo spiritual cultivation, sacred lakes, and sacred waterfalls, and forest and grassland near sacred marks, are another form of sacred sites. Within Kawagebo region there are ten odd monasteries, erected by the Geluk, Karma, and Nyingma Tibetan Buddhist sects, and more than 300 sacred lands and sacred marks. The surrounding environment of these sacred lands and sacred marks are also endowed with cultural significance, and are given the same degree of protection. The inner and outer pilgrimage routes of Kawagebo region are unique sacred natural sites in this region. The inner pilgrimage route mostly touch on the villages of Yubeng, Mingyong, Xidang and Yongzhong, whilst the outer pilgrimage route stretches northwards from Meilishi, and southwards to Yongzhi, encircling the entire Kawagebo region. Every year, especially during the Year of the Goat, thousands of devotees from different parts of the Tibetan region come to the pilgrimage routes to pray for good fortune. Every tree and animal found along the pilgrimage routes is considered sacred, not to be deliberately damaged or hurt.

3 Cultural Function of Sacred Natural Sites

The existence of the various sacred natural sites in the Tibetan region is based on foundation of the "living-on-the-roof-of-the-world" Tibetans' unique traditional religious beliefs and folk culture. It is also shown in the form of the Tibetans' ancient belief in all things having spirit and nature worship, Bon religion and Tibetan Buddhism's divinity worship, ancestral worship, spiritual worship, hero worship, etc. From the cultural point of view, sacred sites function in 3 aspects, religious core function, morality function and group identity function.

Religious core function: In Tibetan region, all sacred sites, great and small, embodies a kind of religious core function. For example, speaking from the veneration of sacred mountain, it was the non-comprehension of the mysterious, unfathomable, and ever changing natural phenomenon occurring in the ancient ancestors' natural environment, which led to the believe that these were supernatural powers manifested by the mountain god. Subsequently, it led to a psychology of fear, respect and veneration for nature. This gradually developed into an ancient form of religion and later into the Bon religion that views these natural objects as sacred mountains dominated by mountain gods. With the arrival of Buddhism, Padmasamb have adducted these indigenous mountain gods as Tibetan Buddhism's guardian gods. Along with the continual spread of Buddhism, different sacred mountains, temples, "Rigua", and other sacred marks have surpassed their original form, and gradually elevated to a symbol of Buddhist understanding and doctrine. This type of core function of the sacred sites may be on a regional level or it may be only on a community level. As for Gang Rinpoche, (Mt. Kailash) it influences on the level of the entire Tibetan region, Kawagebo influence on the regional level, while for the other majority of sacred sites, their influence is restricted to a community level religious core.

Morality function: The existence of different sacred sites at the same time makes the moral thinking and behavior of people to follow a fixed set of rules, thus making a community comparatively stable. In relation to the sacred sites are the different divinities, which are frequently regarded as having immense magical powers. Any actions that violated these rules would be punished by the divinities. At the same time, through the use of village rules and pacts, people limit the various human activities within these sacred sites. The "Rigua" of Yubeng village was demarcated together by the Adong Land Department administering Yubeng and Deqin's Hongpo Temple, and at the time of demarcation, eminent monks and lamas also added the "Rigua", thus endowing it with the gods' will and authority. However due to the demands of daily living, within this "Rigua" people are allowed to have limited herding and collection of forest small products, but still totally forbidden to fall trees.

Group identity function: Group identity is an important function of sacred sites, mainly represented in the 2 aspects of cultural identity and community identity. Cultural identity is represented by the group common religion, relatively similar set of value judgment standard, and following the same or similar living habits and production styles. This type of identity gives every individual of the group a sense of belonging at varying degrees. Different sacred mountains or sites have different degree of influence, thus this type of cultural sense of belonging will have different meaning. Just as people regard the veneration of Gang Rinpoche as a Tibetan cultural identity, while only the Kang region Tibetan people regard Kawagebo as their final resting place, making it a regional cultural identity. The main effect of community identity is represented by the implementation of a community's resource management authority through different sacred sites. The masses of a community frequently proclaim certain sacred mountain or site as one of their own, thereby achieving management authority over one or a few resources (e.g. right of use, right of distribution, right of ownership, etc). Regular or irregular religious rituals (like Weisang, circumambulating mountains, building "divine palace", planting prayer flags, freeing captive animals, etc) are a type of embodiment of this resource management authority. The extend of this community identity function, ultimately resulted in a phenomenon in the Tibetan region: the various famous sacred mountains in the whole Tibetan region became important administrative and cultural boundaries, like China-India, and China-Nepal borders' Himalayan sacred mountain, Qinghai-Tibet border's Tangula sacred mountain, and Yunnan-Tibet border's Kawagebo sacred mountain, etc.

4 Significance of Sacred Natural Sites' Ecology

Being based on religious beliefs and cultural tradition, it is easy to see the significance of the ecology of natural sacred sites. Due to the thorough bottom-up approach of this type of traditional knowledge-based natural resource management model, there is participation of the every member of the community, and a close relationship with the livelihood, and culture and customs of the people. Thus from the point of view of modern ecological protection management, it is very scientific. Speaking from the biodiversity point of view, according to our study with Missouri Botanical Garden, vegetation cover in sacred sites is comparatively in a more original state than the other

sites, including many types of vegetation and an abundance of species（Danica，2003）. There are mainly 18 types of vegetation in the Kawagebo region, and this vegetation types are widely distributed in the sacred site. Below 4000m altitude regions, even though the vegetation types are similar, the richness in species in sacred sites is collectively higher than the other non-sacred sites at the same altitude ($t = 2.045$, $df = 176$, $p = 0.042$); and that within high altitude sacred sites (Majority of Kawagebo region's sacred sites are distribute above 4000m) the frequency of species are notably higher than lower altitude regions ($t = 14.372$, $df = 156.8$, $p<0.0001$).

5 Protection of the Culture and Biodiversity of Kawagebo Region

Traditional sense of nature protection system is built on the foundation of modern natural sciences. It is a top-down approach, with various related governmental departments forming a formal system. This type of system has 2 major limitations from the functional and system point of view: 1. it is small in scale, difficult to implement in a large scale. Since the 80's in the previous century, China has started to establish large-scale nature protection zones, till 2004, it has already set up different types of nature protection zones numbering 799, of which Yunnan has 104. But with regards to the proportion, the protection zones in the entire country constitute only 7.2% of the total land area, and Yunnan's protection zones area constitutes only 5.2% of the total land area in the province (China Nature R); 2. Operation is singular, lacking community participation. Due to a lack of consideration for local communities' cultural traditions, economic interests and other factors during the establishment of protection zones and management process, administrators and the people in the communities gradually form an opposing relationship. Thus, establishing a conventional protection zone in Kawagebo region is not realistic, and also pointless. More and more national research has shown that natural sacred sites are a form of protection system that is based on modern sciences, that is definitely needed and is a complement, and the Kawagebo region is probably the best place for establishing such a new concept of nature protection method.

Through the above analysis of the characteristics of sacred sites and its cultural and ecological functions, together with the situation of recent increasingly rapid opening up of China's western region, and Kawagebo region tourism industry rapid development, there are following visions:

1) Fortify sacred sites' religious core function. Kawagebo is the center of all sacred sites in the region, and also a symbol of traditional culture and religion. Because of this, we should support the people in their various cultural and religious activities, and try our best to preserve original natural environment. Based on the cultural characteristics, government should further strengthen the position of religion, and persist in opposing any human ascendance of summit activities. Most sacred sites are the centers of human cultural activities, through which environmental education is developed, teaching the people to be more pro-active and to actively participate in environmental protection.

2) Through the understanding of the distribution of sacred sites, the various conservation works by the government, and indeed the greater ecological conservation work (e.g. returning farmland to forest, returning pasture to grassland) should fully utilize the communities' already present methods of management (e.g. sacred mountains, Rigua, etc). In order to enable the work to be more effective, at suitable points in time, policy maker should activate the communities to set up new sacred sites.

3) Having understood the function of sacred sites in cultural identity, when analyzing the various mutually related populations during the pro-phase of the various programs, the target should be even broader.

4) Kawagebo region tourism exploitation should follow and strengthen various sacred sites' natural and cultural characteristics, and should reduce the non-conforming modern factors as best as possible. The reason for Kawagebo's fame near and far is not just because she is a "natural mountain", but more importantly, she is a "cultural mountain" and a "spiritual mountain" （Guo Jing 2004）. If present and future tourism exploitation programs should arbitrarily build hotels, roads or other construction, it would no doubt reduce the sacredness of sacred sites, and also utterly destroy the attractiveness of these sites to tourists.

6 Conclusion

Sacred Natural Sites are the syntheses of a type of cultural sight and natural ecosystems, and also a type of traditional resource management model. The sacred mountains, "Rigua", sacred marks and pilgrimage routes represent sacred sites in Kawagebo region. On the geographical distribution of sacred sites, it is closely related to the history of human activities, and it is quite uniform. From the culture point of view, the effect of sacred sites is embodied in the religious core function, moral behavioral function and group identity function; from the ecology point of view, its effect is embodied in its biodiversity and ecological protection functions. Therefore, in fact, Kawagebo region already possess an unconventional type of nature protection system. How to fully utilize this set of protection system, at the same time carrying out the various exploitation while keeping the natural and cultural characteristics of sacred sites and not damaging them in the process should be the topmost question when developing the nature protection work and setting down the related rules.

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Mt. Paektu, the Sacred Mountain of Korea

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1 Introduction

Mt Paektu is the highest mountain, which is located in the northern part of DPRK. It borders with China in north and west. Mt. Paektu is a volcano, formed by eruption of lavas about 1 million years ago. The volcano erupted in three occasions: in 1597, 1668 and 1702. Mt Paektu has becomed very famous with its crater lake, Chon-ji, on the top of mountain. The Crater Lake is at an altitude of 2,250m above sea level and is 14.4km in circumstance, 9.165㎡ in area and has a maximum depth of 384m. The word "Chon-ji" means the mysterious lake in the sky in Korean. Lake Chon has itself cliff-like walls 2000m high above sea level including Janggun Peak (2750m) and other 16 peaks of 2600m high above sea level.

When we think about Mt. Paektu, the first thing that comes to our mind is the mountain whose top is always seen in white color by the snow and white pumices formed during the eruption of volcano. From this, we can understand that the word "Paektu" which indicates the white head of a giant who respect the sky and control the world. Often Mt. Paektu experiences lightening and thunder, waterspout and marvelous rainbow, and such natural phenomena add further majesty and mystery to Mt Paektu. Therefore, it is called as the mountain which attracts the 50 thousand inspirations including mysterious, interesting, pleasant and fearing feelings. Mt. Paektu area which had been designated and managed as a reserve from the old time was nominated as International Biosphere Reserve in April 1989, involving 132,000ha.

2 The Ancestral Mountain and the Cradle of National History

Mt. Paektu has been regarded as ancestral mountain, the cradle of national history and sacred mountain permeated with national soul. We can know that it is the ancestral mountain from the names according to the tradition. The historical records showed that Mt. Paektu was called by several names such as Mt. Bulham, Mt. Totae, Mt. Taebaek, Mt. Paek and so on. These names have the meanings of high and mysterious mountain as sky, and the king of the mountains.

In addition to this, it can be explained as the ancestral mountain from the topographical features. History indicates that Korea is formed into contiguous line of terrestrial stratum, stretched from Mt. Paektu to famous mountains such as Mt. Kumgang, Mt. Myohyang, Mt. Chilbo, Mt. Jiri and the rivers such as Taedong River, Chongchon River, Taedong River, Han river and Rakdong River and the whole land comes to brilliant by the soul and luster of Mt. Paektu. The Great Paektu Range stretched 1 470km from Mt. Paektu and extended all the way down to Kujei Peak on the south coastal area.

We can also know from the history how the ancestors respect Mt. Paektu as sacred mountain. Koryo people regarded Paektu mountain god as a sacred guardian of Koryo state. The historian, Mr. Ri Ku Po (1168-1241), wrote in his book that the parents of King Ko Ju Mong, founder of Koguryo dynasty got married in the south of Mt Paektu. Bulhae, the successor of Koguryo, also established the state based on Mt. Taebaek (Paektu), Samgukyusa (History of Three States). King Wang Kon, the founder of Koryo Dynasty founded the state in relation with Mt. Paektu. In Ri dynasty, the people also respected and regarded Mt. Paektu as cradle of state. That is why the 21st King Yomju (1725-1776) ordered to hold a memorial service for Paektu mountain god in a fine day of January, February and August every year during his empire. Thus, the Korean nation has respected and regarded Mt. Paektu as sacred mountain and the cradle of state which safeguards the destiny of nation from the ancient time.

The grate leader Comrade Kim Jong Il said that Mt. Paektu is the sacred mountain of revolution as well as the ancestral mountain, where the national soul is permeated and the historic root of revolution is taken. Mt. Paektu is known as a sacred and historical

mountain where President Kim Il Sung, the father of socialist Korea, fought in the bloody war against the Japanese imperialists and liberated the country. It became more famous from the time when the great leader Kim Jong Il was born in Mt. Paektu secret camp as a son of revolution with the spirit and courage of Paektu. Mt. Paektu, the ancestral and historical mountain which safeguards the national soul with the long history, is deeply kept in the people's mind as sacred mountain of revolution.

3 The Biodiversity Conservation of Sacred Site

Mt. Paektu has 220 days of winter and 145 days of spring, summer and autumn. The annual rainy days are about 200 days and it even rains 13 times a day. It has more snowy days than rainy days. It snows from the beginning of September to June next year and some deep valleys are covered with snow even in July and August. Therefore, we can get the panoramic view of 4 seasons. These climatic, geological and topographical and pedagogical characters are represented in the biodiversity of this area and Mt. Paektu Biosphere Reserve has the special features in vegetation cover and high priority in spermatophyte.

Data surveyed/studied to date show that the reserve includes 830 species of higher plants over bracken, 274 of bryophyte, as well as over 190 of lichens, 370 of fungi and 160 of algae. The endemic species, distributed in the reserves totals in 48 species, 35 genus and 23 families. The fauna of the reserve is diverse and rich in its species composition and resource for its various eco-environments with mountains over 2000 m high above sea level and great range of Paektu, forest steppe and sub-alpine steppe zone beyond the forest limitation. The species composition of fauna in Mt. Paektu BR is shown in the following table.

<Species composition of fauna in Mt. Paektu BR>

Class	Order	Family	Genus	Species	Rate (%)
Mammal	6	17	39	54	55.67
Bird	16	47	107	189	47.97
Reptile	2	5	5	5	19

Amphibian	2	4	5	6	23
Pisces	5	8	21	32	17

The biodiversity conservation in Mt. Paektu BR has regional and global significance. The legal basis for the biodiversity conservation in this area has already been made as listed bellow:

- "Law on Protection and supervision of environment" (27 May 1988)
- "Law on Land " (28 April, 1977, modified in 16 June 1999)
- "Law on Environmental Protection" (9 April, 1986, amended in 4 September, 1999)
- "Law on the protection of scenic spots and natural monuments" (13 December 1995, modified in 14 January 1999)
- "Law on Forest" (11 December 1992, modified in 18 October 2001)

The history of establishing the reserve began on 29 April 1946, when it was designated as Mt. Paektu Plant Reserve by "Decree for the Conservation of Treasures, Archaeological Site, Scenic Spots and Natural Monuments" adopted at the North Korean Provisional People's Committee. Later, on 25 March 1959, it became the Mt. Paektu Nature Reserve by Cabinet Decision No.29. On 2 October 1976, 14,000ha in the central area of Mt. Paektu area as nature reserve by Decision of Administrative Council No. 55. In 1985, it was designated 15,880ha in battle site district as Mt. Paektu Special Reserve. On December 24, 1989, 132,000 ha were nominated as International Biosphere Reserve signaling the progress of its biodiversity protection under the worldwide concern. In recent years, with the government's great concern and measurements, this area turned into grand open-air museum and sacred mountain by improving the livelihood of the local people in the transition area. In particular, as a measurement for solving the energy problem, the big and small-sized hydropower stations including Samsu Hydro-Power Stations were built around the biosphere reserve so that local people can cook and heat the houses by electricity.

Biodiversity conservation in Mt. Paektu area is regarded as moral and holy duty to our people. Although loss of biodiversity due to human impact is not a great challenge in this area, the early warning system should be established to prevent the natural disasters such as the forest fire and damage by insect pests. Thus, it is the prerequisite for the biosphere reserve to fully implement its function as sacred site to strengthen the capacity building of Mt. Paektu BR Research Department and monitoring stations by applying the advanced technologies and modern facilities to the management of biosphere reserve.

Sacred Sites and Zoning of Japanese Archipelago

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Traditional Japanese spirit involves deep worship to the so-called 8 million 'kami's which were believed to exist within the forests. Or, nature was the subject of worship there, and they wished to live in the nature expecting to perform a harmonious co-existence with it. Japanese Archipelago was developed in its long human history, resulting in zoning of Okuyama area, or deep mountain forest, Satoyama zone, or background of resident area wherefrom various additional resources were collected, and Hitozato area, or villages and agricultural fields. This zoning is well in accordance with the concept of modern sustainable development designing core area, buffer zone and residential area. Every village in Hitozato area had its own shrine which was covered by the forests. These forests were named chinju-no-mori, and were invited on behalf of Okuyama area for the resident sites of 8 millions 'kami's. Or, development of Hitozato area was apologized and people expected to have their protection by 8 million 'kami's which should be under the forests. In this way, traditional Japanese lived in harmonious co-existence with nature. As a result, no mammals were extinct from Japanese Archipelago until the so-called Meiji Restoration, when Japanese abandoned the traditional idea and started to follow the modern civilization.

Zoning Resulted in Developing the Japanese Archipelago

When agriculture was initiated in Japanese Archipelago, dense forests were partly cut down and replaced by particular monotonous cultivation in order to increase crop production and food resources to feed the people. However, the development for agricultural sites and resident area has been restricted to only about a quarter of the total

area of the Archipelago; this figure remains unchanged at present. This is partly depending on the topography of the Archipelago which was mostly composed of steep mountains with narrow ravine and very narrow plane. It is rather difficult to develop and maintain steep slopes with higher rainfalls as agricultural sites, and most part of the Japanese Archipelago were left undeveloped even in the recent years.

As the resources were eventually offered by civilization based on cultivation, human population was increased to some extent. To have additional resources for more demand, then, hilly slopes in the backyards of villages were utilized, especially in getting the firewood. As the trees in secondary forests grew regularly, the woods were cut down every 10 to 15 years, and beautiful secondary forests were kept in such backyard slopes. Secondary forests grew rich in biodiversity, and various wild plants and small animals such as rabbits and birds were collected from there as additional resources to enrich the Japanese traditional cousin. Such secondary forests covered about a quarter of the whole surface of the Japanese Archipelago.

After a development of agricultural sites and the secondary forests to cover its backyards, about half of the whole Japanese Archipelago was kept undisturbed, and the untouched site was called Okuyama area, or literally 'deep or remote mountains'. Primitive nature was conserved there, and a diversity of wild organisms lived there for many years without any vital disturbance by human activities. The backyard area of the villages, recently called Satoyama zone, or literally 'mountain in village area', was visited by the people frequently, and wild animals rarely played their life in this area. Thus, Satoyama zone had a function of ideal buffer zone between Okuyama area, or conserved area, and village areas, called Hitozato area, or literally 'resident sites for humankind'. Standing on such zoning of the Archipelago, harmonious co-existence between nature and mankind was elegantly sustained.

Satoyama is the zone which is also called ecologically rural forest, coppice forest, or summer-green secondary forest, and beautiful landscape was seen with active lives of mankind. Such landscape is seen in some particular site in China and other countries, but outside of Japan it is only in spot. In Japanese Archipelago, Satoyama forms a zone

to separate Okuyama and Hitozato, and such area functions as buffer zone for managing the lives of organisms. This Satoyama zone is faced to distinction, as people in up-countries in Japan do not work in this zone. After the so-called energy revolution, people discontinued the use of wood as fire and switched to use petroleum and electric power for their energy. By this shift of life-style in up-countries, Satoyama was abandoned and has not been beautifully maintained. This is one of the serious problems we are facing at the moment in Japan in conserving biodiversity there.

The zoning of Okuyama – Satoyama – Hitozato coincides with the zoning of core area – buffer zone – transitional area as proposed to zone and manage Biosphere Reserves and then World Natural Heritage. In the case of zoning of Japanese Archipelago, however, it should be noted that it was designed and drawn by the people themselves without any guidance of scientists or of decision makers. The general life-style of public people led such an ideal development of Archipelago.

Chinju-no-mori and Biodiversity

Traditional Japanese culture had a deep worship of nature; it believes there are 8 million 'kami's. 'Kami' is usually translated into English as god, but 'kami' and 'god' are completely different concepts. 8 million means in Japanese everything, and Japanese believed that 'kami' was the essence of every existence on the earth. Thus, nature itself is considered as the 'kami'.

In every village, a shrine was introduced. The shrine was named 'uji-gami' or the 'kami' to protect the village people that was considered an extension of a family in every village concerned. Originally 'kami' seems to have been born as a symbol of animism of our ancestors, but it has been worshiped throughout our history up to the present, with modification according to the epoch concerned. When Buddhism was introduced into Japan, 'kami' was amalgamated with Buddhism, and Japanese Shinto has particular history and special concept. After so-called Meiji Restoration, some 130 years ago, the concept has extremely been modified.

Every ‘uji-gami’ was covered by forest and the forest was called ‘chinju-no-mori’ or literally ‘the forest to protect the shrine’. Chinju-no-mori was invited in every shrine on behalf of Okuyama forest, and people believed that ‘kami’ should be happy in their residence covered by the forest on behalf of Okuyama and would protect the people in village. In order to apologize for the partial development of the Archipelago from forests to agricultural sites, our ancestors offered and maintained the chinju-no-mori, on behalf of Okuyama to cover the resident of ‘kami’s.

Rich biodiversity is found in Satoyama zone, and it is natural that the ‘chinju-no-mori’ is another site to conserve the native organisms in the Japanese Archipelago, although developed Hitozato area has been invaded by a variety of alien species since the New Stone Age. Okuyama is maintained more or less in its primitive condition, and human activities have been less active there. In such way the Japanese Archipelago was kept in harmonious co-existence between nature and mankind, at least until at the time of the Meiji Restoration.

Japan kept closed for about 300 years during 16th Century to the 19th Century, and particular Japanese culture developed very well in that term. It is amazing that many cultivated races of organisms were bred during this term, and the love of Japanese people to the organisms flourished and flowered especially in that particular term.

When Japan opened its door to modern civilization in the advanced world, its people were surprised to see the developed civilization. Admiring the higher standard of civilization, they strongly wished to follow it, and abandoned their beautiful tradition and replaced it with modern civilization. The goal at that time was to reach the level of western civilization and then overcome it. 130 years after the Meiji Restoration the economy of Japan was indeed one of the most developed economies in the world. We have to regret, however, that the Japanese nearly forgot the concept to keep the harmonious co-existence between nature and mankind, and now we should draw up the symbol of such a phrase to remember the better concept of traditional Japan.

Chinju-no-mori is sometimes taken up as a valuable site which conserves the biodiversity in good condition. It is actually the site to conserve the native biodiversity in the locality concerned, but this is available as the result of ideal management of the site by the people who have deep worship to nature. We should respect the concept of worship to sacred sites, and the conservation of sacred natural sites may be a by-gift yielded by sincere worship to nature by general people.

Harmonious Co-existence between Nature and Mankind

One of the main goals of the International Cosmos Prize, after the concept of Expo '90 Osaka for Flower and Greenery, is to contribute the harmonious co-existence between nature and mankind. This concept is based on the symbol of that Expo '90 which is translated literally 'mankind living together nature'. 'Living together' in Japanese has the meaning of symbiosis in biological term, which includes mutualism, commensalism and parasitic. In some phases, mankind is parasitic to nature, and symbiosis is not a proper expression for the symbolic term of 'mankind living together nature'. The true English expression of that symbolic term in Japanese for Expo '90 should be 'harmonious co-existence between nature and mankind.' However, it is difficult to explain this expression worldwide as in the western, or modern, idea of nature is wild and better cleaned up by civilization.

Modern civilization tried to conquer nature by artificial development and as a result we brought serious environmental issues especially during 20th Century. For sustainable development of the earth, it is necessary to have an idea to establish harmonious co-existence between nature and mankind. Japanese Archipelago was developed with ideal zoning under the concept of this harmonious co-existence between nature and mankind until at the time of so-called Meiji Restoration. No one wished to propose such a particular symbolic phrase, as that ideal zoning of archipelago was drawn in the course of general lives of the people themselves who eventually had sincere worship to nature. And, now, when modern civilization bravely neglects the general worship to nature, we need to propose particular symbolic term as harmonious co-existence between nature

and mankind. We still do not know the correct way of development, as we know nature only in part even in the far developed science at the moment.

It is necessary to develop land to face the increase of human population and diversification of human lives. Current technology based on science has strong power, although we do not know the correct way of managing such technology. We have succeeded to enrich humankind and have safer lives, yet at the same time we have brought serious environmental issues in 20th Century. Science can contribute a lot, but still science cannot have absolute power to control the development. Understanding this circumstance, we should learn wise attitude from our ancestors who had sincere worship to nature. Based on such a concept, we can expect to have sustainable development of our earth.

Case Study of Sacred Sites in Republic of Korea

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1 Introduction

Sacred natural sites may be defined as specific places recognized by indigenous and traditional peoples as having spiritual and religious significance, or as sites established by institutionalized religions or faiths as places for worship and remembrance (Oviedo *et al*. 2005). Access to these sites is usually restricted by taboos and management codes to particular activities and members of a community. In the Republic of Korea, there are many sacred sites with diverse size and forms, such as mountains believed to have religious power, Buddhist temple sites, Confucian shrine, and special sites for traditional religion or shamanism. Many mountain sacred sites are protected now as national parks such as Mt. Hallasan in Jeju Island, Mt. Gyeryongsan which is a holy mountain heavily visited by Shamanists, Buddhists and hikers in Chungnam Province, and Mt. Odaesan in Gangwondo Province. Many relatively small scale sacred sites including forests or big trees of tutelary deity are designated and protected as natural monuments.

IUCN classifies the protected areas into six categories. Many sacred site national parks can be classified as Category II (national park) or Category V (protected landscape/seascape), and many natural monuments can be classified as Category Ia (strict nature reserve) or Category III (natural monument). National parks are managed by the Ministry of Environment of Korea, and the cultural and natural heritages including natural monuments are administered by the Cultural Heritage Administration of Korea. Natural monument system will be briefly explained here.

2 State-Designated Heritages and Sacred Sites

The state-designated heritage refers to the heritage designated by the Administrator of the Cultural Heritage Administration pursuant to the Cultural Heritage Protection Act. The state-designated tangible heritages are divided into six of the following categories: national treasures, treasures, historic sites, historic and scenic sites, scenic sites, natural monuments. Many of the sacred sites are natural monuments or historic and/or scenic sites. Natural monuments are animals, plants, minerals, caves, geological features, biological products and special natural phenomena, carrying great historic, cultural, scientific, aesthetic or academic values, through which the history of a nation or the secrets to the creation of the earth can be identified or revealed. Those sacred sites have been protected by indigenous or local people as having spiritual or cultural values, but now they are protected by modern laws such as natural parks act or cultural heritage protection act. The examples of sacred sites designated as natural monuments are big and old trees (mostly village guardian trees), virgin forests, forests of tutelary deity, windbreak forests, village forests, and natural reserves. A few examples on the role of sacred sites, which are now protected by the natural monuments and/or historic sites according to the Cultural Heritage Protection Act, in the conservation of biological diversity of Korea are presented here.

3 Seonghwangnim (城隍林, Tutelary Forest) of Seongnam-Ri, Gangwondo Province

This small patch of deciduous hardwood forest (area of 31.3ha) is a representative of Korean forests of the temperate zone. Korean forests of the temperate zone. This forest consists of about 50 species of trees including maples (*Acer triflorum*), wild cherries (*Prunus padus*), elms (*Ulmus* spp.), several varieties of oaks (*Quercus serrata*, *Quercus aliena*, *Quercus mongolica*), lindens (*Tilia rufa*), and wild apples (*Malus baccata*), and its biological diversity is very high because it is flanked by streams. This forest has been protected by the villagers from ancient times because it was believed to be the home of the tutelary deity of Mt. Chiaksan. An old fir tree (*Abies holophylla*), which is about 30m tall with a diameter of 1.3m at breast height, is the site of shamanistic worship. About a dozen ancient maples stand near the site. “Seonghwangnim (城隍林)” means

"Shrine woods for a local god", in other words, a forest where a local god protects town lives. The villagers in Seongnam-ri have believed the local god of Mt. Chiaksan to be the guardian for their land of the village. They have performed a sacrificial ritual at the shrine within the forest for the god wishing for the well-being and peace of the town twice a year on April 8th and September 9th on the lunar calendar. On the right of the shrine stands a male (father) guardian "fir (*Abies holophylla*)" tree, and on the left stands a female (mother) guardian "*Kalopanax pictus*" tree.

4 Evergreen Hardwood Forests of Wando in Jeollanamdo Province

There are four state-designated evergreen hardwood forests in Wando County, Jeollanamdo Province; evergreen hardwood forests of Yesong-ri, Mira-ri, Maengseon-ri and Judo Island. Warm temperate evergreen hardwood forests are the natural vegetation type of southern coastal areas of the Korean Peninsula and Jeju Island, but most of them were cut by local people and not much of the forests are left. However, in some islands and coastal areas in southern Korea, those forests have been protected as sacred sites for windbreak, protection of the marine resources, and/or sharmanistic worship toward more catch of the fish and agricultural production.

Yesong-ri forest is located on the southeastern shore of Bogil-do Island in Wando County. It was established to serve as a windbreak for typhoons by the villagers about 300 years ago. In addition, it provides good conditions to induce fish to come to the shore. This forest also contains a lot of rare herbaceous plants and trees.

Mira-ri forest spreads 400m along the shore of Soando Island. The villagers of Mira-ri have performed sacrificial ritual here wishing for the well-being and peace of the town and the safety of the village's fishermen. Mira-ri evergreen forest also has many rare and valuable trees in addition to the role of a windbreak. The dense grove of evergreen and deciduous latifoliate trees in Mira-ri is 400m long and 50m wide. The evergreens include *Machilus thunbergii*, *Cinnamomum japonicum*, *Camellia japonica*, *Castanopsis cuspidata*, *Ligustrum japonicum* and *Elaeagnus macrophylla*. *Zelkova serrata* is the major deciduous tree.

Maengseon-ri forest is located on the hill of the shore of Soando Isalnd. It is 300m long and 35m wide. There are many rare and valuable trees in this forest. This forest plays the role of a windbreak and also provides a good place for ship anchoring. In addition, it provides good conditions to induce fish to come to the shore. About 250 trees of more than 20 evergreen species grow thickly here at Maengseon-ri and form a windbreak against the winds from the northwest. The vegetation is similar to the Mira-ri forest.

The evergreen broad-leaved forest of Judo has been well protected and cared for since ancient times. It also serves as a valuable source for biological diversity because it has various kinds of rare trees in a small area. In addition, it provides good conditions to induce fish to come to the shore. The evergreen latifoliates include *Castanopsis cuspidata*, *Cleyera japonica*, *Cinnamomum japonicum*, *Ilex integra* and *Machilus thunbergii*. The grove has been well protected and cared for because of a shrine to a local guardian deity that is located at the center of the forest. This forest is one of the best representatives of the evergreen latifoliate forest in southern coastal areas of Korea.

5 Gwangneung Royal Tomb Froest in Gyeonggido Province

This forest has been designated and protected as a historic site and as a natural monument for the habitat of white-bellied black woodpecker. Gwangneung (光陵) is a royal tomb where King Sejo (世祖, 1417-1468), the seventh king of Joseon Dynasty, and Queen Yun (Jeonghuiwanghu), his wife, are buried. He reigned this country from 1455 to 1468. As the second son, King Sejo deprived king Danjong, his young nephew of and took the throne in 1455 after his elder brother, king Munjong, passed away. King Sejo made several accomplishments such as reforming the military and the land systems and abolishing the academic institute, which was considered as the source of empowering the vassals. Such accomplishments contributed to strengthen the authority power of the king. Gwangneung is evaluated important in the system of royal tomb of Joseon.

Because King Sejo was one of the strongest kings of the Joseon Dynasty, the forest surrounding his tomb has been very well preserved for more than 500 years after his death by his successors and descendents. No tree could have been cut within the forest, and no other tomb was allowed to be built there. Thus the forest became the center of

biological diversity in the central part of the Korean Peninsula, and became the refuge for rare and endangered species. In 1962, part of this forest was designated as a natural monument for being the habitat of endangered white-bellied black woodpecker. This woodpecker builds a nest on 100~300 year old trees such as pine, fir or oak trees.

The Gwangneung Royal Tomb Forest (GRTF) is composed of deciduous hardwood natural forests which were well conserved for more than 500 years, and 100-year-old artificial forests established after the Japanese occupation around 1911. The natural forests of Mt. Soribong and Mt. Jugyeopsan are mainly covered by old-growth forest of the central temperate zone in Korea, mainly with hornbeam (*Carpinus laxiflora*), oaks (*Quercus aliena*, *Quercus serrata*), dogwood (*Cornus controversa*), and so on. This forest is inhabited by 843 plant species accounting for 20% of the total species of the Korean flora, of which 15 species are local endemics. It is also inhabited by 2,894 animal species, of which 19 birds, one mammal and one insect species are protected as natural monuments. The white-bellied woodpecker (*Dryocopus javensis richardsi*) is a rare bird worldwide, and the Korean relict long-horned beetle (*Callipogon relictus*) is an endemic insect species only occurring in this area.

The GRTF has been strictly preserved since 1468. Currently, 2,240 ha of forest land, belonging to Korea Forest Service, is protected as an experimental forest by the Forest Law, and a forest land area of 140 ha belonging to Cultural Heritage Administration of Korea is protected as the cultural property protection land. One of the most impressive scenery is a grand sight produced by big fir (*Abies holophylla*) trees (Diameter at breast height: 1m, Height: 35m, Age: about 200 years), which were planted on both sides of road leading to the tomb and passing through central part of Gwangneung Royal Tomb Forest.

6 Conclusion

The sacred sites have played an important role in the conservation of biological diversity in Korea. Without such sites, it would have been very difficult to find the original vegetation in lowland areas. In old times, local people considered these forests as sacred sites and such attitude had protected the forests. However, the attitude for the sacred sites has been changed in modern times, and now the modern protected area system such as national parks and natural monuments replaced the role of sacred sites in the conservation of biological diversity.

Role of the Specially Protected Areas of the Khanty-Mansiysk Autonomous Okrug-Ugra

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Conservation areas are characterized not only geographically but by list of rare flora and fauna species – they are deep in ethic and aesthetic sense. First of all, humanity saw religious value of the conservation areas. Conservation "sacred" areas accompany humanity during all its existence. Ancient people of all the civilizations had sacred areas and in our nuclear age, some civilized people have the areas. Thanks to conservation areas of the Khanty-Mansiysk Autonomous Okrug – Ugra, it turned out to be possible to preserve sacred sites of the local and regional significance. Specially protected areas of Ugra comprise 400 "sacred" sites.

One of the brightest examples is natural reserve "Malaya Sosva" with the total area of 225562 ha. Territory of the reserve covers sacred site of the Khanty and Mansy people ("em-tahe" or "emyng-tagat" – sacred sites of shamans). There were three "grandreserves" of this kind on the watershed of the Konda and Sosva rivers. The largest one located along the Em-egan river (right feeder of the Malaya Sosva river) named "Em-amp-unt-ut-tak-lathe" which means "forest thick as hair of a dog". Beside these three sites, river of Ukh (one of the right feeders of the Konda river) also considered to be sacred. People of Khanty and Mansy used such areas to preserve one of the most valuable fur-producing animals –the north-Asian river beaver, whom they specially honored and which was killed mostly for ritual purposes. There were quite a lot of beavers on the territory of the Konda's watershed but they were secured from onlookers. Afterwards beavers became the reason to establish natural reserve "Malaya Sosva" here. Such territories were kept from onlookers as the beavers became hunting

trophies because of their pelt and valuable substance of the beaver's spout. Shamans' sacred sites territories had a special schedule for visiting. People were forbidden to say about fishing, hunting and taking berry and mushroom.

This original ancient natural reserve turned out to be of great importance for birds and animals preserving. It was not by chance that the aboriginal north-Asian river beaver survived here despite of being killed in Northern Asia in the XVII century. Nowadays the animals are red-listed. Out of this huge reserve, valuable commercial animals were settled in neighboring taiga. The area played a great role in protection of Western Siberia's nature. Thanks to the reserve it turned out possible to preserve and increase the population of the Uralian beaver, recruit population of sable, moose, outer and other commercial animals and their habitats.

Sacred natural sites as rivers, lakes, brooks, wetlands, old trees of religious purpose for the local residents remained on the territory of the natural park "Numto" with the total area of 720 000 ha. Usually such areas become sacred after a historical event happened and, heard and mentioned in folk legends and tales.

On one hand the area is a large watershed which determines its landscape; on the other – it's a concrete area of the open boreal woodland coenosis of northern and central taigas, tundras which wedge in by islands further south of latitude 63°N– it is a phenomenon which can be met nowhere else in northen Russian. In the third place, this is a unique area neighboring and interrelating with Khanty and forest Nenets.

The natural park "Numto" has a regional important location in the centre of the West-Siberian plain and belongs to Nadym province of the northern taiga sub-zone. This territory is of great interest for scientific research and it has attracted many scientists of the 19th and 20th century.

There are 65 monuments (objects) of ethnic culture found on the territory of the natural park "Numto". The total park territory is divided into 4 ethno-cultural areas where

important objects of culture, commercial complexes and religious significance are concentrated. Among such monuments of ethnic culture are:

- settlements (40), operating and abandoned;
- household and commercial constructions;
- religious objects divided into sacred sites and cemeteries.

Sacred sites locate on the mountings or in entries or rises of rivers and usually cedars and birches grow there. Sacrifices marked on the sites by flaps of cloth, fells and a scull of a deer tied to trees. Cemeteries look like funeral complexes which reflect peculiarities of indigenous people's religion. They are located on the mounted and dry places.

One of the first detailed descriptions of such territory can be found among the works of Dunin-Gorkavich who came here by reindeer harness in November 1901. He wrote: "This time, I've managed to examine Kazym river and watersheds of 4 rivers: Kazym and Nadym on the one hand and Pim and Trom-Yugan on the other, and Samoyed lake Numto called "divine lake". The lake is one of the largest in the Khan-Mansiysk Autonomous Okrug. Its watershed total area works out 60 km^2. Peculiar features of the water collection condition high bogginess of the area.

Numto Lake (Torumlor) and the Saint Island is the largest sanctuary of the Ob North people. Traditionally it's considered to be a live. In the past fishing was completely forbidden on the lake. Those who visit the lake after a long absence should throw a coin in the water and soak hair. The main cult place on the lake is the Saint Island which is considered to be a heart of the man. As a rule, with the beginning of winter sacrifices begin here – reindeers are killed. Some Khantys and Nenets overcome hundreds of kilometers to sacrifice on the Island. Two of the islands on the lake are considered to be eyes of the man-warrior and to cut trees here is also forbidden. Saint Cape Kahelia is in the northern side of the connection between Numto and Uhlor. Historical legend about the battle of local Nenets against rustlers from tundra is associated with the area. Until recently, arrow and spear heads could be found there. Nowadays the site is considered to be sacred. Many people prefer not to pick up berries and cross the area on

snowmobiles. Bloodless sacrifices on the cape consist of traditional table and gifts of cloth flap tied to a birch-tree.

The monument of Vanty-tety-yai (Big cedar Vanty) is located on the southern bank of the Numto Lake 1 km east from a village. According to a legend, Nenets from tundra stringed up their tribesman after a successful predatory journey. Their leader, who gave the order to string him up, jumped over the moving sledge, stumbled, fell on his own knife and died. Hence, the Lake punished him for a human sacrifice. Now, this place is also sacred but not of very high rank. If one's way lies by the cedar one should have a small tea-party. Small spots on the cedar supposed to be the blood of the stringed up man.

Sacred site "Seven cedars" is located on the southern bank of the lake 1,5 km east from Vanty-tety-yai. Bloodless sacrifices are also made here in order to get life well-being. It was then the practice to throw metal ornamentals – rings and bracelets to trees roots. Nowadays people don't practice that but the place is still held in great respect.

Sacred site is also located in the very head of the river Nadym. Every person who enters Nadym Lake should throw a metal coin into the water. Then it was the practice to land the right bank and organize a tea-party, a part of the food should be thrown into the water. At present, not all Khantys and Nenets follow this tradition. This place is also known for hosting magical rites of shamans. Preservation of the traditional culture of the indigenous population of the people of Khanty and forest Nenets is one of the basic goals of the natural park "Numto".

The same value on the territory of the Khanty-mansiysk Autonomous Okrug – Ugra has outcrops (granites and chalkstones) along the banks of the rivers named among people as rocks and mountains. As a rule, they look effectively and graphically located and dedicated to legendary heroes and events. Usually, rare plants grow on such rocks and mountains.

Religious value of wild nature once again confirms that man's work can't overshadow god's work. Wild nature itself as a sacred notion can't be estimated. To hold reserve wild nature in respect is insufficient. It should be considered as expression of divinity. That's why contemplation of nature becomes worship as well as religious object.

Beginning with rapid economical leap in 1970s and creating of industrial infrastructure in the region, particularly in ecologically unsafe and demanding development of new areas, oil and gas sector escalated the problem of historical and ethno-cultural monuments conservation. But justice should be done to the legislative and executive authorities of the region which provide adoption and try to create mechanisms for realization of regional law "On preservation and management of historical and cultural heritage of the Khanty-Mansisysk Autonomous Okrug – Ugra" (signed on 14 February1997, 18-oz).

Conservation Management Issues of Worshipped Bogdkhan Mountain[1]

R. Enkhtuul

Officer, Bogd Khan Special Protection Authority

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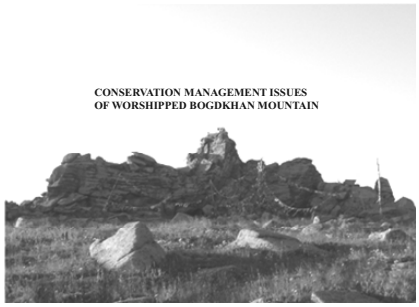

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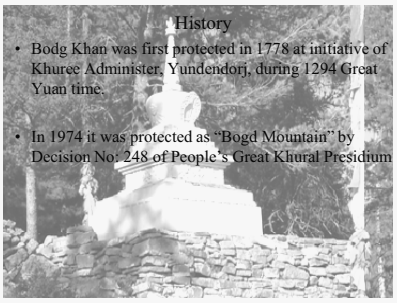

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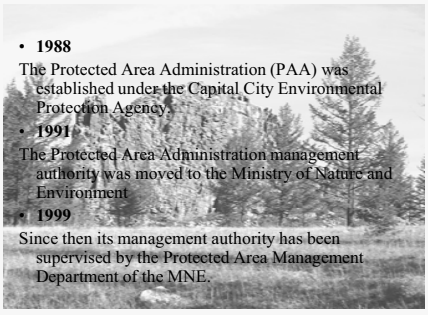

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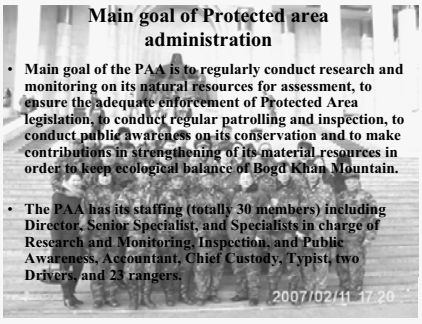

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[1] The full paper is replaced by the ppt slides due to the failure of a paper submission.

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Implemented research

- In 1997-1998. Bogd Khan Mountain ecosystem research and conservation project that focused on the Mountain natural resources.
- In 1999 the carried out research on forest management of Bogd Khan Mountain.
- Annually conducts inventories and census of some wildlife species including marmot at its expense.
- Inventories and census of Red deer and census on wolf and wild dogs

8

Research output

- **Additionally, Bogd Khan Mountain Natural Atlas of 150,000 scale**
- **A book "Bodg Khan Mountain Ecosystem (Mongolian and English) were produced and database on natural conditions**
- **The conference "Importance of Research and Monitoring in Bogd Khaan Mountain conservation Management" was organized and a proceeding of abstract/brochure was produced.**
- **The forestation was done within about 30 ha carried out studies on harmful forest pests in order to take measures for restriction and elimination of their distributions.**
- **As the restriction measures were taken within 6000 ha, the distribution of pests has been stopped and forest restoration has been taken place.**

9

Patrolling and Inspection:

The PAA annually plans and carries out patrolling and inspection on monthly and quarterly basis in order to ensure adequate law enforcement throughout the SPA.

Patrolling and inspection is regularly carried by PAA rangers (23) and the Specialist in charge of Inspection

10

PAA rangers are provided with

uniforms,
binoculars,
photo cameras,
self defense weapons: gas guns
batons.
40 % of rangers are provided with flats.
Patrolling group leaders have motorbikes.

11

Public Awareness:

- Public awareness activities are also included in PAA annual work plans
- Public awareness activities are conducted among the residents of SPA Buffer Zone areas: Zaisan, Arzat, Khurkhree, Tuul railway station, Tor Khurkh, Turgen and Zuun Delger mountain mouths/valleys.
- Awareness is dealt with understanding and enforcement of environmental legislation including the Mongolian Laws on Special Protected Areas, Forests, Hunting and others.

12

Moreover, awareness activities on adherence and enforcement of relevant regulations and procedures by the economic entities and companies those run their business in SPA BZ.

Public awareness on fire prevention and enforcement of Laws on Special Protected Areas including protection regimes of the SPA are also conducted.

In this regard, there were 11 television and radio programs and 5 newspaper articles released.

13

Constraints in Bogd Khaan Mountain Conservation Management:

14

Due to lack of funding, no adequate preventive measures against distribution of harmful forest pests have been conducted.

To date, there are 33 economic entities and companies running their business and 253 households grazing their livestock inside the SPA.

Due to increased human pressure on the SPA from year to year, the PAA rangers face difficulties in patrolling throughout the areas under their responsibilities.

Due to mis-management and improper policies in the past, frequent changes have made to staffing of Protected Area Management Authority and PAA.

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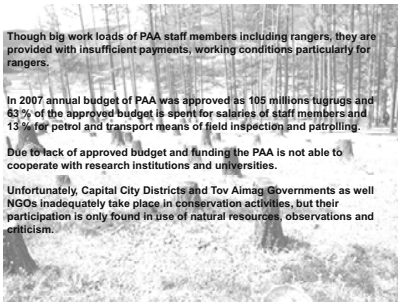

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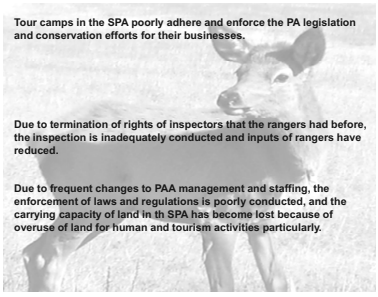

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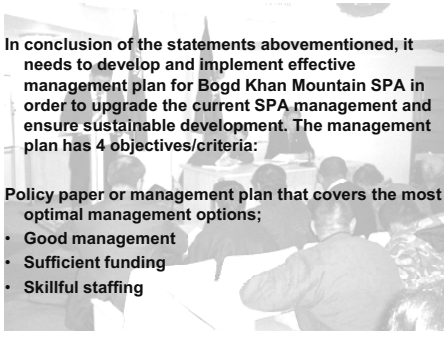

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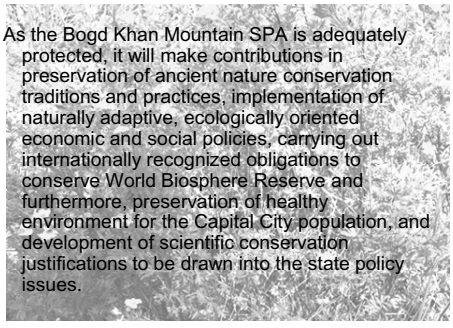

The Role of Sacred Objects in Nature Conservation of the Baikal Lake Basin

Drobyshev Yu. I.[1], Bazha S.N.[1], Gunin P.D.[1], Dugarjav Ch.[2], Prischepa A.V.[1]

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2 Institute of Botany MAS, Ulaanbaatar, Mongolia

In the wildlife management, it is necessary to take into account the ecological experience of the indigenous population that is adapted for a long time to the given natural-climatic conditions and developed ways of inexhaustible nature management. A part of such management is the tradition to sacrifice certain elements of a landscape: mountains, rivers, lakes, forests, caves, springs, etc. Sacral natural objects are excluded from economic circulation and actually become reserves. In many parts of the Earth mutual relation of society and nature went in qualitative other plane; the nature has turned to a set of inanimate resources, to speak about sacredness of which it is not necessary. However in Inner Asian traditions of the careful, humane manipulations with flora and fauna, subsoil and water sources are still kept. In particular, people occupying the Baikal Lake basin have a wide experience of the balanced interaction with the environment and have potential for its further development. Thus it is possible to assume a special role, which else it is necessary to play to sacral places as they form hierarchically coordinated network in a landscape and by that promote the savings of the alive and lifeless nature.

We believe, that the Baikal Lake basin can be considered examined as a common ethno-natural territory described not only by a common hydrography and similar environment, but also a place for spreading Mongolian people which for centuries conducted a similar way of lifestyle based on the nomadic cattle breeding. In this extensive territory there were similar beliefs and cults considered as "ecophylous": Shamanism, Tengrism, and

later - the Buddhism. Each religion created the cult objects. They can be divided into natural and artificial, however, the last by their presence sacrifice the surrounding natural space, and therefore such division will be a little bit artificial.

There are many sacral objects in the Russian part of the Baikal Lake basin. We shall name only the most significant. First, for indigenous population Baikal is sacral. Then, it is necessary to mention: Alkhana; Shamanka cape on the Olkhon Island; Sagan-Zaba rock at the western coast; Yohe-Yord, Ulan-Khada, and Zhima mountains; Aya and Sakhyurta rocks; Huray-Nur lake; Hoboy cape with Deva rock. The Barguzin valley identified with historical Barguzhin-Tokum is rich with sacral places: Baraghan-Ula Mountain; Amut glacial hollow; Bukhe-Shulun, which spirit is considered as an "owner" of the entire valley. In the Tunka valley there esteemed Bayan Mandal extinct volcano, the Throne of Chinghis-khan, Bukha-noyon, Tamkhi Baryaasha, and Burkhan-Baabay. Among cult natural objects, some are worshipped by those or other Buryat genus; some belong to all-Buryat relics; at last, some people serve as objects of worship (sometimes it manifests itself in atheistic form as simply a sign of respect) for practically all the population of Pribaikalye and Transbaikalia, and also for visitors from apart.

The Mongolian part of the Baikal Lake basin also contains a plenty of sacral places and objects. Perhaps, first of all, it is necessary to mention Bogd-Uul Mountain, whose sacral status is traced, at least, since XII century. Bogd-Uul is rather a small isolated mountain massif representing a southern spur of Baga-Khentey ridge, 90 km from the west to the east, and 54 km from the north to the south, and with the top 2268 m above the sea level. In total, in vegetative cover of Bogd-Uul there are 579 species of vascular plants and the animal population is 169 species[1]. By the richness and variety of flora and fauna Bogd-Uul sharply designates among the environmental background, and the fact of preservation of this richest natural heritage in immediate proximity from the Mongolian capital speaks about a special role which the mountain played for many years in the Mongolian society.

[1] Gunin P.D, Vostokova E.A., Matyushkin E.N. Conservation of ecosystems in Inner Asia. Moscow, 1998 (in Russian). P. 87.

Except for Bogd-Uul, around Ulaanbaatar, three more sacred mountains settle down: Chingilte, Bayanzurkh, and Songino.

The known cult complex visited both Mongols, and Buryats from Russia, has developed around the "Mother-tree" close the sum center Shaamar of the Selenge aimag, near to a place of a confluence of Orkhon to Selenga River. This "Mother-tree" represents for a long time dried pine which age was not less than 200 years. Several years ago the pine has fallen, but this place not only has not lost its sacredness, but also equips with modern conveniences.

In the Khuvsgul region there still exist "shaman groves" where shamans were buried. This taiga area serves as a reservoir for Khuvsgul Lake, water from which in due course gets to Baikal Lake. In the Arkhangay aimag there are such sacral objects as Taykhar chuluu, Tsun sala mod ("Tree-shamaniss") - a larch "with one hundred trunks", Khorgoo extinct volcano; in the Bulgan aimag - the canyon of the Majdar river named "Ruins of white suvarga," etc.

Let's try to compare sacral or forbidden landscape objects of a various rank to modern categories of especially protected natural territories:

1 Sacred rocks, trees, sources (especially mineral and thermal), lakes, rivers - nature monuments. In some cases they can be regarded also as monuments of culture. Consideration of sacred trees in view of ecology results in interesting conclusions. They can be carriers of valuable biological qualities due to which they manage to survive under severe conditions. We can expect that their posterity will also have some special adaptive abilities. Not only separate trees, but also whole groves were forbidden. Usually it has been connected to a burial place of shamans which spirits became "owners" of these groves and excluded in them any activity which is not having relations to a cult. The ban on their cutting was kept even after Buddhist "cleanings" of these sacral territories from remains of shamans. For example, in the Tunka valley, former funeral groves are found out till now looking at special height and density of trees.

2 Sacred mountains, valleys, etc. connected to mythical "occurrence" of a genus and marking patrimonial territories; territories connected to real or mythical events in a genus or an ethnos history - reserves or national parks (the difference is, whether people could enter and move anywhere on their territory at any time, or not).
3 Patrimonial territories, as a whole, with all structurally-functional components, such as a sacral center (usually sacred mountain or its analogue), territories of intensive wildlife management (pasture, hunting areas, places of extraction of raw and building material), constant or temporary settlements with inhabited and economic constructions, shelters for cattle - territories of traditional wildlife management (or maybe, biosphere reserves).
4 The sacred springs long since used for healing purposes - resorts and healing territories.

During the epoch of Buddhism distribution a meaning practically all shaman sacral objects of the Baikal basin has been rethought in spirit of the Buddhist doctrine. Besides, the prohibition has been imposed on hunting or forest cutting around Buddhist monasteries, which number was very great. Therefore in 1937, before the route of the Buddhist church in Mongolia, it has been accounted: datsans - 1229, dugans - 2753, sume - 134, Buddhist communities with temples - 173. On each 150 inhabitants one cult construction was shared. Safety of the nature around sacral objects depended on their status. Sometimes they had rather extensive "a security zone", being expressed in modern terminology. Law breakers were given severe punishment. Monasteries were quite often located in areas of increased biological diversity and became guarantors of its protection and, probably, even augmentation. Plenty of monasteries actually created in landscapes a network of the micro-reserves covering Mongolia with various densities in different parts of the country. They were especially abundant in the center and in the north of Mongolia, that is, mainly, in the Baikal basin.

The old Mongolian legislation forbade causing any harm to the nature in the locations of Buddhist monasteries. In the code "Khalkh Dzhirum" (XVIII century) there are some articles providing the responsibility for infringement of this rule. "In the locations of monasteries trees, both growing, and dried up to not cut. [It is forbidden] to cut growing

trees as well behind a fencing of a monastery on distance of a shot from a bow. "At infringement of this to take from a guilty the weapon and equipment."[1] The next article speaks about interdictions connected with a monastery, probably Amarbayasgalant in the Baruunburen sum of the Selenge aimag: "Beginning from the monastery site to the north across Selenga River and further on to Aru-Tolbi, Nam-Davaa, Narin-Orkhon, along Chindagataiin-Chyar and Shibagutaiin-Chyar ridges, Sangun-Davaa, Tsolkhor animals must not to be killed. If somebody kills, to act according the old law. From the monastery on distance of two kharatsagans[2] a growing tree must not to be cut. If somebody cuts, to take away his equipment."[3]

In spite of the fact that today both in Buryatiya and Mongolia the course is declared to revival of national relics, introduction of market economy promotes the pragmatic, utilitarian approach to the nature. Sometimes into spontaneous economic development sacral places are included. Alongside with their protection, it should be carried out their careful studying.

In our opinion, the natural-science analysis of sacral territories and objects should include the following issues:

- Inventory and mapping of sacral places;
- The comparative analysis of biota and the general ecosystems' condition of sacral places and surrounding territory;
- Studying of such territories and objects for their secular protection with the right of a local population to carry out there ritual actions;
- Revealing of levels and structures of "people conservation".

Such work would bear more appreciable fruits if in it, both representatives of natural sciences, and humanists took part, and, certainly, representatives of a territorial community which realizes there a cult.

[1] Khalkh Dzhirum. Text and translation by Ts. Zhamtsarano. Red. by S.D. Dylykov. Moscow, 1965. P. 63.
[2] An old Mongolian measure of length, about 2 km.
[3] Khalkh Dzhirum. P. 63.

The cultural generality of the peoples of the Mongolian origin living on the Baikal Lake basin on both sides of frontier means development of similar beliefs and ethic attitude to the environment. Rules and interdictions of wildlife management, traditions to sacrifice native nature, reverence to sacred mountains and trees, celebration of spirits of the nature at ovoo, unite the ethno-cultural environment of the Baikal basin in a single whole and give a unique opportunity to carry out wildlife management basing on this generality of traditions. It is important to note, that, despite of some negative tendencies, traditions are alive, and they are capable to protect the nature not less effectively, than legislative acts.

Lake Baikal is the object of the UNESCO world heritage, and at the same time, it is the sacral center for the Buryats, Mongols, and representatives of some other peoples. The Baikal basin is divided between Russia and Mongolia almost fifty-fifty owing to what we can speak about naturally developed preconditions for organization of the most extensive transboundary territory with a special, probably, new status and a special mode of protection.

Sacred Sites in Southwestern China: Biodiversity, Importance and Management[1]

Luo Peng

Center for Ecological Studies, Chengdu Institute of Biology, Chinese Academy of Sciences

1

Sacred sites in Sichuan, Southwestern China: biodiversity importance and management

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Chengdu Institute of Biology,
Chinese Academy of Sciences

2

outline

- Natural and Cultural Backgrounds;
- Characteristics of SNS in Southwestern China;
- Biodiversity importance :
- Changes and Current status;
- Major issues in sustainable SNS conservation;

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1.Natural and cultural background

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[1] The full paper is replaced by the ppt slides due to the failure of a paper submission.

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Natural background of Southwestern China

- Mountain and hilly areas with a few plains;
- Major forest area in China;
- Richest biodiversity in China;
- Richest temperate biodiversity in the Northern Hemisphere
- Monsoon and high plateau continent climate;
- Rich but high variations in water resource;

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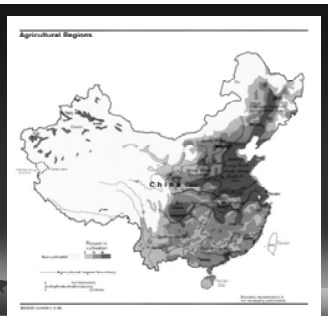

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Cultural background of the Southwestern China

- Except some lowland areas, most were traditionally inhabited by ethnic minorities;
- 35 out of 55 minorities live in Southwestern China;
- Mountain agriculture in the East and Mountain pastoralism in the West.
- Long history of cultural beliefs;
- Great difference between lowland and highland.

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Sacred natural sites in SW China

Sacred Mountains

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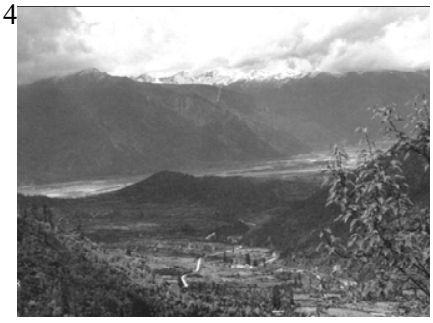

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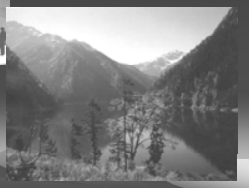
Sacred lakes



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Sacred mountain with temples and

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Holy forests

Grave forests

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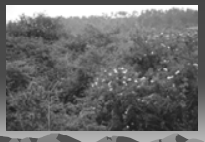
- Ghost forests(Lisu and Yi)



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Sacred rivers

21

World Natural Heritage: a special type of ecosystem management

Jiuzhai, Huanglong, Emei, Qingcheng, Panda, "San Jiang", Wu Lingyuan, Wuyi, Taishan,

22

Characteristics of SNS in SW China

- Big Sacred mountains mostly distributed in Hengduan Mountains: Meili, Emei, Qingcheng, Baoding, Gongga, Dayao, Luoji, etc.
- Hierachical systems;
- Complicated cultural backgrounds and high diversified traditional management;

23

Characteristics of SNS in SW China (2)

- SNS in high variable or unstable environments are better preserved;
- More strict traditional management in lowland and hilly areas or near densely populated areas;
- Most SNS are involved in some economic resource uses.

24

Biodiversity importance of SNS

- Some 6,120 species of higher plant were found in 28 major “religious scenery areas”, which accounts for 42.4% of the total species in SW China;
- In the 134 natural reserves in Sichuan Province, over 57 were traditionally sacred mountains;

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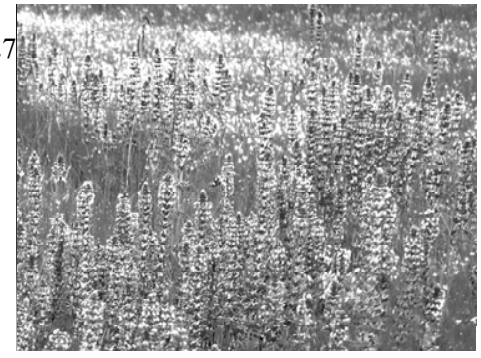

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Biodiversity importance of SNS(2)

- In the 359 “forest parks” of different levels in Sichuan provinces, at least 273 were established on the basis of traditional sacred groves or mountains.
- Total area of “recognized SNS”(including the “religious scenery areas”, and the natural reserves and forest parks with religious background) accounts for 32.7% of the total protect land area, or 5.9% of the total land area in Sichuan Province.

37

Changes and current status of SNS

- Before the “logging ban”(1998), many SNS were destroyed owing to the government cultural and economic policy, especially in lowland and hilly areas;

38

current status of SNS

- Many SNS are now integrated in the modern conservation systems, including the UNESCO framework;
- Rapid disappearing of cultural beliefs to SNS, especially in high mountain areas;
- A movement to rehabilitate SNS in lowland and near densely populated areas.
- A movement to “create” SNS for tourism development

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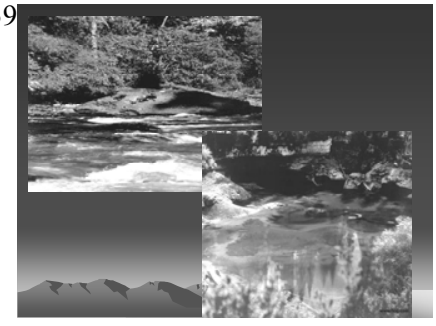

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Major issues in sustainable SNS conservation;

- Increasing demand of tourism development in many mountain areas has distorted the cultural identities of SNS;
- Local people are excluded from tourism development in SNS ;

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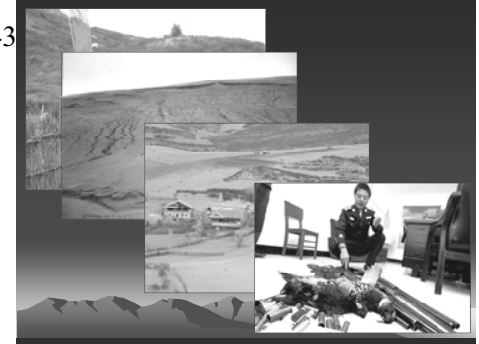

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Major issues in sustainable SNS conservation;

- Overlapped and conflictive management,
- Jiuzhaigou: National natural reserve, National scenery area, World natural heritage, Biosphere reserve.

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Conclusions

- Importance of SNS has been aware culturally, biologically, and economically.
- Tourism has become the major use of SNS in SW China;
- Cultural beliefs are being promoted as “cultural resource” for development; while local believers are generally marginalised in this process;
- Major threats to SNS are: loss of local cultural beliefs, conflictive management, increasing tourism development, etc.

46

suggestions

- A study on inventory, classification, mapping/zoning for important SNS to promote official/legal recognition;
- A international/national/regional standard of principles, criterion, indicators, verifiers to ensure sustainability and promotion of SNS;
- Case studies/demonstration of the standard;
- Capacity buildings for empowerment of local stakeholders

IV

COUNTRY REPORTS

- Country Report of China
- Country Report of DPRK
- Country Report of Japan
- Country Report of Mongolia
- Country Report of ROK
- Country Report of Russian Federation
- Activity Report of the EABRN 2005-2006

Country Report: P. R. China

Zhijun Yi

Deputy-director of the Secretariat, Chinese National Committee for MAB, Beijing, P. R. China

Abstract

1. As a vehicle of disseminating and practicing the biosphere reserve concept, the Chinese Biosphere Reserve Network (CBRN) nowadays has 114 reserve members, including 26 UNESCO biosphere reserves. A 'bottom-up' vision with solving forefront problems that most of reserves face allows the CBRN to continually conduct some 'intellectual-input' activities, projects and international cooperation. Some policy suggestions have been submitted to the state government.

2. In 2005, the CBRN implemented *the UN Decade of Education for Sustainable Development (2005－2014)* (DESD). One kind of activity, 'Experiencing biosphere reserve and Dialogue with metropolis, provided a Chinese case for carrying out the DESD. In 2006, the CBRN revised *the China's Draft Protected Areas Law* on the local reserve manager's side through its 8th network conference.

3. From issuing certificate of being a biosphere reserve to 10-year periodic review of that reserve, the public and local residents' participation have been considered as one core part of these activities. On-the-Spot Evaluation in the process of biosphere reserve periodic review, such as Maolan BR in 2005 and Tianmu Mt. BR in 2006, was to find out changes, problems and practical measures for management improvement, and means towards fostering dialogue and concertation among biodiversity stakeholders.

4. In 2005, the China-MAB committee conducted a case study of Jiuzhaigou valley BR after the project of the policy study at national level. The study results have become a guide for the 11th Five-Year Program for Jiuzhaigou valley BR's development (2006-2010).

5. "Man and the Biosphere" (bimonthly magazine) is a popular reading magazine for disseminating the MAB Programme and the biosphere reserves concept. Other publications such as newsletter, leaflet, website and the biosphere reserve atlas further enhance public awareness of the biosphere reserve concept, and have become one channel of information exchange and capacity building among the reserves.

6. In addition to evaluate Chinese MAB activities in the past four years, the 12th member meeting of Chinese National Committee for MAB held on early 2007 analyzed current inner-Mongolia grassland deterioration and its management from state policy implementation and local resident's views. It was suggested that the foundation of protection and sustainable development of Chinese grassland be local native culture. For a specific issue, the member meeting tries to move science and policy into right practice in order to really benefit local environment, residents' livelihoods and sustainable development.

1. Introduction

The Chinese National Committee for MAB consists of representatives from government departments, scientific societies and press circles as well as elite scientists. The main responsibility of the committee is to specifically implement '*UNESCO Man and the Biosphere Programme (MAB)*' at national level under priority area in China, which could be called *The China-MAB*. The secretariat of the Committee is affiliated to the Chinese Academy of Sciences (CAS). The Committee carries out some 'intellectual-input' activities or projects based on biosphere reserve concept; grounded on the Seville+5 Recommendations and on the CBRN with 114 members up to now. Some policy suggestion and consultation on behalf of the Committee are submitted to the State Council of PRC or other departments of policy-making through the reports of policy suggestion.

The Committee employed a 'bottom-up' vision to analysis and study the problems which the reserves urgently need to solve, including the policy aspect of sustainable management reserve and public awareness enhancement of the biosphere reserve. Some of those activities and projects that the Committee carried out in recent years have been introduced inside the brochure of "*10th Anniversary of the CBRN"*. The China-MAB currently focuses on forefront problems of linking biodiversity & culture diversity conservation and their roles on Chinese sustainable development.

2. The China-MAB Activities from 2005 to 2007

2.1 The construction and Development of CBRN Network: Vehicle of UNESCO MAB Programme in China

At present the CBRN network, established in 1993 by Chinese National committee for MAB, has 114 Chinese reserve members including 26 UNESCO biosphere reserves. Most of them are at national level and under different state - departments' jurisdiction. The network introduces and implements the concept of the biosphere reserve in the light of Chinese actuality. Therefore, it serves as a good platform to promote national and international cooperation and to promote exchange among them; as well as to improve management level of CBRN members through exchanges of knowledge, concepts and experiences, called "soft input" in China. However, the operation of the CBRN does not depend on administration force but on information supply and exchange. Actually, the CBRN has influenced on most of 2349 natural reserves in China nowadays and could be a representative of all Chinese natural reserves.

Each year the CBRN conference is held by the secretariat of the China-MAB

Committee. The selected theme of the conference is a collective and forefront problems which all reserves meet in their management practices and urgently need to solve. The target of the conference is to have mutual exchange among reserve mangers and to solve problems either by themselves, by trainers or by providing new management information from MAB and other international organizations. The CBRN has become 'a larger reserve-family' in which all reserve managers start to operate this network independently.

The 7th Conference of China Biosphere Reserve Network (CBRN) was held in 2005 in Beijing, with the theme of implementing *the UN Decade of Education for Sustainable Development (2005－2014)*(DESD). The CBRN took a lead in implementing the DESD through this conference in China.

To move forward in the process of China's legislative framework for protected areas, the 8th conference of the CBRN revised *the China's Draft Protected Areas Law* on the local reserve manager's side in July, 2006 at Dalai Lake BR. Three leaders of the Environmental Protection and Resources Conservation Committee of the National People's Congress (EPRCC) took part in the CBRN conference and heard all suggestions from reserve representatives. A detailed report has been send to the EPRCC on August 30, 2006, including a new revised 'natural protection area law' through adopting all reserve managers' comments and suggestions. The significant meaning of this conference will definitely facilitate legislative process and implementation of the law related to China natural reserve. All participants of the conference pointed out that the CBRN made a great step in Chinese legislative process on reserves.

The CBRN has been facilitating the reform of institutional management and mechanism

of the Chinese natural reserves since its establishment.

The CBRN Annual Meeting or Conference since its Establishment

Year	Theme	Place	Meeting/Conference
1993	Official Establishment of the CBRN	Beijing	The 1th Conference
1994	Workshop of the Sustainable Development for Chinese Natural Reserves	Tianmushan BR	
1995	Inner-Management and Assessment of the Reserve	Yanchen BR	The 2th Conference
1996	To Implement The Seville Strategy for Biosphere Reserves	Changbaishan BR	
1997	Community Participation & Management and Evaluation	Wuyishan BR	The 3th Conference
1998	Ecotourism Management and Assessment	Bogeda BR	
1999	Scientific Research Function of the Reserve	Fanjinshan BR	The 4th Conference
2000	Workshop of Public Education in Natural Reserve	Shenzhen	
2001	Ecosystem Management	Xilinguole BR	The 5th Conference
2002	Ecotourism Management	Jiuzhaigou BR	
2003	Trans-boundary Protection	Dalai Lake BR	
2004	Developing Quality Economies: Organic/Green Products	Wudalianchi BR	The 6th Conference
2005	Implementing the UN Decade of Education for Sustainable Development (2005 — 2014)(DESD)	Beijing	The 7th Conference
2006	To Revise the China's Draft Protected Areas Law on local reserve manager's side	Dalai Lake BR	The 8th Conference
2007	Cultural Diversity: Foundation of Biodiversity Conservation and Sustainable Development	Maolan BR	The 9th Conference, jointly with the 5th meeting of SeaBRnet

2.2 On-the-Spot Evaluation in the Process of Biosphere-Reserve Periodic Review: To Find Out Changes, Problems and Practical Measures for Management Improvement

After the nomination of a reserve is accepted as a member of World Biosphere Reserve Network (WBRN), the China-MAB National committee organized a great news conference for issuing UNESCO biosphere reserve certification in the Great Hall of People, Beijing, and invited elite people coming from government agencies, scientific & educational departments, and foreign embassies in China. Especially, the committee invited some representatives from students and teachers, NGO organizations and community people. The biosphere reserve concept is disseminated into every walk of life. At the same time, the new biosphere reserve may show its unique biodiversity and culture through video facility and local people's performance in Beijing, in addition to its management situation, such as Fuping BR, Yading BR and Qomolangma BR. It was the best time for the public to know and understand what the biosphere reserve is going to do.

'What does the Maolan BR bring out us…?

One of the purposes for reviewing biosphere reserve is to find out dynamic changes of the reserve on conservation biodiversity, economy development and sustainable utilization of plentiful resources. To know current problems existed in the reserve will be key elements of the review since each reserve has its specific character. On-the-spot evaluation is employed in the process of biosphere-reserve periodic review and other CBRN members' review. This method has become one of the highlights of the

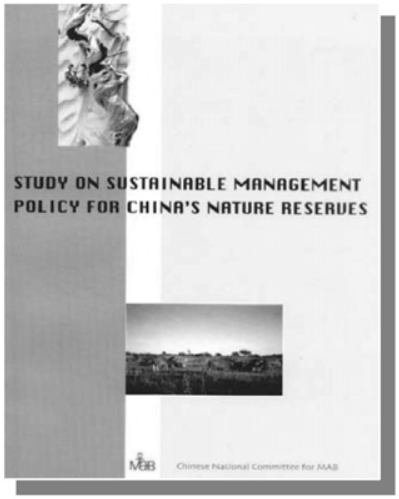
China-MAB. In 2005 and 2006, for example, the Maolan BR and Tianmu Mt. BR were reviewed by the secretariat of the China-MAB committee. Participants not only came from experts, reserve managers, government agencies, but also further invited representatives from local residents, NGOs, and other biosphere reserves and natural reserves within same province. Therefore, the review process has become a creative activity, which includes wide participation, mutual exchanges, training of the BR concept; exploring changes and results the biosphere reserves obtained; finding out current problems; bringing forward practical measures which can improve management of biosphere reserves; enhancing the reserve capacity building, and balancing biodiversity conservation with regional economy development. Such evaluation has become one of the major activities within CBRN network.

'Participatory, Roundtable, Problem-solving…'

The characteristics of this on-the-spot evaluation can be summarized as following: 1) evaluating a reserve under one subject focusing on its key problems currently encountered in the process of reserve management; 2) organizing on-the-spot-survey under above topic and targeted action to find out changes and problems existed; 3) organizing a platform of round-table discussion and assessment with wide participants. Evaluation opinions are not only from experts' view but also from local residents'. This kind of discussion and view exchanges will facilitate problem-solving. It is a way of fostering dialogue and concertation among biodiversity stakeholders.

2.3 Policy Study of the Reserve: a Linkage of Science and Policy for Sustainable Management Practice

The practice of implementing biosphere reserve concept in China has showed that it is not a simple task to achieve a balance between conservation and development, which goes beyond the domain of technology and the realm of a natural reserve's functions. It requires a mechanism of wide coordination and cooperation, and needs to break through and reform some existing inappropriate systems and mechanism. In view of some institutional problems in China, the China-MAB committee based on the CBRN network has finished a project titled as the policy study of the sustainable management for Chinese natural reserves at the national level and four case studies at the site level, aiming to provide information and suggestions for policy makers and reserve managers. The policy study of the reserve will be key area of the CBRN activities.



In 2005, the China-MAB committee conducted the 5th case study of policy study, Jiuzhaigou BR valley, of which project included; 1) Institutional reform and realization; 2) Quality economies and its assessment; 3) Community participation; 4) Conservation of cultural diversity; 5) Ecotourism management. The results of this case study have become guidance for the 11th Five-Year Program for Jiuzhaigou valley's development (2006-2010). The China-MAB committee will go on to conduct more cases of policy studies related to the biosphere reserves.

Early 2006, the China-MAB committee submitted a report of the policy suggestion to the National People's Congress, titled "Damages Caused by the Wild Animal and its Reimbursement within Chinese Natural Reserves". Science and management problems of biosphere reserve with high policy relevance will be collected and suggested to policy-makers at national level.

2.4 International Cooperation: For Establishing Three Twinning/Sister Biosphere Reserves with Canada

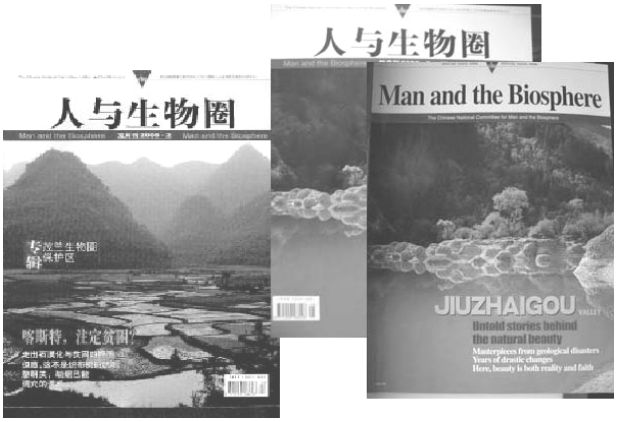
The CBRN conducts international cooperation and exchanges mostly through the MAB

programme/project. Those small in size but flexible and multifarious project through the CBRN network does work. The UNESCO funds could play its role as seed funding.

The China MAB committee has cooperated with the Vietnam MAB committee. Both parties pay attention to topics such as community participation and management in the process of specific conservation; fund raising; management institutional aspects; protection and poverty-alleviation; ecotourism management; sustainable utilization of resources, quality economies and enterprise action; and conflicts between protection and development.

In 2005, under the support of Canadian International Development Agency (CIDA), the Chinese Delegation of Biosphere reserve, consisting of the biosphere reserve managers, visited the Canadian Biosphere Reserves Association (CBRA) and Canadian biosphere reserves. After that, one delegation from the CBRA came to China and visited Jiuzhaigou valley BR, Baotianman BR and Dalai Lake BR. At last, a memo of three twinning/sister reserves with Thousand Islands-F. Arch BR, Riding M. BR, Lac Saint Pierre BR in Canada was formed. At present, the Baotianman BR and Riding M. BR have prepared to exchange professional managers and conducted tourism management using GIS technology.

2.5 Publications: Magazine, Newsletter, Leaflet and Website



"Man and the Biosphere" (bi-monthly): Popular Reading Magazine for Disseminating the MAB Programme and the Biosphere Reserves Concept

China nowadays has more than 2000 nature reserves which cover almost 15 percent of the country's territory. In order to let more people understand and participate in the course of nature conservation, one of the important works is to enhance public awareness. **"Man and the Biosphere", a bi-monthly Magazine** published by the China-MAB committee, is a very popular reading material for disseminating the MAB Programme and biosphere reserves concept, which are illustrated and discussed by wonderful pictures and stories.

Newsletters of "Man and the Biosphere" is one of the rapidly disseminating channels of MAB information which include news from world biosphere reserves on new conservation concepts and trends in the world, news from the CBRN network members and activities from the secretariat of the China-MAB committee. Both of the above publications not only introduce the development of certain natural reserve but also indicate various management issues. They have become significant exchange pathways linking the CBRN dialogue process toward specific reserve management issues and biodiversity conservation among different stakeholders.

Chinese Biosphere Reserve Network's (CBRN) Website has been divided into three parts, the first section is for information exchange among reserve members; the second section is comprised of views/opinions originated from local managers working in the biosphere reserve. The third one will be a forum in the near future for a specific topic, attracting scientists, students, managers, policy-makers and so on. The difficulty for running this website is to find a good staff that is responsible for editing information everyday and gets some funding supports.

Early 2005, the China-MAB committee translated **the leaflet of biosphere reserve: benefit and opportunity** into Chinese language**,** supported by the UNESCO office in Beijing, government officers, reserve managers and some local residents.

Cooperating with the China-MAB committee, the UNESCO Beijing office finished a publication in 2006 titled **Biosphere Reserve Atlas for EABRN Countries (China),** which has been sent to Dalai Lake BR, Fuping BR, Maolan BR, Shankou mangrove BR and other biosphere reserves. It will lead to a further enhancement of public awareness toward the biosphere reserves.

2.6 Experience in Biosphere Reserve and Dialogue with Metropolis: Belief and the value exchange between people toward Sustainable lifestyle ------- A Chinese Case of Public Education for Implementing UN Decade of Education for Sustainable Development (2005－2014) (DESD)

In the middle of 2005, 'To experience reserve', an activity organized by the secretariat of the China-MAB Committee and "Man and the Biosphere" (Magazine), attracted 41 persons with wider professional background in Beijing to experience Dalai Lake biosphere reserve. Soon after, a 'Dialogue Delegation' consisting of managers, conservators, grass-root workers, scientist, local residents and others from the Dalai Lake biosphere reserve came to Beijing city to stage a dialogue between Metropolis and Reserves. Partnership attendants in Beijing included teachers, high school and college students, outdoor-club members/managers and NGO members. In 2006, the activity of the experience and dialogue was continually staged between Fuping BR and Beijing

Zoo, with more than 400 participants.

The UN Decade of Education for Sustainable Development from 2005 to 2014 (DESD) was launched on March 1 2005. The biosphere reserves and their networks will be a larger platform or field to carry out biodiversity conservation activities, as well as ecology and culture for sustainable development. Therefore, "the experience and dialogue", an innovation of interactive public education with an exchange of the belief and value toward sustainable lifestyle between people living in biosphere reserve and metropolis with mutual respect, friendship and learning atmosphere, has played a key role for the implementation of the DESD.

2.7 The 12th Member Meeting of Chinese National Committee for MAB

It was held on April 19, 2007 at the Chinese Academy of Sciences, Beijing. During the meeting, the China-MAB activities for the past four years were reviewed. At the same time, workshop to explore the value of native culture from environment protection and

development of Inner-Mongolia grassland was held. More than 150 participants were present; these include policy-makers, scientists, NGOs members, students, and the National Committee for MAB. Most of recent survey cases at local level in the inner-Mongolia grassland have explained the importance of value and meaning of cultural diversity on biodiversity conservation. Current perplexities and problems the grassland faced under globalization process, such as grass deteriorated grassland, eco-migration, wire-fence, originated from neglecting and losing native culture. The workshop is an important step for the China-MAB committee to implement global *'Convention on Biological Diversity*' and '*Convention on the Protection and Promotion of the Diversity of Cultural Expressions*'.

2.8 Nomination of New Biosphere Reserve and Capacity Building of the Reserve

Normally, the nomination process of new biosphere reserve in China needs almost one year. Most candidates are from the CBRN as they have been within the network for several years and have basic knowledge about biosphere reserve concepts. Before filling out nomination form, the secretariat of the China-MAB committee will ask an expert group to have field survey in the nominated reserve and gives guidance on the zonation and trainings for reserve managers regarding biosphere reserve practices. In 2007, Chebaling reserve and Xingkai Lake have been nominated as Biosphere Reserves.

Nowadays, the training is integrated in the course of activities and projects, such as the process of biosphere reserve nomination and periodic review. In the future, such training will be extended to local residents, government officers as well as reserve managers.

The China-MAB committee selected reserve managers to take part in the GIS training course for EABRN and SeaBRnet counties, which are organized by the UNESCO Beijing and Jakarta office. Some reserve managers were selected to participate in the scientific workshop such as the International Conference on Humid Tropical Ecosystems in Sri Lanka.

Country Report: DPR Korea

Son Kyong-Nam

President, Biological Branch of State Academy of Sciences

1 Activities in the Biosphere Reserves

The activities have been planned and implemented for Mt. Kuwol to fulfill its function as a biosphere reserve which was nominated on October, 2004. The research on the biodiversity of Mt. Paektu and Mt. Kuwol Biosphere Reserves have been included in the focal task of the 5-year plan for National Scientific and Technical Development titled "Research on the species and ecosystem diversity in the key areas" and the project is on-going in cooperation with MLEP, Kim IL Sung University and the Institute of Botany.

It was discussed to establish the monitoring station for the regular investigation and research in Mt. Kuwol Biosphere Reserve and decided to start with the building of biodiversity protection station, mainly for the migratory bird observation in the coastal area. The infrastructure for the eco-tourism in the buffer zone has been completed by forming the ring-shaped road which connects the 3 recreation parks in the reserve so that it can provide better condition for tourists.

Recognizing the importance of raising public awareness and poor introduction materials on biosphere reserve, the national committee discussed about the development and dissemination of multi-media and started video-recording on the eco-environment from June, 2006. The brochure and VCD on Mt. Kuwol Biosphere Reserve will be produced within this year with the support from UNESCO Office Beijing.

1.1

The activities for the conservation and sustainable development in Mt. Paektu Biosphere Reserve have been preceded with great concern of the National Committee. The activities for making Mt. Paektu area into an ever-lasting one are now in near completion as it is the sacred mountain of the revolution and the ancestral mountain with 5000-year-national history. The joint study on the biodiversity of Mt. Paektu was implemented by Kim Il Sung University and North East University of China and published a pamphlet regarding the matter.

1.2

The activities for the nomination of 3rd biosphere reserve in DPRK have been promoted and prepared. Mt. Myohyang, is very important and significant for establishing the national biosphere reserve network as it is located in the middle of our country. Mt. Myohyang has high value in its protection with 16 threatened plant species, 10 threatened animal species, 30 endemic species, natural landscapes of low, middle and high mountains, and precious medical resources and edible fruits. Mt. Myohyang is known as one of the five famous mountains and sacred site associated with the legend about Tangun, the progenitor of Korean nation. At present, Mt. Myohyang is carrying out the International Friendship Exhibition and cultural relics including Pohyen Temple of 1000-year history. These provide the conditions for promoting public awareness on the national cultural heritage as well as biodiversity conservation and its sustainable development and it will help the reserve to fully implement its logistic support function.

2 Organization of National Workshop on the Conservation of Eco-environment

2.1

The National Workshop was held at the People's Palace of Culture, Pyongyang hosted by the DPRK MAB National Committee and Nature Conservation Union of Korea (NCUK) under the agenda -"On the Protection of Ecology and Natural Environment and the improvement of Reserve Management" on 30-31 August 2005. 200 participants from agencies, research institutes, universities in the field of eco- environment at the central and local levels attended to the workshop. 20 highly valuable papers, on

conservation of natural environment and improvement of reserve management were presented.

In the workshop, great successes which have been achieved in the conservation of ecological and natural environment, the management of natural reserves and conservation of biodiversity under government leadership were presented. Research papers were also presented on forestation and greening of whole country and its conservation, prevention of forest fire, rational utilization and management of water resources, protection and management of land resources, eco- agricultural technology amongst other issues.

2.2

"National workshop on natural environmental conservation" was held on 7 September 2006. 100 participants from the related agencies attended and presented 20 papers on the scientific and technical successes and achievements from ecosystem protection and reserve management in recent years.

3 Training and Projects Supported from UNESCO

The project" Publication of the book "Natural Protected Areas in DPRK" and the capacity building of management of protected areas" was successfully implemented with the support from UNESCO Office Beijing and were disseminated to the officials in the concerning institutions and the managing staff of the reserves. 4 experts participated on the 2nd GIS training course in Beijing in December, 2006.

The project for the development of Biosphere Reserve Atlas of DPRK within the framework of EABRN is currently being implemented. The project "Development and dissemination of public awareness materials for the conservation and its sustainable use of Mt. Kuwol Biosphere Reserve" is now on-going with the support from UNESCO.

4 Other Activities

In recent years, activities to prevent damages from insect pest breeding in several regions of the country have been strongly implemented. The identification of the causes on Pine wood nematode (*Bursaphekenchus xylophilus) and Cytospora pini Desm,* which has been expanded to the area south of 42°N and made impact on the vegetation of biosphere reserve and natural reserves, and the development of bio-medicine and its application is now undertaking in a large scale and the some areas are controlled and rehabilitated.

It is one of the important tasks for the MAB National Committee to take measures for prediction and early warning of insect pest, controlling nationwide forests and prioritizing conservation and management of biosphere reserves. In future, we will do our best to activate the MAB National Committee's work in close cooperation with UNESCO Office Beijing, international organizations and other member states of EABRN.

Country Report: Japan

Kunio Iwatsuki

Museum of Nature and Human Activities,
Chairperson, Japanese National Committee for MAB

This is a short report of MAB-Japan activity after it was reported in the EABRN IX at Jeju Island, Korea, on August, 2005.

1 Monitoring of four BRs in Japan

Japanese MAB committee organized a special group to monitor the four Biosphere Reserves in Japan. This group was financially supported by the government of Japan through the Ministry of Education, Culture, Sports, Science and Technology (Mext) during April 2003 and March 2007. The result was published in March 2007 in the form of "Catalogue of UNESCO/MAB Biosphere Reserves in Japan, Version II". The Co-ordination Committee to the MAB-Japan mainly worked on this monitoring. The report was edited by a special editorial committee under the chairpersonship of Professor Kunio Suzuki, Vice-Chancellor, Yokohama National University, also the chairperson of the Co-ordination Committee.

There are four Biosphere Reserves in Japan and all of which lie in National Park area.. These Biosphere Reserves are managed by the Ministry of Environment in their conservation issues according to the regulation of the National Parks. Researches are carried out there by various scientists according to their own scientific curiosity. We have no particular system to observe the Biosphere Reserves under MAB-Japan, although it will be noted that the areas are maintained in better ways regarding conservation issues.

The problems faced to these areas for conservation issues are common to all the four Biosphere Reserves in the following respects:

(1) Increase of tourists in these days by general interests in eco-tours exerts heavy pressure to nature in various ways. In the case of Oodai-Oomine BR, the number of tourists is actually regulated, and such regulation has some effect to sustain the natural vegetation there.

(2) Road construction and other development are performed in some particular areas, not in core area, and reforestation after destruction gives another type of pressure to their primitive nature. In some areas, particular construction is performed to save the soil erosion, and this is another artificial pressure to the nature.

(3) Some of the wild animals increase in number, in some cases terribly rapid, and damages the vegetation in some extent. Japanese deer, wild pigs, monkeys and bears are those especially giving heavy damages to nature. Management of these wild animals is under consideration, although we need to promote urgently to have basic research in the ecology of these wild animals.

(4) Introduced species are observed in some areas in the Biosphere Reserves and give a variety of influence to nature. Management is given in various ways to this problem, and further contributions are badly needed.

(5) There is vegetation decline in various places. These phenomena may be various according to the sites concerned and we have no sound evidence for the reason why such a decline is seen recently. Climate change may be a reason to have influence such phenomena.

There are some other problems to be discussed.

(1) Yakushima Biosphere Reserve is also registered as World Natural Heritage, and a special committee to manage the WNH serves to sustain this area carefully. Various research activities are performed there. Flora and fauna are quite diverse in the area, and basic research on biodiversity is promoted in various ways. Conservation biology is also promoted in this site, and a number of papers have been issued.

(2) Oodai-Oomine BR is now included in the area of Kumano-Kodo World Cultural Heritage. When an application was made for the Kumano-Kodo WCH, Oodai-Oomina BR was completely neglected and the conservation issues are discussed as management of National Park. The first conference of Sacred Natural Sites was organized in relation to the application of Kumano-Kodo WCH, and this BR is traditional sacred site by

which biodiversity has been sustained.

2. MAB-Japan, general activity in Asia

The Japanese government has continuously contributed through its Fund-in-Trust to the UNESCO Jakarta Office as the sector of Asia-Pacific region for Natural Science field. The activities based on this FIT have been reviewed annually, and the review meetings in Jakarta yielded effective promotion of various performances in this field. Promotion of additional BR registration and BR networking in this region are the examples of fruitful results of such an activity.

The result of the review meeting in Jakarta Office on Natural Science activities in Asia-Pacific region is recorded in the report on "annual review meeting on science sector activities in UNESCO office, Jakarta, in the year concerned, supported by Japanese Fund-in-Trust".

3. Usual activities of MAB-Japan

Except for monitoring the BRs, MAB-Japan has been rather inactive in recent years. The official reports have been issued regularly, and in the past two years the following publications were edited and issued by the Co-ordination Committee under the umbrella of MAB-Japan: Japan Info-MAB No. 32, issued on 25, October, 2005. There are some other articles issued in various journals in Japanese, unfortunately these have failed to raise the general public's interest in them.

In attempt to raise the visibilities of BRs, various performances were made within Japan however these were not very fruitful. Many articles were also contributed in Japanese in various journals and newsletters, but few Japanese are interested in BR activities. Recently, World Natural Heritages are popular in Japan, and a number of tourists visit the WNHs, although visitors to the BRs are mostly interested only in National Park or WNH visibilities. It is a pity for MAB-Japan to note it, and it is urgently needed to promote activities around BRs, though we do not know any actual performance to succeed it.

Country Report: Mongolia

A. Namkhai

Director, Department of Special Protected Area's Administration, MNE
Chairperson of Mongolian MAB

The country of Mongolia that is elevated at the relatively high altitude and located far away from seas and oceans belongs to the vulnerable ecosystem region with extreme and severe continental climate conditions. The territory of the country covers the northern part of the Central Asian deserts and the southern part of the Siberian taiga /high forests/ and therefore, in this area, the process of natural self-restoration happens quite slowly.

Thus, an issue concerned with the protection of the homeland's nature and environment not disturbing its pristine natural conditions and pass on it to the posterities fully corresponds not only to the interests of the Mongolians but also all the countries of the region, and consequently, the MNE of Mongolia has been always appreciating and supporting all type multilateral cooperation directed to environmental conservation and protection.

For the countries of Eastern Asia, the UNESCO Program of "Man & Biosphere Reserves" represents one of the aforementioned multilateral cooperation, and since 1990, Mongolia has been involved in this program, been actively participating in its activities being granted relevant supports and assistances.

The measures implemented by the Mongolian MAB Committee after the 9th Meeting of the Eastern Asian Biosphere Reserve Network, could be divided into the following groups:

- Measures directed to expanding the network of the special protected areas and strengthening its material base;

- Works concerned with the expansion of the network of the biosphere reserves of Mongolia and implementation of the environmental management plan, and
- Difficulties encountered by the biosphere reserves and suggestions for resolving this problem to be submitted to the Eastern Asian MAB network.

The Committee has been carrying out its works relying on the Law Special Protected Areas (SPA), the Law on Buffer Zone of SPA's and other environment-related laws and regulations of Mongolia, the National Program on SPA's approved by the Parliament of Mongolia, and the Recommendations issued from the UNESCO Regular Meetings of the Eastern Asian countries MAB program. A question concerned with the expansion of the network of the SPA's of Mongolia, strengthening its material base and improvement of its protection regime and procedure has always been kept in the focus of attention of the Mongolian MAB Committee.

The years of 2005-2007 could be defined as a period within which considerable achievements have been gained in the protection of the SPA's. For instance, the 519 thousand hectare land have been included in the network of the special protected areas and a proposal for taking other 370 thousand hectare land under the special protection has been submitted to the Parliament. The 6 SPA administrations have been set up anew, their locations rationalized and the field normative allotted under the responsibility of rangers has been renewed, and in the result, the size of the field under the responsibility of one ranger has been reduced by 25-35%, in turn improving the protection of the SPA's. The volume of relevant investment has been increased, the material base of the protection administrations has been strengthened, and the supply of the rangers' protective instruments has been notably improved. The financing of over 800.0 million tugriig has been made, and this amount exceeds almost in 2 times the average of the past years.

For the aforementioned period, over 10 SPA administrations have been provided with new vehicles, computer and other necessary technology, while approximately 100 motor-cycles, complete-sets of self-protection tools, communication means, and specially-designated clothes have been supplied to the needs of rangers. Relying on the

above mentioned investment, 7 SPA office buildings and information-advertisement centers have been erected a new, an overhaul has been executed for some previously existing office buildings. Also, the workplaces of rangers have been brought into a concrete standard, the borders & boundaries of the SPA's duly signposted, and the relevant advertisement or publicizing boards made and located at the required points. In the result of this, the amount of expenses allotted per 1 km^2 area has been increased.

At present, for the purpose to protect and conserve the country's regional and zonal features, specific natural formations, places with rare or very rare plant and animal species, historical and cultural sites, and places of natural beauty, the Government of Mongolia has taken under its special protection over 60 places, covering the 13.8% (or 21.7 million hectare area) of the total territory of the country. In the Governmental operational and the Millennium development programs, it has been determined to expand SPA's network through taking ecologically-important areas under the special protection, and this plan is being successfully implemented.

Sites of Mongolia included in the Man & Biosphere Reserves Network

Name of SPA	Year of registering in the MAB network	Area (in hectares)
Great Gobi strictly protected area (SPA) "A" section	1990	4419000
Bogd Khan mountain SPA	1996	41651
Uvs Lake SPA	1997	712545
Khustai National park	2004	50620
Eastern Mongolian SPA	2005	570374
Total		5794.190

Sites submitted to the nomination in the Man & Biosphere Reserves Network

Mongol Daguur SPA	2007	103016
Altai Tavan Bogd National Park	2008	636161
Total		739177

Sites for nomination to the Man & Biosphere Reserves Network in the near future

Onon-Balj National Park	2009	415752
Khuvsgul lake National Park	2010	838070
Khan Khentii SPA	2011-2012	1227074
Numrug SPA	2013-2014	311205
Total		2,792.101

Beginning from 1990, our country has been actively participating in the activities of the UNESCO Program "Man & Biosphere Reserves", consequently, the Great Gobi, Bogdkhan Mountain, Uvs lake and Eastern Mongolian strictly protected areas, Khustain Nuruu national park, have been registered in the biosphere network respectively in 1990, 1996, 1997, 2004 and 2005.

For the purpose to improve the management of the places registered in the biosphere network, we have been implementing successive measures directed to expanding and strengthening the international cooperation and improving the personnel capacity. Currently, the total area of the places included in the network of the Man & Biosphere reserves total in 5.8 million hectare.

The preliminary study of the places possible to be included in the network of biosphere reserves in the future has been made, and at present, the places like the Mongol Daguur SPA and the Altai Tavan Bogd National Park have been nominated for the registration in the network. Judging from the table above, by the year 2008, 30% (or 6.5 million hectare area) of the total area of the SPA's of Mongolia would be included in the MAB network.

In 2006, the Regular meeting of the Joint commission of the triple-sided agreement "The Daguur International Transboundary SPA" established between the Ministry of Natural Resource of the Russian Federation, the Ministry of Nature & Environment of Mongolia, and the Chinese Environmental Protection Agency (CEPA) was held in

Russian (Chita). In accordance with the minutes of this meeting, quite an extensive-range research and workshop involving the experts from 2-3 sides have been organized within the territories of the Mongol Daguur SPA, Eastern Mongolian SPA and the Onon-Balj National Park. For the purpose to protect the habitat or location of the wetland's and migratory birds, the parties are jointly working with the intention to obtain the combined status of the Ramsar Convention of "Wetlands" and the "Man & Biosphere Reserves" for the aforementioned transboundary special protected area. The international transboundary special protected area consists of the Mongol Daguur SPA, the Daura SPA of Chita province, Russian Federation and the Dalai nuur SPA of the China.

Besides, in the minutes of the Inter-Governmental joint meeting of the Mongolia and Russia held in 2006, it was underlined that an issue concerned with establishment of the joint transboundary special protected areas Uvs Lake basin-Uvs lake depression, Khuvsgul-Tunkan, and Onon-Balj-Sokhond should be intensified, and in accordance with this, the draft project on establishing above special protected areas has been developed and officially submitted to the Ministry of Natural Resources, the Russian Federation.

The WCPA has traditionally urged that each special protected area should fulfill a proper balance between the strategic objectives and operations and have a relatively long-term and independent management plan that is fully separate from any political impact and duly recognized by the participating parties. Especially, according to the UNESCO recommendations, it is specifically reflected that for the special protected areas included in the World Heritage and the MAB network, a management plan should be necessarily developed and implemented.

In the National Program on the SPA's approved at the Parliament of Mongolia in 1998, an objective to protect and develop all the special protected areas of the country on the basis of a management plan has been put forward. In connection with this objective, the Mongolian MAB Committee jointly with the UNDP has been introduced to the management plan of all the SPA administrations and made relevant analysis, and on the

basis of this, the committee has developed the model-management plan, issued relevant recommendations and provided the protected area administration with the methodological assistance.

Today, over 60% of all the SPA administrations of Mongolia have their own environmental protection management plan. Of these, the administrations of the Great Gobi SPA, Khustain nuruu National Park and the Uvs lake SPA developed newly or improved management plan in 2005 and are now successfully implementing after its approval at the MNE, while the Eastern Mongolian SPA has newly developed its management plan in 2007. Currently, the Bogdkhan Mountain SPA is renewing its management plan, and this work would be completed by the end of this year. If so, an issue concerned with development and implementation of the management plan for the buffer zones of the SPA's still retains in the center of our attention. First, the Khustain nuruu National Park administration has developed a model buffer zone-management plan relying on the support of the Buffer zone development project that is being implemented by the financing of the Government of the Netherlands and further, we are planning to involve other SPA's in such a movement.

After the 9th Meeting of the Eastern Asian Biosphere Reserve Network held in ROK, the Mongolian MAB Committee jointly with the UNESCO office in Beijing has developed and published the "Atlas of the Mongolian Biosphere Reserves". In addition, we have renewed the database of the Mongolian SPA's and published the book named "The Special Protected Areas of Mongolia". As the member-country of the biosphere reserve network, we have participated in the bilateral and regional-scale researches and changed with the experts with the relevant parties. We have efficiently collaborated with our partners in the trends of exchange of SPA's protection experiences, organizing professional seminars and workshops, etc. We have involved our representative in the SPA GIS workshop organized by the Beijing UNESCO Office. For instance, we are cooperating with the MAB Committees of the Russian Federation and the Chinese Republic in the trend of scientific researches and with the Korean MAB Committee in the trend of experience-learning and expert-exchange. As we have agreed, every year

we exchange 15 persons with the Korean MAB Committee, and this work is giving expected positive results.

In addition, it is necessary to further expand aforementioned international cooperation. On the other hand, the SPA administrations involved in the MAB network have done not so little works. For instance, the administrations of the Uvs Lake and the Bogdkhan Mountain SPA have developed the operational report for the 10 year period after their registration in the MAB network in both English and Mongolian and delivered to the relevant organizations. Besides, in conjunction with the WWF we have executed the complete assessment of the management efficiency of the Mongolian system of SPA's, published the assessment report, and delivered the relevant recommendations and instructions to the administrations of the SPA's.

Here, we should underline that the projects such as the "Project on conservation the Great Gobi ecosystem and its Umbrella species", "Project on development of the Khustai nuruu buffer zone", "Protection of Eastern Mongolian biological diversities and ways of sustainable development", amongst others, have played a specifically important role in the improvement of the management of the Eastern Asian reserves such as the Great Gobi SPA, Khustai National Park, the Eastern Mongolian SPA, etc. that are included in the mentioned biosphere network. As we deeply hope, the project "Protection of the biological diversities within the Altai-Soyon region with the involvement of local citizens" that is currently being implemented would have a big role in the protection of the Altai-Soyon mountain range included from Mongolia in the list of 200 eco-regions that should be necessarily protected on the World-scale.

The SPA's of Mongolia included in the MAB reserve network are encountered with below common difficulties and risks. These are:

- Climate changes;
- Weakness or failure of the implementation of the currently observed SPA-related laws and regulations;

- A strong contradiction between the environment protection requirement and some economic activities that inevitably create an economic growth (mining exploration, infrastructure development, livestock pasture land, etc.);
- Mining exploration and exploitation licenses that had been previously granted in the disorderly manner obstructs the expansion of the SPA network;
- Illegal extraction of mineral resources within the territories of the SPA's;
- Attempts to dismiss the places that had already been brought under the special protection back from-under the protection;
- Concentration of the tourism activities that are inadequate for the capacity & reserves of the relevant SPA
- Lack of qualified personnel and technical equipment at the administrations of the SPA's, and the low-level of salary and livelihood of the people employed at those administrations.

So, in order to overcome the aforementioned difficulties and improve the management of the special protected areas included in the network of biosphere reserves, we would like to reflect below items in the 2008-2009 operational plan of the Eastern Asian MAB Network. There are:

- Prior to run travel & tourism activities within a special protected area located in the neighborhood of the settlements, to conduct a research on its reserve and capacity, and develop a general land use plan;
- To render support and assistance in training of rangers and experts of the places that are included in the network of MAB reserves or are planned to be included in the network;
- To render financial and personnel assistance in developing the environmental protection management plan for the buffer zones of the SPA's included in the network of the MAB reserves;
- To render support & assistance in intensifying the scientific researches and studies concerned with the places included in the network of the MAB reserves;
- To provide comprehensive support and assistance from the Regional center of the Eastern Asian Biosphere reserves in establishing trans-boundary special protected areas,

Country Report: RO Korea

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Secretariat of ROK-MAB National Committee
Korean National Commission for UNESCO

Abstract

Since the last EABRN meeting held at Jeju Island Biosphere Reserve, several important national and regional activities have been implemented in the Republic of Korea (ROK). Before describing these activities, the structure of MAB-ROK is as follows.

In general, MAB activities in the ROK are planned, coordinated and reported at regular meetings, held once or twice a year, of the MAB National Committee of ROK (MAB–ROK). Pursuant to the *Act on the Activities of UNESCO* in Korea, which was revised and entered into force on 7 July 2007, MAB–ROK became newly established as a specialized committee under the Korean National Commission for UNESCO. The members of MAB ‑ ROK consist of representatives from all four central governmental bodies responsible for nature conservation – the Ministry of Environment, the Ministry of Maritime Affairs and Fisheries, the Korea Forest Service and the Cultural Heritage Administration ‑ representatives from the management authorities of the existing two BRs in ROK – Korea National Park Service and Jeju Special Self-Governing Province – and experts in the fields of ecology, ecotourism, biology, anthropology and other related fields. Such structural features provide a useful forum for exchanging opinions and cultivating cooperation among government officials of diverse authority on issues of common or closely related responsibilities, as well as between government officials and experts on MAB principles and experiences.

The Korean Ministry of Environment, a member of MAB-ROK, began supporting EABRN activities through the Korean National Commission for UNESCO in 1994, one year before the establishment of EABRN. Since 2000, the Ministry has kindly provided US$35,000 each year to EABRN, and many cooperative activities have been implemented within this framework of EABRN Funds-in-Trust.

1 Activities of Biosphere Reserves in ROK

As you might know, last June the World Heritage Committee inscribed the **Jeju Volcanic Island and Lava Tubes** on the list of World Heritage. The Committee also commended the establishment of the **Jeju Island Biosphere Reserve** (JIBR) under the UNESCO MAB Programme and urged management of the World Heritage property in close collaboration with JIBR. Jeju Volcanic Island and Lava Tubes is a coherent serial property consisting of three components: Mt. Halla, which is JIBR; the Seongsan Ilchulbnong Tuff Cone; and the Geomunoreum Lava Tube System. MAB – ROK supported the nomination of Jeju Volcanic Island and Lava Tubes as a World Heritage.

IUCN, one of the advisory bodies of the World Heritage Committee, noted that Mt. Halla may have biodiversity value of local and regional significance. For instance, most of its important floras include species endemic to Jeju Island and Korea, and species at their northern and southern distributional limits. Four of the park's 20 species of mammals and 24 of its 1,600 species of insects are endemic to Jeju. They pointed out that these values are recognized within the JIBR and that their protection would be further enhanced if managed within the context of a World Heritage property.

The Management Committee of JIBR was organized after designation in 2002 and held regular meetings to discuss and consult on the activities of the Reserve. We expect that management of JIBR will be improved with a management plan for the Jeju World Heritage.

Following the suggestion at the EABRN-9 Meeting in 2005, the Government of Jeju Special Self-Governing Province, which is responsible for JIBR, began a 6-year Funds-in-Trust project entitled **Jeju Initiative: Asia-Pacific Inter-linkage of Island and Coastal Biosphere Reserves for Environmental Governance and Socio-Economic Development** (hereinafter "Jeju Initiative") in 2006. To that end, the Jeju Government provides US$50,000 each year to UNESCO and held a signature ceremony with the Jeju Government and UNESCO Jakarta on 29 September in Jeju.

After the ceremony, the 1st Steering Committee Meeting was convened, hosted by Jeju Government and attended by the Korean National Commission for UNESCO, MAB National Committee of the ROK and UNESCO Jakarta Office. At the Meeting, the

possible activities for the first year of cooperation were reviewed and confirmed. According to the decisions made at the Meeting, the following exchange visits are planned: Palawan BR group (MAB–Philippines) and JIBR group (MAB–ROK) will visit Kian Giang BR in Vietnam in November 2007, and, if available, the Philippine and Vietnamese groups will visit JIBR.

In addition, a decision was made to establish a web-based network service, made possible through use of the Jeju Government's web server, and Jeju Government is preparing the proposal to promote efficient information exchange and discussions among participating BRs and enhancement of their visibility and educational activities on the internet. More details on the Jeju Initiative will be presented at Session 7.

JIBR was chosen as one of the ten sites of UNESCO's 8-month research project under the title "**Sharing Experiences about Dialogue in Biosphere Reserves**." Dr. Jean－Eudes Beuret of École National Supérieure Agronomique de Rennes carried out this project, and MAB–ROK supported his fieldwork at JIBR and arranged his interviews with local residents in April 2006.

In view of UNESCO BR's objective of harmonizing between conservation and development, JIBR explored introduction of eco-labeling for its local agricultural and fishery products, such as mandarin oranges. It was expected that through this eco-labeling, sustainable ways of doing agriculture and fishery including organic farming would be promoted. However, most mandarin orange orchards are located outside JIBR, bringing attention to the issue of JIBR boundary expansion. At the moment, consideration of the issues of labeling and boundary expansion has ceased. Among others, one reason for this is the fact that no one person is exclusively in charge of the management of JIBR in Jeju Provincial Government.

Mt. Seorak Biosphere Reserve was designated in 1982 when the distinctive role of the BR was not well developed and poorly understood. As a result, Mt. Sorak BR does not play a strong independent role nor does it carry out many activities as a BR. To increase awareness of the BR among local residents, an introductory bulletin on MAB and BR was posted at the Mt. Sorak Visitor Center in August 2007. As one of the most beloved and popular mountains in Korea, Mt. Sorak boasts over 3 million visitors a year; thus, the management of the impact of tourism is one of the main tasks for the Reserve. Mt.

Sorak National Park has carried out diverse ecological monitoring activities and local participation programmes, such as the Third Children's Painting Contest in 23 September 2006 which was supported by the Korean National Commission for UNESCO.

Mt. Sorak BR poses several challenges. Designated with the same territory of Mt. Sorak National Park in 1982, the boundaries of the BR requires reexamination because the boundaries of the National Park have since changed. As I have already mentioned, there are few BR activities at Mt. Sorak. To boost Mt. Sorak BR, MAB-ROK suggested that its activities should be focused on international cooperation, such as joint research projects, among National Parks. We have to talk about this issue with Mt. Sorak BR at a later date.

There are two BR candidates in ROK. First, **Gwangneung Royal Tomb Forest**, proposed by the Korea National Arboretum and operated under the Korea Forest Service, is located in a metropolitan area about 20 km outside of Seoul. It contains deciduous hardwood natural forests at the stage of climax, which have been strictly preserved since 1468 as the tomb forest of King Sejo of the Joseon Dynasty. It has served as an excellent site for various important studies on the conservation and management of plant resources, as well as surveys of biomes. Particularly, a section of the forest open to the public has attracted many visitors seeking to enjoy nature and learn more about ecology. In order for Gwangneung Forest to be successfully designated as a BR, it will need to further strengthen its sustainable development and promote participation of the local community so as to reach a consensus on a BR. There will be an open hearing for local residents in September.

Currently, the Jeollanamdo Provincial Government is carrying out a research project on the BR nomination of the **Tidal Flat (wetland) in Jeollnamdo Province**, located in southern ROK. A tidal flat is generally known to be a biodiversity thesaurus. The tidal flat in Jeollanamdo is an especially fertile habitat for fish as well as various saltwater plants and algae, and the local community benefits from plentiful fishing products. They hope that BR designation will contribute to sustainable use of natural resources in this tidal flat.

2 Mongolia–ROK Exchange Programme for UNESCO Biosphere Reserve Managers

During the EABRN‐9 in JIBR, ROK, 30 August ‐ 3 September 2005, participants from MAB‐Mongolia suggested the establishment of an exchange programme of BR managers from Mongolia and ROK to improve the management capacity of Mongolian BR. MAB‐ROK welcomed this proposal very much and agreed to implement the programme in 2006. Last year 15 Mongolian delegates visited Korea, including Mr. Bayarsaikhan Bayarmagnai, Chairperson of MAB‐Mongolia and Director of the Mongolian Ministry of Nature and Environment. Five Korean BR managers joined the delegation, and, from 12 ‐16 June 2006, they visited Mt. Sorak BR and other protected areas, including the Baekdu Daegan Reserve, Daekwanryung Recreation Forest and the Korea Botanical Garden where they learned and experienced practices for biodiversity conservation and sustainable development of protected areas. They also exchanged ideas and information on conservation and management of protected areas in Mongolia and ROK. The Ministry of Environment, Korea Forest Service and the Korea National Park Service supported this programme. The programme resulted in MAB‐Mongolia and MAB‐ROK signing the Memorandum of Agreement to further continue and develop mutual cooperation. Pursuant to this MOA, MAB–Mongolia hosted the second exchange programme and invited ROK participants to visit Mongolia from 28 August to 1 September 2007. Further details will be presented at Session 7.

The exchange programme is the first cooperative activity between the two countries under the EABRN and is expected to continue and expand to include other kinds of activities.

3 Other Activities

A national workshop of four Korean National Committees of UNESCO's International Science Programmes – MAB, IOC (Intergovernmental Oceanographic Commission), IHP (International Hydrological Programme), and IGCP (International Geoscience Programme) ‐ was organized by the Korean National Commission for UNESCO in June 2005. The workshop aimed to initiate and coordinate exchange and cooperation among different National Committees, as well as enhance understanding and promote full use of UNESCO's framework. At the second workshop held in August 2006, Ms. Lee Sung‐Mi, the winner of the 2006 MAB Young Scientist Award, presented her

research project entitled “The Distribution of Seagrass and Its Ecological Importance in Jeju Island.” A joint activity of the MAB, IOC, IHP and IGCP to strengthen inter‑disciplinary approaches and create synergy was also suggested, but little progress has been made in that regard. This November the third national workshop will be organized by MAB‑ROK in Jeju where the fruits of cooperation will be discussed.

Since 2005, the Korea Maritime Institute has been carrying out a 5‑year project on the ***Establishment of a Marine Peace Park*** in the transboundary coastal area on the western edge of the Korean Peninsula. The Marine Peace Park will be a co-managed multi-purpose area for the protection of biodiversity and cultural resources, and the establishment of a firm base on peace promotion and economic development. In 2006, the Institute investigated the natural and socioeconomic features of the transboundary coastal area and explored the strategy for establishing a Marine Peace Park. UNESCO/MAB and the Korean National Commission for UNESCO are participating in this project as members of the International Advisory Group organized in 2006. Under this project, the transboundary biosphere reserve is explored as a tool to protect the ecosystem and its natural resources, and to make sustainable use of the coastal area. This year, the Institute is working to develop substantial dialogue with DPRK by making a Marine Peace Park policy an agenda item of the inter-Korean summit meeting.

The **Korean Forum on Protected Areas** was established in March 2006 as a result of the ‘National Workshop of Experts and Relevant Agencies to Improve and Internationalize Management Effectiveness of Protected Areas. The Forum acts as a committee to cooperate on PA activities of experts and relevant agencies in Korea. The Korean National Commission for UNESCO and MAB‑ROK participate in the Forum as steering committee members.

Lastly, in early 2007 the ROK government through UNESCO Beijing voluntarily funded the project ***Mt. Kuwol Biosphere Reserve, DPR Korea: Development of Public Awareness Materials for Conservation and Management***.

Country Report: Russian Federation

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Abstract

Four years ago we already had the pleasure to learn features of one of the famous Mongolian Biosphere Reserves (BR) which made the world known input into the restoration of Przewalsky horse population in natural conditions. As it was recommended in the Statement adopted in this BR the EABRN meetings shall focus and provide more in-depth discussions on specific topics. This particular recommendation is currently fully implemented and during this meeting we shall concentrate on the specific theme of the – "Role of sacred sites in conservation of biological diversity". We believe it is a very important theme and we are very thankful to the Mongolian MAB Committee and Mongolian National Commission for UNESCO for this initiative. Of course, such concentration of our efforts should bring the better practical results but simultaneously due to diversity of environmental, social and economic features of six EABRN country-members it makes the preparation of the national reports to some extent challenging.. Accordingly, in spite of the main focus of the EABRN-10 meeting on sacred sites we are trying in our National Report to show (very briefly) how other recommendations and decisions of the previous meetings have been implemented and what kind of activities we had in Russia within the MAB Programme. We hope that our information on what was done during recent two years will be interesting and useful for the participants.

First of all, keeping in mind a set of objectives of the EABRN-9 meeting, it is necessary to mention that on June 2006 in Vladivostok the International Ecological Forum "Nature without frontiers" was held, during which special attention was given to

conservation of biodiversity and sustainable use of biological resources in marine and coastal areas. It is necessary to underline also that within a programme of this Forum, attended by more than 600 participants from different countries, there was a section dealing with protected areas which supported the further enlarging of network of BRs and particularly TBRs in the Far East. The Resolution of this Forum has many useful recommendations made by leading experts. It was translated into English and we will be glad to distribute hard copies of this document among participants of EABRN-10 meeting who are very welcome to make their comments and suggestions on how to better to implement some of these recommendations both in the Russian Federation territory as well as abroad.

After UNESCO's endorsement of two BRs (Kedrovaya Pad in 2004 and Khankaiskiy in 2005) no more BRs have been created at the territory of Russian Federation to the east from the Urals Mountains which belongs to EABRN region. At the European territory of RF one more BR (Middle Volga Integrated) was added to our national network in 2006 (at present it includes 37 BRs in total) and we have plans to increase this number. Following the previous EABRN meetings' recommendations we made everything possible to strengthen cooperating between the Kedrovaya Pad reserve and two hunting sanctuaries (Barsovyi and Borisovskoe Plateau) located in buffer and transition zones of this reserve and to avoid any possible damage to this area in case of construction of the oil pipeline "East Siberia – Pacific Ocean". Last year we have been assured that the additional state ecological expertise of the proposed construction will be conducted and alternate routes far from Kedrovaya Pad BR (and also from the lake Baikal which is WHS) will be selected. Now it is proper time to start practical actions for the creation of TBR in order to safeguard endangered species such as the Far East leopard and Amur tiger. The inclusion of the Kedrovaya Pad BR and the Hunchun Nature Reserve in Jilin province of China into such TBR was proposed in 2004 by UNDP project for the Lower Tumen River Area and supported at two previous EABRN meetings but up to now there is no progress in preparing relevant joint documents for UNESCO. Since this year UNESCO approved a nomination of BR at the Chinese coast of the Khanka Lake we hope also that one more (lacustrine) bilateral TBR will be established after signing an agreement between governments of China and Russia.

We have several suitable areas for creating TBRs at the frontier between Russia and Mongolia, and we expect that this particular EABRN meeting could help speed up this process and it will be possible to call attention to this matter at the forthcoming meeting of the Intergovernmental (Mongolia-Russia) Commission for Cooperation in Environment Protection (Ulaanbaatar, October 2007).

At the EABRN-8 meeting we presented results of our efforts in conservation of the Saiga antelope and Mongolian gazelle. Under the reporting period some more actions have been taken. First of all, following to CITES, CMS and IUCN resolutions in Almaty on September 2006 the International meeting was held at which it was announced that Kazakhstan, Mongolia, Turkmenistan, Uzbekistan have signed the Memorandum of Understanding and Action Plan for conservation of saiga. It was an important achievement after May 2002, when the first drafts of these documents have been prepared at the International meeting in Elista, Russian Federation. Accordingly we hope very much that many activities envisaged in the Action Plan now will be supported by national and international funds and implemented in near future. During this summer the joint team of Mongolian and Russian specialists has conducted a field survey of present status of the Mongolian gazelle and elaborated recommendations for conservation of this unique ungulate species distributed in the steppes of Mongolia, China and Russia. It is important for saving the Mongolian gazelle to implement some recommendations and endorse it by the EABRN -10 meeting.

The conservation and sustainable use of ungulate species as the Saiga antelope and Mongolian gazelle are very much connected with status of grassland ecosystems and protection them against desertification. In 2006 UNESCO together with some other UN system organizations has conducted in Tunis the International conference “The future of drylands”. Some activities recommended to all MAB Committees within the drylands belt were mentioned in the report on the 19th session of ICC MAB (please see this information in separate file) and they are relevant to the major part of the EABRN region. Some sacred sites are situated in the drylands and accordingly we should discuss and propose necessary actions to improve the situation with biodiversity conservation in and beyond such sites. The Uvs-nuur depression, which is the joint (Mongolia-Russia)

transboundary World Heritage Site and where there are two BRs could be used as a model for elaborating the relevant Action Plan. It is worth to remind that our Committee together with MAB/UNESCO Secretariat has conducted in Elista (Russian Federation) in June 2004 the International Workshop on Traditional Knowledge and Modern Technology for the Sustainable Management of Dryland Ecosystems. Some recommendation of this workshop are very relevant to the theme, which was selected for EABRN-10 meeting, and we are pleased to present hard copies of the Workshop's Proceedings to delegations attending the EABRN-10 meeting and hope that this direction will receive the further development.

More that 10 years ago, Russian Federation ratified the Convention on Biological Diversity and, as it was already reported at the previous EABRN meetings, our Committee pays special attention to any possibility to improve implementing tasks of this Convention at the territory of our country. In October 2006, in Rostov region, the International conference "Conservation of biodiversity of wetlands of international importance" was held and our committee has presented a paper on "Interrelationship between wetland sites and biosphere reserves at the base of the agreement between MAB Programme and Secretariat of Ramsar Convention". During this conference negotiation with the Ukrainian delegation on improving transboundary cooperation in this particular field began and it was decided to continue our contacts. Thanks to the support from the Administration of Rostov region and Moscow UNESCO office, it became possible to convene one more International conference on "Biodiversity protection in the wetlands and sustainable use of biological resources in steppe areas", which was held on 29-30 May 2007 in Rostov-on-Don city. We believe results of these two conferences are important for many wetland areas and for sharing our experience we would like to call attention of participants of the EABRN-10 meeting to the Resolution of the last Conference which is attached as Appendix 1 to this report. We hope that wetland biodiversity protection could be approved as a suitable theme for the next EABRN meeting which we will be pleased to invite in 2009 to the Khankaisky BR, which is one of Ramsar sites in our country and situated so close to all other EABRN members. Maybe before this meeting it will be possible to finalize all documents with neighboring BR at Chinese coast of the Khanka Lake and receive the TBR certificate

from UNESCO. As it was mentioned several times at EABRN meetings we still have no TBRs in East Asia, but there are many candidates. Therefore some practical steps should be made at last.

Besides our attention to wetlands and completing the UNESCO multi-disciplinary project entitled "Volga vision" our Committee has continued participation in another long-term international project devoted to the management improvement of ecological risks in the Volga river basin (CABRI-Volga). Last November in Cherepovets city situated in the upper stream of Volga river there was a final meeting for this project. Many useful recommendations for sustainable development, conservation of biodiversity and improvement of livelihoods of local people have been proposed by teams of national and international experts and we are now waiting some decisions at governmental level on how to implement them. If success is achieved for Volga River basin it means we could apply the same approach for the Amur River basin, where improving the international cooperation is very necessary.

In concluding our national report we should mention that after many years of our MAB Committee's functions Russian Academy of Sciences decided at the end of 2006 to give us new premises. To transfer all files, books, furniture and equipment to the new place there was rather hard work but just now we settled properly again and would like to ask all participants of the EABRN-10 meeting to use our new postal and E-mail address and telephone numbers.

EABRN Activity Report (2005-2006)

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1 Introduction

The Twenty Seventh (1993) General Conference of UNESCO, adopted draft resolution proposed by the Republic of Korea and supported by several Member States such as Australia, China and Indonesia, and called upon UNESCO Member States of Asia Pacific to strengthen cooperation in the implementation of the Action Plan for Biosphere Reserve.

In response to the General Conference invitation, during 1994 a Cooperative Scientific Study of East Asian Biosphere Reserves was launched by East Asian Members States, namely the Democratic People's Republic of Korea (DPRK), Japan, Mongolia, People's Republic of China (PR China) and the Republic of Korea (ROK) in cooperation with the UNESCO Offices in Jakarta and Beijing and the Man and the Biosphere (MAB) Programme Secretariat at UNESCO, Paris. As part of this Cooperative Scientific Study, two technical meetings of representatives from participating East Asian Countries were held during 1994.

At the second meeting held in Changbaishan Biosphere Reserve of China, representatives from DPR Korea, Japan, Mongolia, PR China and RO Korea unanimously agreed to formalize the establishment of the East Asian Biosphere Reserve Network (EABRN). A statute for the sub-regional network has been prepared by UNESCO and approved by the EABRN member states. During 1998 an official request to join EABRN was submitted by MAB Committee of Russian Federation to UNESCO and was welcomed by the EABRN member states. Thus six EABRN members and its activities span over 50 Biosphere Reserves across the region (Annex-1).

2 EABRN Mid Term Review

Prof. Kwi-Gon Kim, Seoul National University, ROK and Vice Chairperson, MAB National Committee of the Republic of Korea has carried out his task based on the request from EABRN members and the Project Secretariat.

The main purpose at this evaluation is to:

i. review the activities implemented under the EABRN during 1999-2004, particularly focusing on 6th, 7th and 8th EABRN meetings.
ii. assess the recent trends of UNESCO's activities which were implemented under MAB Programme worldwide, other MAB regional network, World Heritage Convention and environmental education.
iii. collect and search recent major projects and activities in the East Asian region implemented by other initiatives and multilateral or bilateral agencies.
iv. identify and common concerns of the EABRN member states and draft a medium-term strategy paper for the EABRN 2005-2008 based on the above-mentioned review and assessment.
v. communicate with the six EABRN member states for their comments and suggestions on the strategy paper and make necessary modification.
vi. prepare for a power point presentation on the review report and the modified strategy paper, and present them at the 9th EABRN Meeting to be held in Jeju Island, Republic of Korea from 30 August to 3 September 2005.
vii. discuss and obtain the approval of the EABRN member states on the medium-term strategy.

EABRN activities reviewed largely in three phases: Period 1 (1994-1997), Period 2 (1999-2004) and Period 3 (2005-2008).

The main assessment of the EABRN activities reported as follows:

i. ***limited theme selection of EABRN Meetings*** – mostly eco-tourism and conservation policy and transboundary issues dealt in the past need to pay attention to conservation of biosphere reserves

ii. ***lack of capacity building:*** to overcome this issue EABRN task force formulated and task force recommended for organizing training programmes biannually

iii. ***lack of large scale projects: there*** is an urgent need to develop a large scale regional projects look for the possible funding from GEF, need to extend the field evaluation of EABRN; normally the field evaluation of BRs carried out only in the meeting organizing host country-there is a need to have common evaluation by the experts from EABRN

iv. ***Shortage of funding and donation:*** So far EABRN Network enjoys the support of Republic of Korea and members organizing biannual meeting-need to explore for additional support from other embers.

v. ***Lack of Supply and Adoption of Guidelines or Statements Adopted at EABRN:*** There is no information on how the details of guidelines or statements discussed or adopted at EABRN meetings have been translated into the policies of member states

The evaluation report of Prof. Kim informs that the outcome of the second phase of EABRN activities has been relatively successful. The EABRN activities in the 2nd phase were continuation of programs undertaken in the first phase except for the founding and operation of Training Task Force and "The 1st EABRN Training Course on GIS Applications in the Management of Biosphere Reserves". Although proposals made at "The Evaluation of the East Asian Biosphere Reserve Network (EABRN)" (September 1999), initiated by him, were not fully implemented, EABRN is evaluated to have been further stabilized in the second phase.

In the third phase, it is necessary to adopt a strategy by focusing programs and projects in a direction of contributing to multi-lateral environmental agreement including Millennium Development Goals while continuing existing programs. "The Northeast Asian Ecological Network" proposed in this study will be a strategic joint project in line with such a direction. This report was presented at 9th EABRN meeting and discussed among the participants.

3 Ninth EABRN Meeting

The meeting was jointly organized by Jeju Island Provincial Government, Korean National Commission for UNESCO MAB National Committee of the Republic of Korea (ROK), UNESCO Regional Offices in Beijing and Jakarta.

The Meeting brought together around 80 participants including delegates from five EABRN member countries except the Democratic People's Republic of Korea (DPRK), and representatives from insular biosphere reserves in Palau, Spain and Vietnam. On the first day of the meeting, which was open to the public, there were around 100 local and national participants.

The meeting was opened by Minister of Environment, Republic of Korea in the presence of Governor of Jeju Island, Director UNESCO Office Beijing and Secretary General of Korean National Commission for UNESCO.

Opening ceremony of 9th EABRN Meeting

The main theme of the Meeting was 'Conservation and Sustainable Use of Insular Biosphere Reserves. Besides, the Meeting included presentations and discussions on the following subjects

- capacity building and public awareness enhancement
- regional cooperation initiatives
- conservation of biological and cultural diversities

- conservation policy

Like previous EABRN meetings, field visits to some of representative ecological and cultural sites of the JIBR and evaluation of the JIBR were carried out from 31 August to 1 September. In addition, since the year 2005 marks the 10th anniversary of the EABRN, which was officially launched in May 1995, an interim report of a small survey on the past EABRN activities (1999-2004) and mid-term strategy (2005-2008) was reported and discussed.

The meeting report was done by UNESCO Office Beijing with the support from UNESCO MAB Secretariat and UNESCO Office Jakarta.

An ad-hoc meeting of the Chairpersons of MAB National Committees was held in the evening on 30 August and discussed future EABRN activity plans: the next EABRN Meeting venue, a second EABRN training course in 2006, a proposal of cooperation for the insular and coastal Biosphere Reserves in the Asia-Pacific region and the EABRN atlas development. On the meeting, Government of ROK confirmed their continued financial support to this initiative and requested UNESCO Office Beijing to prepare the workplan for 2006-2007. In addition, Jeju Island Provincial Government informed that they would like to support UNESCO to carry out a cooperation facility with other Insular Biosphere Reserves in East, South-East Asian region in collaboration with UNESCO Office Jakarta.

At the end of the 9th EABRN meeting, participants adopted the Jeju Statement, which is included in the report. The following principles and agreements are included:

- The EABRN continues to pursue the facilitation of i) the exchange and transfer of information and ii) the sharing of experiences on Biosphere Reserve management among the six member countries, through their National Committees for MAB and relevant partners.
- The Network shall enhance its technical support to the submission of new UNESCO Biosphere Reserve nominations including Transboundary Biosphere

Reserves (TBRs) through the EABRN Secretariat.

- It was decided to strongly encourage the DPRK to hold the EABRN-10 meeting in line with the rotation principle.
- It was agreed to generate a common atlas for popularizing the Biosphere Reserve concept for the general public, and at the level of school children.
- Participants warmly welcomed the funding proposal offered by the Jeju Provincial Government to develop a cooperative initiative in promoting Insular/Coastal Biosphere Reserves.
- The EABRN shall further develop or strengthen its partnership with other related bilateral and multilateral organizations and institutions in the fields of biodiversity conservation and sustainable development.
- Participants expressed their concern on plans to construct oil pipelines across pristine ecosystems and oil terminal in the Perevoznaya Bay close to the two Biosphere Reserves in Far East of Russia: Kedrovaya Pad and Far East Marine.

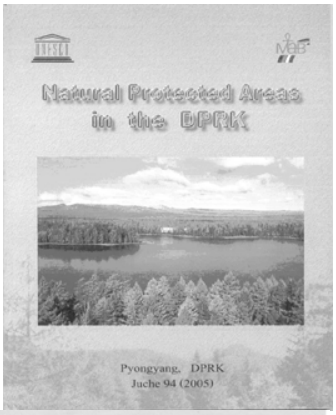
Mt. Halla, the highest mountain in the Republic of Korea (1,950m), is located at the center of Jeju Island. (Photo: Jeju Provincial Government)

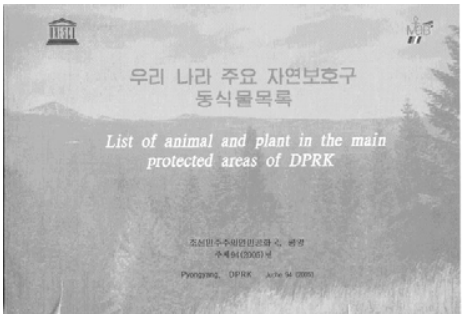
4 Small Scale EABRN Projects

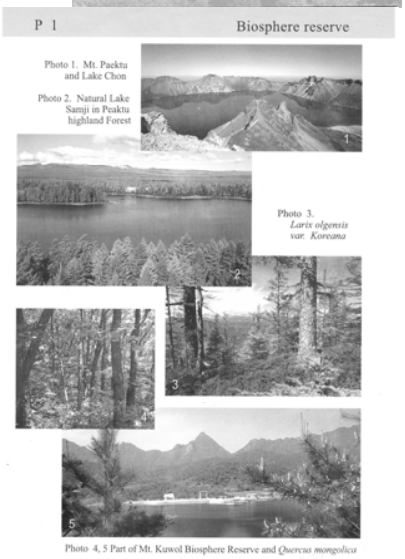
Completed: **Data Book "Protected Areas in DPRK" and "List of animal and plant in the main protected areas of DPRK" (in English and Korea) -** Based on the proposal submitted by MAB National Committee of DPRK, EABRN supported this small scale project. As part of this project MAB DPRK formulated working groups to conduct filed research to bring out this report also as part of this initiative MAB DPRK

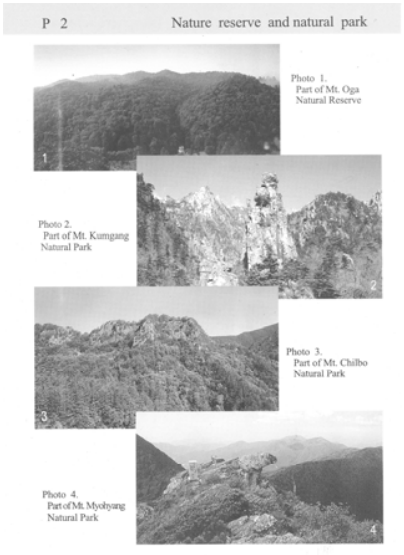
organized a National Workshop “On the Protection of Ecology and Natural Environment and the improvement of Reserve Management”.

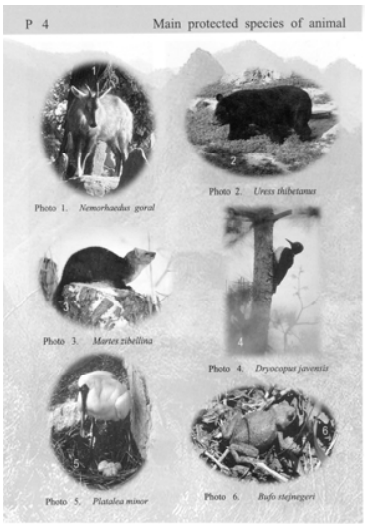
The final document was dived in to two chapters giving the main concepts and management practices of Protected Areas. The chapter 2 has been divided into eight sections to deal with Biosphere Reserves, Nature Reserves, Natural Parks, Plant reserves, animal reserves, Migratory Bird reserves, Resources Protected areas and Fishery Resources reserves. For each reserve the location map, background justification why it was selected and what is the importance and conservation management plans were described clearly. Also part of this report there is a complete animal and plant species available within the main protected areas of DPRK also brought out.

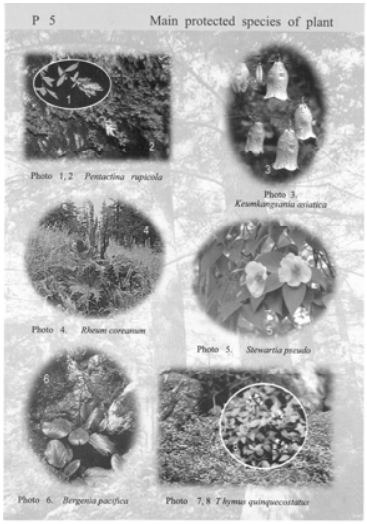


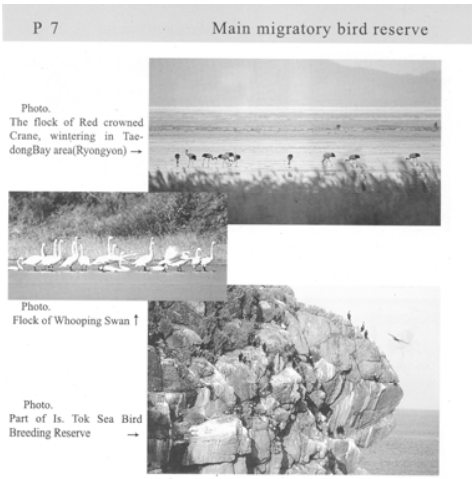












Ongoing: **Mt. Kuwol Biosphere Reserve, DPR Korea: Development of public awareness materials for conservation and Management** - To raise public awareness about the sustainable development and conservation of Mt. Kuwol Biosphere Reserve in DPR Korea, and to activate ecotourism by distributing and disseminating an information brochure together with an instructive VCD.

Mt. Kuwol is one of the five most celebrated mountains in Korea. It is situated north-west of South Hwanghae Province, not far from the country's western sea coast. Mt. Kuwol Biosphere Reserve spreads across 50,000 hectares and includes the area's adjacent wetlands and agricultural ecosystems. In October 2004, Mt. Kuwol Natural Park was nominated as an International Biosphere Reserve as part of the World

Network of Biosphere Reserve (WNBR) and the East Asia Biosphere Reserve Network (EABRN) in cooperation with respective UNESCO regional offices.

Mt. Kuwol Natural Park is also a popular tourist site connected to nearby towns and cities by road and is equipped with nice amenities. It boasts the Woljong Temple, built early in the 9th century, as well as ancient fortress walls and other historical relics.

The information brochure and VCD, together with other awareness raising materials which comprehensively introduce the natural resource and ecosystem of Mt. Kuwol, and expected to encourage eco-tourism which will sustain the reserve under the WBRN and EABRN.

5 EABRN Atlas

Overview: The EABRN Biosphere Reserve Atlas is a follow up of the recommendation from the 9th EABRN ad-hoc committee meeting held during August-September 2005 in Jeju Island, Republic of Korea. Shared among the members of the EABRN was a strong desire for information exchanging at the regional level, which in turn led to the designing of an Atlas to represent and illustrate the Biosphere Reserves in each member country. It was also agreed that a common Atlas should be produced in order to popularise and inform the general public about the Biosphere Reserve concept, in particular to school children.

The preparation of the Atlas is being carried out in a phased manner subject to the availability of funds. The EABRN Secretariat shall prepare the detailed plan. During the first phase, it was decided to carry out EABRN Atlas for China and Mongolia and followed by other members of EABRN.

The designation of a biosphere reserve is not only a recognition of significant natural values, but represents a commitment on the part of government agencies at all levels and all local interests to create living examples of conservation and sustainable development.

The main objectives of this atlas are:

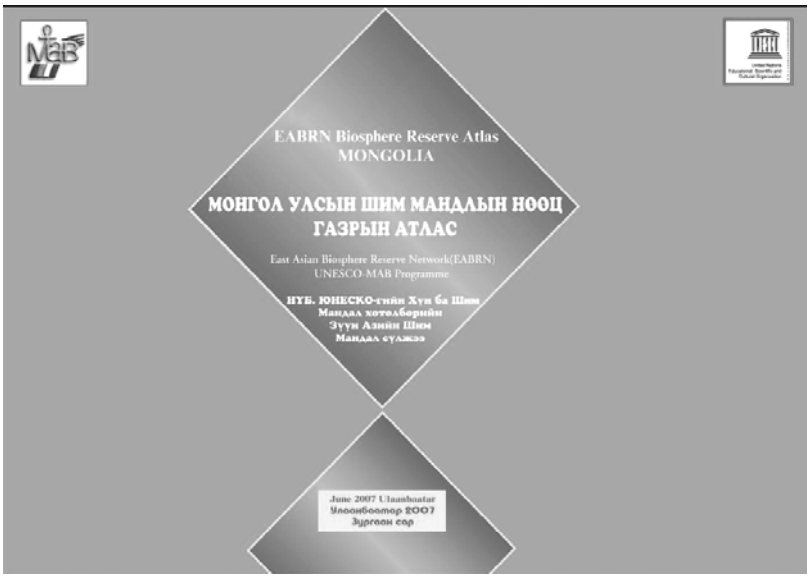
- ✓ to transform complex data into easily readable information for the general public and school children, and
- ✓ to increase the knowledge of teachers, school students and community on Biosphere Reserve Sites (BRs) under the World Biosphere Reserve Network (WBRN) within the context of sustainable development, stressing the importance and components of BRs and ecosystems.

China: China embraces various ecosystems, mainly including forests, meadows, steppes, deserts, marshes, freshwater and marine ecosystems; these represent almost all of the important types of ecosystems in the world. It is internationally considered that China is one of the mega diversity countries in the world, where the number of species, as a whole, make up more than one tenth of the total number of species in the world. The Central Government and the public have made great efforts for the conservation and sustainable use of biodiversity, resulting in remarkable achievements. Environmental conservation has been adopted as one of the basic policies of the government. Even though great efforts have been made for the conservation and sustainable use of biodiversity in China, the situation is still quite serious. Owing to historical reasons, which led to rapid population increase and the development of industries, biodiversity in China is suffering a catastrophic decline and is still subject to serious destruction such as decrease of forestry area, deterioration of grassland, drought of wetlands, destruction of coral reef etc. With this context Chinese MAB Committee is committed to support this initiative and started the preparation work by selecting four representative BRs with specific ecosystems.

This concept of Biosphere Reserve Atlas is very well received at the international level; the copies of this Atlas were shared with all the EABRN Members and all MAB

National Committees though UNESCO Office network, as well posted in the website for download.

Mongolia: The change in the MAB National Committee made some sustainable delay in preparation of the EABRN BR Atlas for Mongolia. With the cooperation newly formed MAB Committee we have completed the Atlas dummy version and it will be printed soon. This Atlas will be the second one in the series of EABRN Atlas.



DPRK: MAB National Committee of DPR Korea already started preparation of Atlas content based on the format provided by EABRN Secretariat, as there is some constraints in getting the geological map in this Atlas will not have geology map layer.

ROK: In the process of negotiation

Japan: In the process of negotiation

Russian Federation: In the process of negotiation

6 2nd EABRN Training

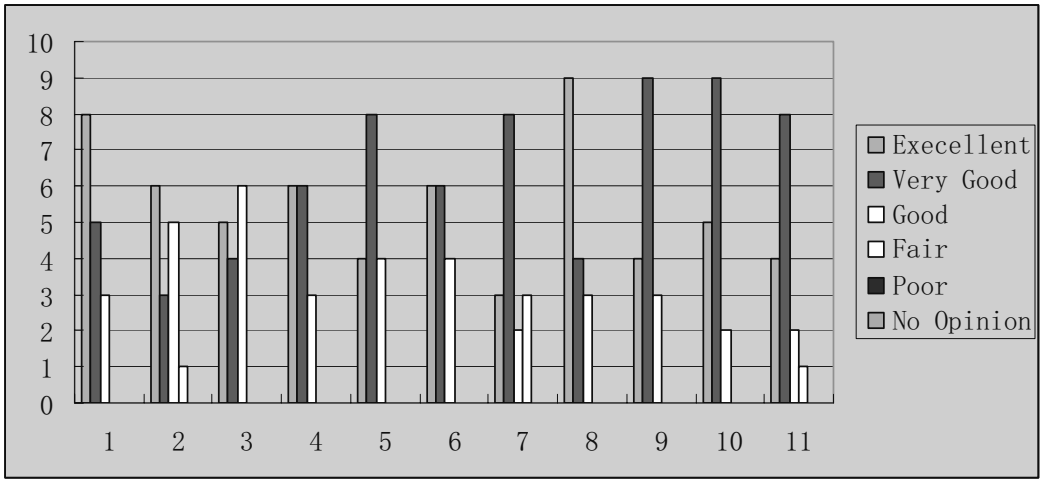
Russian Federation proposed to organize the 2nd EABRN Training Course on GIS and data handling for Biosphere Reserve Management. Due to some unforeseen reasons Russian MAB Committee was not able to organize the training workshop. The project secretariat organized this training workshop in cooperation with Chinese MAB Committee, Institute of Geographical Sciences and Natural Resources Research (IGSNRR), Chinese Academy of Sciences and SuperMap GIS.

The GIS software and teaching materials used for the training course were provided by the SuperMap GIS technologies, Inc. (SuperMap), a company supported by IGSNRR, and it has series of GIS platforms-SuperMap GIS. In addition to providing all the necessary facilities IGSNRR provided SuperMap Desktop Pro licensed GIS software to all the participants as the contribution from the Institute to this training activity. IGSNRR jointly worked out with Chinese MAB Committee on creating a sample database and training sets from Maolan Biosphere Reserve, China. In addition to this the EABRN Secretariat has requested all the participants to bring their own maps and other related data in order to create base maps and use GIS to overlay techniques. Some of the participants volunteered to share their GIS experiences with others and they provide kind of special presentation on their ongoing works.

The 2nd Training workshop was organized during 4-15 December 2005 at IGSNRR and attended by 18 participants from 8 countries. During this training programme to improve the visibility of EABRN and increase the regional cooperation with other MAB regional networks UNESCO invited SeaBR Net and Pacific MAB to nominate one each participant from their network with all the necessary financial support for international travel. In addition to EABRN member States there were two participants from Lao PDR and Samoa.

On the final day of the training programme UNESCO circulated an evaluation questionnaire to all the participants and received their feedback overall this course has been rated as successful. Find below the overall analysis table and a graph of the evaluation.

questions / Count	Excellent	Very Good	Good	Fair	Poor	No Opinion
1 The lectures and course material were well prepared.	8	5	3			
2 The instructors communicated clearly and effectively	6	3	5	1		
3 The instructors have motivated us to learn more about the subject	5	4	6			
4 the facilities available for the conduct of the course were good	6	6	3			
5 I gained a good understanding of concept/principles in this field	4	8	4			
6 The topics chosen for the course were relevant and useful.	6	6	4			
7 The practical exercises were sufficient.	3	8	2	3		
8 The coordinators were friendly and helpful.	9	4	3			
9 Hospitality, including boarding and lodging, was good.	4	9	3			
10 Overall, the organization and conduct of the course were good.	5	9	2			
11 Interaction among the other participants to develop further collaboration.	4	8	2		1	



7 EABRN Biosphere Reserves Directory

To improve and encourage the communication between the biosphere reserves within EABRN Members, the project secretariat prepared the Biosphere Reserve Directory. All the member states were asked to provide the details and based on the inputs the director has been created. The directory has been uploaded in the UNESCO Office Beijing Website for online consultation and download. The secretariat plans to keep this list as a dynamic list whenever there is new addition to the Biosphere Reserve or change in the MAB Committee it will get reflected on this directory.

8 EABRN Logo

UNESCO-MAB Secretariat requested all the regional networks to come with their own logo/graphical identity to improve the visibility of the network. Based on this the project secretariat jointly with ROK National Commission designed several simple logo and circulated all these to other members and based on the feedback from the all the members selected the following logo. This logo will formally approved in the Ad-hoc committee meeting of EABRN members during the 10th EABRN meeting at Mongolia and upon the endorsement this logo will be used as the logo for EABRN.

9 EABRN Web Site

Following transfer of responsibilities of EABRN Secretariat from UNESCO Jakarta to Beijing now the EABRN web site is available at UNESCO Office Beijing official web page. This web page gives introduction to EABRN programme in addition a short report of all the past seven meetings are available, the eighth meeting full report is available for download from web page. We welcome the members of EABRN to provide critical comments and usefulness of the page; also we encourage them to use this facility to share the information with others. We are continuously updating this page with latest information.

You can access the EABRN Web pages at:

http://www.unescobeijing.org/projects/view.do?channelId=004002001001

Screen shot of EABRN Web page

Annex-1 - List of Biosphere Reserve Sites in East Asian Region

CHINA	BR Site	Year of Approval
1	***Changbaishan***	1979
2	***Dinghushan***	1979
3	***Wolong***	1979
4	***Fanjingshan***	1986
5	***Xilin Gol***	1987
6	***Wuyishan***	1987
7	***Bogeda***	1990
8	***Shennongjia***	1990
9	***Yancheng***	1992
10	***Xishuangbanna***	1993
11	***Maolan***	1996
12	***Tianmushan***	1996
13	***Fenglin***	1997
14	***Jiuzhaigou Valley***	1997
15	***Nanji Islands***	1998
16	***Shankou Mangrove***	2000
17	***Baishuijiang***	2000
18	***Gaoligong Mountain***	2000
19	***Huanglong***	2000
20	***Baotianman***	2001
21	***Saihan Wula***	2001
22	***Dalai Lake***	2002
23	***Wudalianchi***	2003
24	***Yading***	2003

	25 ***Foping***	2004
	26 ***Qomolangma***	2004
DPR KOREA		
	1 ***Mount Paekdu***	1989
	2 ***Mt. Kuwol***	2004
JAPAN		
	1 ***Mount Hakusan***	1980
	2 ***Mount Odaigahara & Mount Omine***	1980
	3 ***Shiga Highland***	1980
	4 ***Yakushima Island***	
RO KOREA		
	1 ***Mount Sorak***	1982
	2 ***Jeju Island***	2002
MONGOLIA		
	1 ***Great Gobi***	1990
	2 ***Bogd Khan Uul***	1996
	3 ***Uvs Nuur Basin***	1997
	4 ***Hustai Nuruu***	2002
	5 ***Dornod Mongol***	2005
RUSSIAN FEDERATION ***(East of the Ural Mountains)***		
	1 ***Sikhote-Alin***	1978
	2 ***Kronotskiy***	1984
	3 ***Sayano-Shushenskiy***	1984
	4 ***Sokhondinskiy***	1984
	5 ***Baikalskyi***	1986

6	***Tzentralnosibirskii***	1986
7	***Barguzinskyi***	1986
8	***Taimyrsky***	1995
9	***Ubsunorskaya Kotlovina***	1997
10	***Daursky***	1997
11	***Katunsky***	2000
12	***Commander Islands***	2002
13	***Far East Marine***	2003
14	***Kedrovaya Pad***	2004
15	***Khankaiskiy***	2005

V

SPECIAL PRESENTATION

- Metal Accummulation by Natural Plants
- Integration of Scientific and Local Knowledge in the Protection of Sacred Sites in Russian Federation
- Goletz Sokhondo as an Object of Cultural and Natural Heritage

Metal Accumulation by Natural Plants[1]

Natural Metal Resource Strategy - in relation to plants

Tomoko M. Nakanishi

Graduate School of Agricultural and Life Sciences, the University of Tokyo

1

Metal Accumulation by Natural Plants

Natural Metal Resource Strategy - in relation to plants -

Tomoko M. Nakanishi
Graduate School of Agricultural and Life Sciences,
The University of Tokyo

2

From the point of scientific aspect of the plant diversity

Historically, plants provided many economical values,
spices, cotton, sugars, rubbers, etc.

for example,

【spices】 In many pacific islands, spices were grown
Managing the products was just the same as we do now.
When too much amount of spices were grown, they were cut, not harvested, and discarded. ← to maintain the price

【rubbers】 Only one species found in Brazil was selected and planted in Asia for rubber production

Why? ← plant diversity

Plant products were the main industrial products before modern technology was developed.

3

Plants know how to accumulate or adapt to metals.

Plants live only on inorganic ions, including metals
(no need to absorb sugars, proteins, etc.)

Metals are important for industrial purposes.
← recycling system, efficient mining, replacing withthe other metals, etc.

1. Accumulation of metals by plants
   Selenium and others Gold mine finding in Japan
2. Plants tell where they were grown

Utilization of plant ability should be taken into account!

4

Selenium (Se)

Historical description of hyper-accumulator of Se

It is a fact that when they take that road they can not venture among the mountains with any beast of burden excepting those accustomed to the country, on account of a poisonous plant growing there, which if eaten by them has the effect of causing the hoofs of the animals to drop off. Those of the country, however, being aware of its dangerous quality, take care to avoid it.

The Travels of Marco Polo

[1] The full paper is replaced by the ppt slides due to the failure of a paper submission.

5 Accumulation of Se grown in soil containing Se (2 – 4ppm)

	ppm
Astragalus pectinatus (narrow-leaved milk vetch)	4,000
Stanleya pinnata (prince's plume)	330
Haplopappus fremontii (goldenweed)	320
Gutierrezia sarothrae (snakewood)	70
Zea mays (corn)	10
Euphorbia sp. (spurge)	10
Xanthium sp. (cocklebur)	6
Salsola pestifer (Russian thistle)	5
Munroa squarrosa (False buffalo grass)	4
Helianthus annuus (sunflower)	2
Boutelona gracilis (blue grama)	2
Malvastrum coccineum (scarlet mallow)	1

A mouse dies from eating wheat grain grown in soil containing 1mg of Se in 1kg of soil

1920's in USA
Millions of sheep were dead
Seep committee was organized

6 However, Se deficiency causes diseases

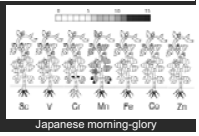
7 Numbers of known plant hyper-accumulators for eight heavy metals and the families in which they are most often found

Element	No.	Families
Cadmium	1	Brassicaceae
Cobalt	26	Lamiaceae, Scrophulariaceae
Copper	24	Cyperaceae, Lamiaceae, Poaceae, Scrophulariaceae
Manganese	11	Apocynaceae, Cunoniaceae, Proteaceae
Nickel	290	Brassicaceae, Cunoniaceae, Euphorbiaceae, Flacourtiaceae, Violaceae
Selenium	19	Fabaceae
Thallium*	1	Brassicaceae
Zinc	16	Brassicaceae, Violaceae

*Leblanc *et al.* (1997).

The New Caledonian *Sebertia acuminagta* that exudes a sap containing 11% nickel.

From "Plants that Hyperaccumulate Heavy Metals" by R.R.Brooks



Japanese morning-glory

8 Mine survey by plants

Hg and Kobo-Daishi (弘法大師)

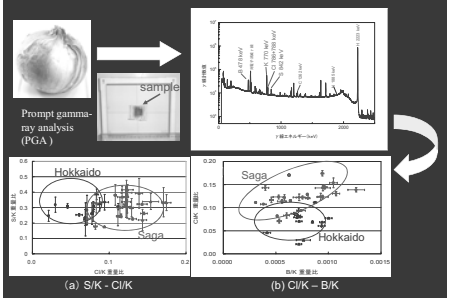
There often found Hg mine close to the temples related to Kobo-Daishi(弘法大師)

Hg was an important metals for stamp (red ink) .
Hg was monopolized by a special family called New(丹生).

Off spring of NEW family said that
New(丹生) family financially supported Kobo-Daishi(弘法大師)
So, he must be interested in Hg mine.
It is said that he died because of Hg poisoning.

Did he rely on plants to find out Hg mine?

9 Plants tell where they were grown



10 "Keep Diversity of Natural Plants"

Thank you

Integration of Scientific and Local Knowledge in the Protection of Sacred Sites in the Russian Federation

V. M. Neronov, M. E. Kuleshova, T. Yu. Semenova

At present the major environmental concern in our country is the threat of significant loss of intact natural territories. The governmental agencies cannot guarantee due to lack of funds and capacity the proper management and existence of the strictly protected areas in the form of reserves (zapovedniks) and national parks. Many administrative units of Russian Federation after Perestroika created their own protected areas of different rank and their role in conservation of biodiversity considerably increased in recent years. Anyhow it is not enough for vast territories beyond protected areas. Traditional way of life of indigenous and local peoples includes subsistence economy, environmentally sustainable land use and utilization of natural resources and these practical skills could help to preserve the natural and cultural heritage both in protected areas and beyond them. Integration of the science and traditional knowledge for improving biodiversity conservation and sustainable use of biological resources would be mutually beneficial and is highly needed. In this connection special attention should be given to sacred sites which accumulate the local knowledge and cultural values of different communities. The protection of the sacred sites by indigenous peoples can make a substantial contribution to biodiversity protection. Sacred sites also provide an opportunity to establish environmental and social monitoring by the local community.

Accordingly, the particular attention in recent years was drawn to the problem of integrated protection for spiritual and cultural heritage of the indigenous peoples and to the preservation of biodiversity, in particular within the framework of the relevant

Conventions on Biodiversity Conservation and Heritage Protection. In this paper we would like to give some samples of achievements in integration of scientific and local knowledge in the protection of sacred sites with emphasis to biosphere reserves where it is possible. Some interesting data will be presented by other members of our delegation: Dr. P. D. Gunin with co-authors about Baikal Lake basin; Mr. V. I. Yashnov and E. E. Malkov about Sokhonda biosphere reserve and its surroundings; Mrs. T. P. Merkushina about protected areas and sacred sites in Khanty-Mansyisk administrative okrug.

First of all, we would like to call attention to the document "The Sustainable Development of the Traditional Lifestyle" that has been developed by the Russian Association of Indigenous Peoples of the North (RAIPON) based on the proposals from the indigenous peoples of the Russian North, Siberia and the Far East. In this document it was once more underlined that the ecosystem approach could play the important role in widening the participation of the indigenous peoples and other local communities as principle stakeholders for the implementation of the CBD. Transferring stewardship of ecosystems to local people has increased the role of the traditional knowledge and it was underlined at several UNESCO-MAB meetings.

For getting better results in this process care should be taken for capacity building of the indigenous communities in the environmental impact assessment It could be demonstrated by the results of the recent implementation of the two projects under the RAIPON - the first one in cooperation with the UNEP/GRID-Arendal -"Local Health and Environmental Reporting by indigenous peoples in Russian Arctic" and – the second project in cooperation with the Arctic Council working group on Conservation of Arctic Flora and Fauna (CAFF)- "The Conservation Value of Sacred Sites of Indigenous Peoples in the Arctic". Conducted survey within the first project demonstrated a great concern of indigenous peoples about their lifestyle and changing environment. Computer database with 459 questionnaires filled-in by indigenous respondents from 10 settlements located in different geographical, ecological and ethnic regions is now available at the RAIPON office in Moscow.

In general these pilot surveys have revealed the outstanding capacity of the indigenous peoples to observe and register physical environmental changes interfering with their traditional lifestyle, to identify driving forces and transformations leading to negative impacts. This capacity could be used through the new types of the sustainable activities in the indigenous communities. It could be effectively applied in the environmental impact assessment (EIA), social and ecological monitoring, elaboration of the local programs of sustainable development and the regional environmental policy, including the sphere of biodiversity conservation. The integrated monitoring is designed to assess the pattern of development of indigenous communities (sustainable or unsustainable) based on the following criteria (groups of parameters) representing three major threats to indigenous communities: 1) Environmental threat to community health; 2) Threat to the traditional way of life; 3) Threat to sacred sites – natural and cultural heritage of indigenous peoples.

Accordingly it is worth mentioning about the ecosystem management of sacred sites – a vital component of the indigenous community sustainable development. The sacred sites are frequently located in the regions where preservation of nature is of high importance for the indigenous peoples: on the highly efficient hunting grounds, the regions with rich biodiversity, along migrations routes, in the areas populated with rare species, as well as in the areas with unique landscapes. The indigenous peoples still worship nature as a living being and consider the relationship with their land to be the primary factor of survival.

The following classification of the sacred sites based on scientific approach (ecosystem level, historical date) and the indigenous knowledge could be proposed for consideration and further elaboration at this EABRN meeting.

Table 1. Classification of the Sacred Sites

Types of Approach	Types of Sacred Sites
Ecosystem level	
	natural, artificial

	terrestrial, peninsular, island, marine
	landscape- tundra, forest, forested tundra
	Morphological elements in the landscape (rivers, hills, springs)
Historical date	
	before historical records, (BC archaeological sites)
	Christian time and written history (AC)
	Connected to registered historical events (since colonization)
Indigenous classification	
	Gender (feminine, masculine)
	Scale (individual, family, clan, national, multi-ethnic)
	Genealogy (connected to the ethnic group origin, gods, spirits, cosmogony, ancestors)
	Functional (rituals, sacrifices, etc.)
	Time cycle (seasonal, annual, semi-annual, 3-7 –years cycle)

Other characteristics and relevant classifications of the sacred sites are to be specified depending on locality (for example, various ethnic groups have different sacred sites, even definitions could vary significantly).

The reliable information on sacred sites and their biological and cultural values has been obtained from the indigenous peoples during the second above mentioned project. Questionnaire for the survey has been developed by the CAFF and RAIPON experts. Regional researchers with involved assistants from indigenous communities carried out surveys among the elders, the fishermen, the reindeer herders and the hunters in order to identify sacred sites in the model areas. The information received in interviews is recorded in questionnaires, collected in two pilot regions- Yamal-Nenets autonomous okrug in the North Siberia and Koryak autonomous okrug in the Kamchatka Peninsula.

There were conducted 70 interviews with the indigenous elders in the Tazovsky district of Yamal-Nenetz Autonomous Okrug. There were **263** sacred sites identified, described,

and mapped. All sacred sites were registered and documented. Ten selected sacred sites were described in detail. On implementing project in Koryak Autonomous Okrug, the interviews were conducted in three villages of Oloyutorsky district: Tilichiki, Hailino, and Sredniye Pahachi. There were 30 people interviewed. There were **84** sacred sites described and identified on the map. Ten selected sacred sites were described in detail. All questionnaires are registered in the RAIPON office and could be used in the further research on the request. Identified and described sacred sites have been mapped and Sacred Sites Inventory List compiled.

Although the disclosure of the information on sacred sites sometimes creates problems for indigenous people, this knowledge should be protected, as all groups of society could enjoy both natural and cultural values of the indigenous lands in the future. Ethno-ecological assessment (in Russian – "expertiza") is an important instrument for the indigenous communities to prevent the environmental, social and cultural threats created by the investment projects in the traditional land use areas. It can be organized on request of the local communities and in accordance with the Federal Law on the Territories of the Traditional Land Use of the Indigenous Peoples of the North, Siberia and Far East of Russian Federation (2001). This Law has a provision enabling the use of the traditions of the indigenous people (customary seasonal moratorium or restrictions on hunting and fishery activities, the co-management of natural resources, etc) in determination of the regime of different activities within the territories of the traditional land use. We believe that one of the tasks of Russian biosphere reserves within UN Decade on Education for Sustainable Development (DESD) to teach local and particularly indigenous peoples how to use this Law for defending their rights for better life without deterioration of environment.

In addition to two above projects in Russian Arctic, which made significant contribution to the study of sacred sites and their role in conservation of biodiversity of this unique region, and besides the paper by P. D. Gunin et al. on sacred sites in Baikal Lake basin presented during the first day of EABRN-10 meeting we would like to call attention to the monograph "SACRED SITES IN THE BARGUZIN VALLEY". It was published in 2006 by Dr. B. Ts. Gomboev, prominent explorer of this area, which is important part of Baikal Lake basin. Population in this valley consists either of Christians, Muslims, and Buddhists or of traditional pagan believers. In the latter religion the cult of sacred sites is of particular importance, as it is an essential part of the local cultural and spiritual tradition. We believe that results obtained in the Barguzin valley could be useful (after

some further elaboration) for application in other EABRN country members with the diverse ethnic and confessional composition.

27-30 June 2007, in Ulan-Ude, a capital of Buryat Republic there was held the International conference on transboundary strictly protected natural territories. In the Proceedings of this Conference special attention has been given to sacred sites. It is worth to mention at least such papers as "NATURAL SACRED AND MAGIC PLACES BAIKAL AS OBJECTS OF ESPECIALLY PROTECTED NATURAL TERRITORIES" (by A. B. Imethenov, pp. 8-10); "SACRAL SPACE OF LOCAL COMMUNITIES IN THE ORGANIZATION CONDITIONS OF ESPECIALLY PROTECTED NATURAL TERRITORIES" (by V. V. Kuklina, O. A. Shaglanova, pp. 171-175); "LEGAL ASPECTS OF IDENTIFICATION AND PROTECTION OF THE WORSHIP PLACES" (by S. G. Shaphaev, pp. 199-204). In the resolution of this Conference there are some recommendations concerning transboundary protected areas along frontier between Russia and Mongolia (Baikal - Hubsugul, Sokhonda – Onon-Balji, Ubsunur Depression). Implementation of these recommendations and creating transboundary protected areas could be the important mechanism for sharing of knowledge and joint efforts for conservation of sacred sites and biodiversity, in general.

In this connection one more important area for transboundary cooperation in protecting sacred sites should be mentioned – it is the Altai Mountains. At the Russian territory (Altai-Sayan ecoregion) within the International project on Millennium ecosystem assessment (MEA) there was conducted (with active participation of WWF-Russia) a special survey and some recommendations on integration of scientific and local knowledge for management of different types of ecosystems were elaborated. Since in EABRN region there are not only mountains but also arid areas occupy the vast territory recommendations of the UNESCO-MAB International workshop on Traditional Knowledge and Modern Technology for the Sustainable Management of Dryland Ecosystems (Elista, Republic of Kalmykia, 2004) could be also mentioned. Accordingly it is our pleasure to present copies of the Proceedings of this International workshop to each of EABRN delegations. Results of this conference could be treated as some input in the large project initiated by FAO and UNDP and supported by GEF "Globally-Important Ingenious Agricultural Heritage Systems Project, GIAHS".

In conclusion we would like to express our gratitude to Beijing UNESCO office and Mongolian MAB Committee for this important initiative to devote the EABRN-10

meeting to protection of sacred natural sites which are really important for biodiversity conservation. We are sure that results of this meeting will be good contribution to Agenda 21: A Blueprint for Action for Global Sustainable Development into the 21st Century, which was endorsed in Rio de Janeiro (1992) and some chapters of which underline how it is important to recognise and strengthen the role of indigenous people and their communities in the conservation of environment and sustainable development**.** Sacred sites could be considered as the phenomena of natural and cultural heritage and according to the World Heritage Convention some measures for their conservation should be arranged in all countries signed this Convention. Some practical advices could be found in the UNESCO/IUCN Working Guidelines for the conservation and management of Sacred Natural Sites (please see Proceedings of the Tokyo Symposium, 30 May – 2 June 2005, UNESCO-MAB publishing, Paris 2006) in which special attention is given to the role of sacred natural sites and cultural landscapes. In Europe cultural landscapes have received additional protection under the European Landscape Convention which was opened for signature in Florence, Italy, on 20 October 2000 in the framework of the Council of Europe Campaign "Europe, a common heritage". Some more details about this Convention could be found at http://www.coe.int/EuropeanLandscapeConvention**.** In Eastern Asia there are many cultural landscapes and maybe it is right time that EABRN members will initiate in their own countries some activities for preparing the similar landscape convention for Eastern Asia.

One more document which could be also a good example for EABRN region was prepared in Central Asia. It is "The Framework Convention on Environmental Protection for Sustainable Development in Central Asia" which was opened for signing during the meeting of Ministers of the Environment of the Central Asian States (Ashghabad, March, 2006). It is absolutely obvious that sustainable development is impossible without protection of natural and cultural landscapes which are forming our environment. Historically it so happened that 15 biosphere reserves in the Asian part of Russia have been established at the base of the State natural reserves. They have specific tasks and according to our survey they didn't pay yet necessary attention to study of cultural landscapes and sacred sites and also to preparing recommendations for sustainable development which have to combine scientific and traditional knowledge. We very much hope that results of EABRN-10 meeting will give necessary stimulus in promoting such studies and conservation of cultural landscapes and sacred sites.

Goletz Sokhondo as an Object of Cultural and Natural Heritage

V. I. Yashnov, E. E. Malkov

The isolated massifs of goltsy (alpine tundra belt above the timberline) are very characteristic for northern Khentei. They are unique on their physical features and have no analogues in Siberia: plain bare mountain tops; huge terraces; expressed cirques and kars, where usually there are sources of the rivers or mountain lakes. One of the most outstanding goletz is Sokhondo (2500 m above sea level).

From time immemorial at its piedmont plain there lived people and archeological finds belonging to the Stone Age are known. Flag-stones burial grounds since III-V centuries B.C. are everywhere located in the forest-steppe zone adjoining Sokhondo. Cattlemen-nomads preferred to occupy pastures in the immediate proximity to the goletz which provided water to them.

Representatives of various peoples and cultures lived in vicinities of Sokhondo. Each of them left the memory, of what stone spearheads of arrows and scrapers on places of various settlements in piedmont area, flag-stones burial grounds; places for rites of shamans; Suburgans (Buddhist Stupas) and Ovoos; winter quarters and settlements testify.

Local residents (Buryats, Khamnegans, and Evenks) considered Sokhondo in XVII-XVIII centuries as a dwelling of terrible spirit which «strikes thunder-storms and creates lightning». In places of shaman ceremonies and worships to terrible spirits of the Nature Buddhist Datsans (for example, Semiozersky and Byrtsinsky), Dugans, Suburgans and Ovoos have been built at feet of Sokhondo. As formerly, Sokhondo was considered as the stronghold of a diversity combining throughout an insignificant territory all variety of landscapes - from steppe to tundra.

Long time about Sokhondo hidden in a secluded corner of the Eastern Siberia, the educated world didn't know anything. And only during the epoch of the academic expeditions, in particular P. S. Pallas's expeditions (XVIII century), the ascension on top of mountain has been made and then data about the uniqueness of the landscapes, animal and vegetation worlds of Sokhondo became widely known (some materials are stored in the British and St.-Petersburg museums). Since then many ascensions to Sokhondo with the scientific purposes have been made. During the Soviet time Sokhondo and its vicinities were considered as a sable reserve. Besides that minerals (gold and tin) found everywhere in Sokhondo's vicinities have drawn an attention of industrialists.

Only at the beginning of the 70s decade (XX century) the attention to the question on necessity of creating especially protected area around Sokhondo for conservation of its unique diverse nature on the junction of Onon steppes and the Siberian taiga has been brought. In 1973 the Sokhondinsky State Reserve was established and in 1984 UNESCO\MAB endorsed it as the biosphere reserve. Starting from 2000 we have close cooperation with the neighboring protected areas, the Khan-Khenteisky reserve and Onon-Baldzhinsky Park in Mongolia. In 2006 by the joint decision of two parties a question on creating the transboundary especially protected territory between Russia and Mongolia was raised. It will unite Sokhondinsky biosphere reserve, a regional sanctuary «Mountain steppe», created on the border, and Onon-Baldzhinsky national park with staff of which systematic research, ecological education and nature protection activities are jointly conducted. We hope and will be grateful if for the sake of conservation of unique landscapes of Sokhondo and numerous sacred sites in its vicinities the EABRN-10 meeting's participants will support this proposal.

VI

FOLLOW-UP & FUTURE

- Report on the 19th MAB ICC Session and Bureau's Meeting
- Report from the EABRN Ad-hoc Committee Meeting and EABRN Work Plan for 2008-2009
- SACAM-The Regional Network for the South and Central Asia
- Experience of the Exchange Programme between MAB ROK and Mongolia
- Jeju Initiatives on Insular Biosphere Reserves

Report on the 19th MAB ICC Session and Bureau's meeting

Valery M. Neronov

Vice-President of ICC MAB/UNESCO, Deputy Chair of Russian MAB Committee

Abstract

The nineteenth session of the ICC MAB was held at UNESCO Headquarters in Paris from 23 to 27 October 2006. Among members of the ICC elected by the UNESCO General Conference there were delegates from three EABRN countries: Democratic People's Republic of Korea, Republic of Korea and Russian Federation. In addition, observers from China and Japan were also present. It is important to highlight some of the decisions which are significant for further implementation within EABRN. The full text of the Session's report is available on the MAB Net at:

http://www.unesco.org/mab/icc/icc19th.shtml

The Council session was opened by Mr. Gonzalo Halffter of Mexico, the outgoing Chairperson of the MAB-ICC who invited Mr. Natarajan Ishwaran, Director of the Division of Ecological and Earth Sciences to deliver his opening address. Mr. Ishwaran warmly welcomed the delegates on behalf of the Director-General, Mr. Koïchiro Matsuura. He informed the Council that the Director-General would deliver a welcome address on Tuesday 24 October, during a special ceremony honored by the presence of Ms Cristina Narbona Ruiz, Minister of Environment of Spain and Mr. Musa Bin Jaafar Bin Hassan, President of the General Conference.

Mr. Gonzalo Halffter welcomed the new and the former Council Members as well as the observers and representatives from international organizations. He reported to the Council on the decisions of the last two Bureau meetings, particularly on the nomination of new biosphere reserves and the periodic reviews of existing biosphere reserves. He

informed that 60 proposals had been received since the last ICC meeting in October 2004. During this period, four (4) countries had established biosphere reserves for the first time, namely: Federated States of Micronesia, Lebanon, Palau and Turkey. He also mentioned the designation of a new transboundary biosphere reserve (TBR) in Africa, Delta du Senegal between Mauritania and Senegal. He expressed his high satisfaction on the tribute given to Michel Batisse, with the creation of the Michel Batisse Award for biosphere reserve management, following the decision of the last Council meeting.

The importance of the World Network of Biosphere Reserves (WNBR) as a reference and a unique tool in the international arena was also stressed by Mr. Halffter. He highlighted the fact that the WNBR was hosted in UNESCO and thus was not only a protected area network but also a unique network linking science and education, where research and environmental education were key elements. In his view, no other UN agency was better suited to coordinate the work of this unique tool than UNESCO. During the UN Decade of Education for Sustainable Development (UNDESD), many countries were using biosphere reserves as demonstration sites, bringing new ideas and insights that should be better shared and discussed.

The Council elected the following officers to the Bureau of the MAB Council: Chairperson - Mr. Thomas Elmqvist (Sweden); vice-chairpersons – Mr. Pedro Araya (Chile), Mr. Valery Neronov (Russian Federation), Mr. Nguyen Hoang Tri (Viet Nam), Ms. Salwa Mansour Abdelhameed (Sudan) and Mr. Zerihun Woldu (Ethiopia), Rapporteur. Upon his election as Chair of the 19th session of the MAB ICC, Mr. Elmqvist shared his vision about the future of the MAB Programme, emphasizing better sharing of the lessons learned in WNBR and making the Network more visible on global agreements at the international level. He also mentioned the importance of linking science and education, especially as regards the DESD. In particular he thanked the Delegate of Austria for important contributions to EuroMAB and expressed the hope that continuing collaboration of MAB-Austria during his tenure as Chair.

According to the adopted agenda of the Council Session the following reports and items were presented and discussed:

1 Report of the Secretary on Programmes and Activities since MAB-ICC-18

In this report Mr. Ishwaran underlined the importance of networking at the national, sub-regional and regional levels as well as networking around specific themes, raising the question of how the activities of these networks could be used as the main drivers of the MAB Programme actions and activities. He emphasized the importance of enhancing the cooperation and communication processes between the MAB networks as well as with other existing networks through a better use of information and communication technologies and through building strategic partnerships. The Secretary referred to several major internal processes that would impact the future of the MAB Programme and the work of biosphere reserves. These included: the overall UN reform to meeting global targets; the UNESCO planning and programming processes such as the next Medium Term Strategy (C/5, 2008-2013) and the Biennial Programme and Budget (2008-2009) both to be adopted at the 34th General Conference in October-November 2007. The Secretary recalled that the main priority for the natural science sector was water and ecosystems. Concerning the work on ecosystems, the Secretary reported on some key past events, including the International Conference on "The Future of Drylands", which was held in June 2006 in Tunisia; the Ecological Society of America event in January 2006 (Merida, Mexico); the International Conference on "Biodiversity: Science and Governance", which was held in Paris under the high patronage of Mr. Jacques Chirac, President of the Republic of France in January 2005.

As regards biosphere reserves, the Secretary mentioned that the circular letter sent to all MAB National Committees in order to highlight experiences and activities related to using biosphere reserves as learning laboratories during the DESD, with targeted partnerships and with strong support by the countries. He highlighted the need for biosphere reserves to become sites for generating knowledge through evidence-based research under different contexts, linking science, conservation and development. Concerning capacity building, the Secretary highlighted the work implemented in Africa, with special relationships with NEPAD (New Partnership for Africa's Development), COMIFAC (Commission in charge of Central Africa Forests) and RAPAC (Network of Central African Protected Areas). In particular, he mentioned the work of the Regional Postgraduate School on Integrated Management of Tropical

Forests and Territories (ERAIFT) in Kinshasa (Democratic Republic of the Congo) as well as the possibility of adapting and transferring the ERAIFT experience to other sub-regions of Africa and regions of the World. He mentioned the UNEP-GEF regional project for six West African biosphere reserves and the establishment of the UNESCO Chair on South-South Co-operation for Sustainable Development at the University of Belém, Brazil. The Secretary informed the Council about a MAB/IOC initiative on spatial planning in coastal and marine ecosystems, with a meeting to be held in November 2007 and reported on the "Humanity and the Biosphere" Seminar, which had been held in September 2006 in Paris and on opportunities to follow up on the seminar outcomes during the International Year of Planet Earth (2008). Finally, the Secretary concluded by pointing out that for the last two years there had been many internal changes in UNESCO and that the importance of MAB was acknowledged. Still, more challenges were ahead within the context of the panel review of the sciences sectors, the preparation of the C/4 and C/5 and other associated processes. He indicated that 2008-2013 would be a crucial period for better rationalizing the programme structure, regional and thematic networks as well as the working methods and modalities, and cooperating with organizations and institutions for mutual benefits and generating direct and tangible benefits to Member States.

During the short debate that took place after presenting this report, the following issues were raised:

- The need for increasing the visibility and the efficiency of WNBR, as well as increasing commitments and support from the governments;
- The need to strengthen the role of biosphere reserves in linking conservation and development under different contexts and using them as interdisciplinary and intersectoral opportunities for sustainable development and not regard development initiatives as threats, and the possibility to elaborate guidelines at national, sub-regional and regional levels.
- The importance of building dialogue and coordination among the different institutions in a country dealing with conservation, development and research issues, taking into account institutional changes since the creation of the MAB Programme, such as the creation of ministries for environment and creating opportunities for

building bridges with decision-makers;

- The importance of using ERAIFT as a model for other regions of the MAB Programme;
- The importance of integrated studies to address the issues related to marine and coastal ecosystems and the management of marine areas;
- The need for building capacity for information systems and for periodic review processes and the importance of regional partnerships;
- The need to explore organization of forums dedicated to the future of humanity-biosphere relations.

2 Presentation of National Reports and Regional Networks

A number of Council Members presented written or oral reports on major activities carried out since the eighteenth session of the MAB Council. Among them it is necessary to mention reports of Democratic People's Republic of Korea, Republic of Korea, Russian Federation and China. In the following discussion a number of delegates raised the following issues:

- The increasing importance of transboundary cooperation, including TBRs in WNBR. Several countries reported on ongoing and planned transboundary cooperation, through thematic networks and ecological corridors and networks, as well as regional workshops.
- The need to increase the role of biosphere reserves as tools for coping and adapting to changes, including climate and socio-economic changes, as well as learning laboratories for implementing the ecosystem approach;
- The increasing importance of urban and peri-urban issues, as well as landscape planning for biosphere reserves, including in agricultural areas;
- The importance of finding ways to increase the commitments of governments in supporting biosphere reserves. Several countries mentioned the need to secure initial funding as well as to increase the visibility and the sharing of their added value as education and demonstration sites for sustainable development;
- The relevance of biosphere reserves concerning education for sustainable development, including UNESCO and Ecotechnie Chairs and the need to explore linkages with the Millennium Development Goals (MDGs), such as MDG 2 that focuses on the universal education target;

- The complementarities of the World Heritage Sites, Biosphere Reserves and Ramsar sites and the need to better foster cooperation between these tools at the international level;
- The opportunity of using the celebration of the 2008 Polar Year to raise environmental awareness on climate changes and to use concerned biosphere reserves as learning sites;
- The importance of networking and sharing experience through regional networks, countries, site-visit exchanges, South-South cooperation and translation of key information and educational documents such as the desertification education kit.

3 Special Session with the Minister of Environment of the Kingdom of Spain, the Director-General of UNESCO and the President of the General Conference

After welcoming words from the Chair of the MAB International Coordinating Council, the President of the General Conference, Mr. Musa Bin Jaafar Bin Hassan delivered an introductory address to the council. He highlighted the challenges of sustainable development and the need to implement better practices, with minimal costs for preserving the environment. He recalled the Millennium Ecosystem Assessment (MA), which highlighted biodiversity erosion, and the irreversible effects and impacts of climate change on ecosystems and resources such as freshwater, fisheries and forests, and on fauna and flora species. The President of the General Conference stressed that there was still time to act, resources to preserve and to sustainably use, that sufficient knowledge was available and what was needed was political will and commitment. He also acknowledged the work and long-time relationships of UNESCO with the environment agenda, especially as regards prevention of pollution and ecosystem management. He concluded by expressing his confidence in the fact that the MAB Programme and its WNBR would contribute to analyzing the conditions for implementing sustainable development and that the Council discussions would ensure sharing of knowledge for building a dialogue and facilitating decision-making processes for biodiversity management and conservation.

Mr. Koïchiro Matsuura, Director-General of UNESCO, began his address to the Council by paying tribute to Spain's active and longstanding support of the MAB Programme, in

particular through the work of the IberoMAB Network of biosphere reserves. He indicated that many things were to be learned from Spain's experience. The Director-General expressed his thanks to all the participants and observers in the meeting. He indicated that such widespread participation gave testimony to the continued importance of the MAB Programme, 35 years after its creation. He recalled that there were now 482 biosphere reserves worldwide in 102 countries and those 29 nominations had been received this year for the Bureau's examination, and that these figures were eloquent of the MAB Programme's success. He highlighted its innovative approach since its launch in 1971, promoting interdisciplinary and integrated management of natural ecosystems, and indicated that such an approach had anticipated much of the current thinking on sustainable development. He acknowledged the role of UNESCO's biosphere reserves in establishing linkages between conservation and development, between science and policy, and between cultural and biological diversity, and that this integration was essential to achieving human and environmental sustainability. The 1995 Seville World Congress on Biosphere Reserves and the Seville Strategy for Biosphere Reserves, adopted by UNESCO's General Conference had recognized the biosphere reserves as ideal laboratories for sustainable development. The Director-General stressed three further themes to be of particular importance to the future of the MAB programme:

- The knowledge built up through the work of the MAB Programme on a wide variety of ecosystems: islands and costal areas, mountains, wetlands, urban systems, tropical forests and drylands should serve to provide effective responses to global challenges, including the mitigation of and adaptation to climate change, and the achievement of environmental sustainability.
- The role of biosphere reserves as key learning- and training sites for the UNDESD should be strengthen in making a special contribution to raising awareness of the youth to issues of sustainable development and in building scientific capacity in higher education. UNESCO's cooperative arrangement was developed with the Stockholm University from Sweden on ecosystem management for human wellbeing, using biosphere reserves as pilot and demonstration sites for the next twelve years. He mentioned the importance of ERAIFT in Kinshasa as a centre for building scientific capacity in the sustainable management of tropical forests.
- The role of the MAB regional and sub-regional networks as powerful tools for

South-South and triangular North-South-South cooperation as well as the involvement of UNESCO in the NEPAD Environment Initiative was also highlighted.

Ms. Narbona, Minister of Environment of the Kingdom of Spain has informed the Council of the Spanish Government's commitment in contributing to the UN peace and progress challenges, and to sustainable development. She indicated that sustainable development needed to involve more citizens, provide growth as well as fairness and equity. She stressed that it had to be based on knowledge and the recognition of interactions between human beings and the biosphere. She indicated that WNBR, recognized at the UN level, was a unique laboratory at the international level to demonstrate that sustainable development was not utopia but feasible, and urgently needed. Combating poverty and social inequalities, and halting ecosystem degradation should be both main targets, to be attained in using existing scientific knowledge and available technologies. The importance of biosphere reserves as living examples of the integration of conservation and diversity, and for increasing environmental awareness of citizens was stressed. In this regard, she mentioned the commitment of Spain to the Aarhus Convention, as well as several initiatives for holding institutions damaging the environment responsible for their acts. Ms Narbona indicated that the Spanish network of biosphere reserve was representing 8% of WNBR and that several proposals were being examined, as well as a TBR proposal with Morocco. She reported on the recent congress of Spanish biosphere reserves in the Canary Islands, which had put tools in place for assessing the efficiency of the sites in achieving their objectives and assessing good governance. Finally she recalled the international commitment of Spain, notably through the IberoMAB network and informed the Council that Spain was offering to host the Third World Congress of Biosphere Reserves, to be held in Madrid in 2008 as well as the 20th session of the MAB Council. This congress would evaluate the work undertaken since 1995 and suggest new perspectives and tools.

The Secretary of the MAB Programme thanked Ms Cristina Narbona for her strong support to the MAB Programme and WNBR, and for her generous offer to host the Third World Congress on Biosphere Reserves. He also thanked the Director-General

and President of the General Conference for their commitment and support to the MAB Programme. He indicated that 2008 would be the first year of UNESCO's Medium Term Strategy for 2008-2013 as well as the International Year of Planet Earth. Hence a World Congress on Biosphere Reserves in early 2008 would be an apt way to launch both these important UNESCO commitments. He stressed that the recommendations of the panels on biosphere reserves would contribute to structuring the World Congress agenda. He ended by reiterating the strong willingness of the Secretariat to strengthen the role of biosphere reserves as learning laboratories for sustainable development.

4 Regional Networks

Several delegates reported on regional networks namely AfriMAB, ArabMAB, EABRN and IberoMAB. The importance of regional meetings which had proven very helpful for sharing experience, practices, and ideas on ecosystem and thematic issues, including periodic review processes, legal and institutional aspects, conflict management, community involvement, ecotourism and quality economies was highlighted. These meetings had brought together researchers, MAB National Committees as well as biosphere reserve managers and stakeholders of the civil society. The delegates also mentioned a large number of publications, including atlases, maps, and audiovisual materials, that had been produced. These reports are found in the MABNet at the following address: http://www.unesco.org/mab/icc/icc19th.shtml and I would like to ask the EABRN meeting's participants to visit this website at any suitable time.

5 MAB Ecosystems Themes

The MAB Secretariat introduced document SC-06/CONF.202/5, which provided information on progress achieved with regard to these themes since the eighteenth session of the MAB-ICC.

5.6 Mountains

The Council took note of the accomplishments of the project "Global Change in Mountain Regions" (GLOCHAMORE), which lasted from November 2003 to October 2005 thanks to funding provided by the European Commission, UNESCO's MAB and IHP Programmes and the Mountain Research Initiative (MRI). Five (5) international

workshops had been held in Austria, Italy, Spain and Switzerland as well as a large international scientific conference in Perth (United Kingdom) in October 2005. Using about 25 mountain biosphere reserves in all world regions as testing sites, biosphere reserve managers and scientists worked out the *GLOCHAMORE Research Strategy* (available in hard copy as well as in PDF format at http://www.unesco.org/mab/ecosyst/mountains/gcmbr.shtml) to study and monitor the impact of global change on mountain environments and on the socio-economic conditions of mountain dwellers. The scientific conference had adopted the *Perth Declaration* which stated the expressed wish of mountain biosphere reserve managers and the scientific community to continue collaboration on global change issues focusing on monitoring, process studies and modeling, thus providing scientific advice to biosphere reserve managers on issues such as species composition and diversity, glaciers, regional climate, land use and land cover, freshwater, hazards, grazing, tourism, conflict mitigation and governance in the light of global change. The MAB Council strongly endorsed the continuation of GLOCHAMORE into a second phase that would foster in particular a regional approach to test the GLOCHAMORE Research Strategy at the site-level of biosphere reserves and which would focus on adaptation strategies to cope with global change in the more distant future. Delegates from Egypt and Canada suggested including also study sites that were not yet biosphere reserves (e.g. Saint Catherine in Egypt, and arctic/tundra sites in the Yukon and Alaskan areas) in order to further expand the geographical scope of GLOCHAMORE. There are no doubts that some useful additions to this network could be proposed within EABRN as well.

The MAB Council took note of the results of the international symposium on "Cultural and Biological Diversity - The Role of Sacred Natural Sites and Cultural Landscapes" that was organized by UNESCO in Tokyo (Japan) from 30 May to 2 June 2005 in collaboration with UNU, FAO, CBD, UNPFII (United Nations Permanent Forum on Indigenous Issues) and IUCN. The symposium's "Tokyo Declaration" invited international organizations to continue collaboration for safeguarding biological and cultural diversity contained in sacred natural sites and cultural landscapes, and invited governments and protected area managers to consider the UNESCO/IUCN working guidelines for the conservation and management of sacred natural sites. The Council

also took note that studies on this theme would continue and that a future international workshop might take place, possibly at the time of the World Heritage Committee meeting scheduled for 2007 in New Zealand. The 10th meeting of EABRN in Ulaanbaatar is one more important step to implementing the Tokyo Declaration.

5.7 Drylands

The Council welcomed progress achieved within the UNESCO/MAB-UNEP/GEF Regional Project entitled "Building Scientific and Technical Capacity for Effective Management and Sustainable Use of Biodiversity in Dryland Biosphere Reserves in West Africa", which had started in July 2004 for a four year-period. The six countries involved were carrying out applied research, capacity building and conflict prevention training activities in the six participating biosphere reserves (Pendjari (Bénin), Mare aux Hippopotames (Burkina Faso), Comoé (Côte d'Ivoire), Boucle du Baoulé (Mali), "W" (Niger) and Niokolo Koba (Senegal). Twelve Ph.D. and sixteen Master students had been recruited to study interactions between human uses and biodiversity in the six biosphere reserves, based on demonstration sites on sustainable use activities in each country. It was noted also that the MAB Secretariat had continued its efforts concerning environmental education on drylands. The UNESCO/UNCCD "Education Kit on Desertification" now existed in nine language versions. In addition, the MAB Secretariat was working on a new "Teaching Resource Kit for Dryland Countries" thanks to funding provided by the Flemish Government of Belgium. A delegate of Egypt volunteered to translate the new kit into Arabic and to collaborate with the UNESCO-MAB Secretariat in testing and implementing the kit in Egyptian communities. The Council also welcomed progress achieved in the implementation of the inter-regional project "Sustainable Management of Marginal Drylands (SUMAMAD)" that promoted scientific collaboration among nine countries on dryland management (Belgium, China, Egypt, Islamic Republic of Iran, Jordan, Pakistan, Syria, Tunisia and Uzbekistan). Sponsored by the Flemish Government of Belgium, UNESCO, UNU, ICARDA and the Chinese Academy of Sciences, the research project comprised several dryland biosphere reserves and study sites of research institutions. It will be useful if during our meeting some more information on the further development of this project important for other country-members of EABRN will be presented.

We shall also discuss the recommendations of the International scientific conference on "The Future of Drylands", which was held in Tunis from 19 to 21 June 2006 within the framework of the 2006 International Year of Deserts and Desertification. Over 400 participants from all world regions took part in this conference and a "Declaration on Research Priorities to Promote Sustainable Development in Drylands" (the *Tunis Declaration*) was adopted. The conference identified the following themes as priority issues in drylands research:

- Interdependence and conservation of cultural and biological diversity;
- Integrated management of water resources in the context of a looming water crisis;
- Assessing and forecasting dryland ecosystem dynamics in order to formulate adaptation strategies in the context of global change and to alleviate poverty so as to achieve the MDGs;
- Agriculture and pastoralism as opportunities for sustainable land use;
- Coping with and management of natural and man-made disasters;
- Formulating and implementing scenarios and policy options for good governance in the context of global change;
- Identifying viable dryland livelihoods and policy options for the benefit of dryland dwellers (such as ecotourism);
- Educating for sustainable development and knowledge sharing;
- Reversing environmental degradation and promoting rehabilitation;
- Costs related to *inaction* in the field of land degradation;
- Renewable energies suitable for dryland development;
- Evaluation of dryland ecosystem services and their trade-offs.

The MAB Council members decided that MAB continue its dryland and desertification studies, by including also steppe areas such as occurring in the Eurasian steppe region. Moreover, the Council felt that MAB should also address policy-relevant questions such as the interrelated complex issue of poverty-desertification-migration in collaboration with the United Nations Convention to Combat Desertification (UNCCD).

5.8 Wetlands

The Secretary provided up-to-date information on the Japanese Funds-in-Trust for Capacity Building of Human Resources Project for Establishing the West Polesie Transboundary Biosphere Reserve and a Regional Ecological Network in Polesie between Belarus, Poland and Ukraine. This project had started in May 2006 and should end in April 2008. The establishment of the ecological corridor in the Polesie sub-region would be achieved with other ongoing UNDP/GEF projects in the region. The delegate from the Russian Federation commended the project, at the same time emphasizing the importance of conserving East Polesie, which included some areas of the Russian Federation. He also expressed his support for the proposal by the Czech Republic to hold an international course on ecohydrological approaches for the wise use, restoration, management and conservation of wetlands. The representatives of France, Egypt and China also commented on activities being conducted in their respective countries or regions on wetlands. This type of ecosystems is widely distributed within EABRN region and the improvement of their management for biodiversity conservation and sustainable use of biological resources should be supported by the international funds and UNESCO/MAB.

5.9 Marine and Coastal

Within this sub-theme the Republic of Korea mentioned Jeju Province-UNESCO Fund-in-Trust project - "the Jeju Initiative" - for promoting the nomination of marine and coastal biosphere reserves in the South-East/Pacific Asian region, which encompassed issues related to quality economies, reinforcement of the institutional and individual capacities of local governments and non-governmental organizations, follow-up to relevant initiatives undertaken under ASPACO, as well as the provision of useful case studies to be made available to the rest of WNBR. During this presentation there was made a reference to the Marine Peace Park initiative by the Maritime Institute of the Republic of Korea. This initiative can contribute to building international cooperation between in marine ecosystems of the Korean peninsula for the conservation and sustainable development of biological resources. This transboundary initiative of great potential and importance for the sustainable livelihoods of local communities inhabiting the area (which is an important fishing ground) would be pursued on the basis of a plan

developed by an International Advisory Committee, in which UNESCO was taking part.

The Council noted that coordination among marine and coastal biosphere reserves was crucial to the success of the MAB Programme and that current cooperation among such biosphere reserves was not efficient enough. The Council noted the importance for coordination among marine and coastal biosphere reserves to be associated with relevant networks of marine research stations, building upon, but also going beyond, the successful experience of cooperation between the EuroMAB network and MARS, and also to establish linkages with networks such as the network of North America Marine Laboratories (NAML), in the Pacific and in other regions, in cooperation with appropriate partners such as IOC. The Council asked the MAB Bureau and the Secretariat to work out a mechanism to ensure better coordination among marine biosphere reserves and networks of marine research stations.

The Secretariat gave also a brief presentation on the "New Biosphere Reserves in the Pacific", such as in the Federated States of Micronesia (FSM) and Palau, as well as on ongoing projects again in FSM, Papua New Guinea, Samoa and Tonga. All these nominations were the direct outcome of the ASPACO project, financed by the Government of Japan, and implemented by MAB between 2001 and 2004. Delegates welcomed particularly the results of ASPACO and encouraged the Secretariat to seek additional funding for ASPACO.

5.10 Tropical Forests

The Secretariat reported to the Council about two international meetings that had taken place in 2004 and 2005 respectively as MAB activities in the field of tropical forests. They were the "International Symposium on Tropical Forests in a Changing Global Context", organized by UNESCO-MAB and the *Académie Royale des Sciences d'Outre-Mer* (ARSOM), held in Brussels (Belgium) from 8-9 November 2004, and the "First Intergovernmental Meeting on Great Apes and the Great Apes Survival Project (GRASP)", held in Kinshasa (Democratic Republic of the Congo) from 5 to 9 September 2005. The Secretariat then informed the Council about the "International Conference on Humid Tropical Ecosystems: Changes, Challenges and Opportunities",

organized by UNESCO in conjunction with the National Science Foundation and the National MAB Committee of Sri Lanka, to be held in Kandy (Sri Lanka) from 4 to 9 December 2006. Several delegates welcomed the holding in Sri Lanka of the International Conference on Humid Tropical Ecosystems and gave some directives on how to raise the profile of MAB, in particular in the framework of emerging initiatives (climate change and carbon sequestration) which should be capitalized as a new UNESCO-MAB programme on tropical forests using biosphere reserves, including TBRs, as pilot and demonstration sites. The Council gave its backing to the holding of the conference with the aim of strengthening the Secretariat's work on humid tropics during UNESCO's Medium-Term Strategy (2008-2013).

5.11 Urban

In addressing urban ecosystem issues the Secretariat reported on progress in the application of the biosphere reserve concept to urban areas, urban biodiversity conservation and the integration of aquatic habitats in urban water management and associated partnerships with other UNESCO Programmes, NGOs and city administrations. The Chair of the MAB Urban Group, Ms Mirilia Bonnes (Italy), outlined the main recommendations of the MAB Urban Group concerning criteria for urban biosphere reserves contained in document SC-06/CONF.202/INF.6. She stressed that the group felt that it would be difficult to adopt biosphere reserve criteria outside the Seville Strategy, and that it could be beneficial to pursue work to update the Strategy and the Statutory Framework of WNBR to include criteria and implementation indicators for urban areas as biosphere reserves. In introducing document SC-06/CONF.202/INF.7, the representative of the UNESCO Office in New York, emphasized the emerging opportunities for collaboration on urban policy and research between MAB and the Stockholm MISTRA Institute. She identified several avenues for cooperation, including with cities, around the world, interested in urban biosphere applications and sustainability.

In the rich discussion that followed the MAB Urban Group Chair and the UNESCO Secretariat stressed that cooperation was open to all interested cities and MAB Committees. On the issue of urban biosphere reserve guidelines, it was suggested that it would be difficult to produce tailor-made texts targeting urban areas according to their

sizes. The representative of Sweden and the Kristianstad Vattenrike Biosphere Reserve then recalled that they had had interesting experiences in applying the biosphere reserve concept in partnership with the city of Kristianstad with a population of some 30,000 inhabitants -- experiences that they would be pleased to share with all interested partners. The Chair summed up the discussion, emphasizing the need, in line with the general MAB philosophy, to involve urban inhabitants and decision makers also when MAB engages in urban issues. He concluded the item by suggesting that the 2008 Congress in Madrid would constitute a good opportunity to move MAB's urban agenda forward.

6 World Network of Biosphere Reserves: Past, Present and Future

The Secretary introduced the relevant document SC-06/CONF.202/4 and indicated that two items would be reported upon, namely the work on quality economies and the Michel Batisse Award, respectively. He gave an introduction to the three panels presenting key issues for the future of biosphere reserves and suggested that each panel aim to provide three to five key issues that could guide the agenda of the Third World Congress of Biosphere Reserves to be held in Madrid in February 2008.

6.6 Quality Economies

On the issue of quality economies and biosphere reserve labeling, the Secretariat and the Chair of the MAB Task Force on the Development of Quality Economies in Biosphere Reserves (the Task Force), Mr. Engelbert Ruoss, referred to work conducted since the last council session. Several national and regional workshops and seminars (e.g. in Brazil, Egypt, Morocco and Laos) had been held on quality economy topics, including bio-carbon sequestration, ecotourism and agriculture. National pilot studies on labeling and certification were also mentioned, as well as an ongoing Task Force study on these issues, called for by the MAB Bureau. In the discussion that followed, Council participants underlined the importance of the economic dimensions of biosphere reserves and supported the necessity to identify elements of a future work-programme on quality economies. The Council decided to extend the mandate of the Task Force for another four (4) years and results of some new studies could be an interesting topic for the Madrid Congress in 2008.

6.7 Michel Batisse Award

The Secretariat informed the MAB Council that after the setting up of a scheme in memory of Mr. Michel Batisse, described in a MAB Circular Letter (N° 7, October 2005) eleven case studies have been received. In July 2006, during its meeting, the Advisory Committee for Biosphere Reserves had been invited to: a) provide criteria for selecting the winner, including criteria for demonstrating the integration of the three functions of a biosphere reserve, as well as b) recommend the first award winner for 2006 for consideration and approval by the MAB Bureau. Based on these criteria, Ms Birgit Reutz-Hornsteiner from Austria had been recommended for the 2006 Award and this recommendation had been approved by the MAB Bureau members. During the session Ms Birgit Reutz-Hornsteiner presented her case study on "Taking the future in our own hands"… The Biosphere Reserve Grosses Walsertal in Austria – a living model of sustainable regional development with the participation of the local people. Her presentation is available on the MABNET at the following address: http://www.unesco.org/mab/bursaries/mb.shtml

6.8 Panels

The introduction papers and presentations at three panels (*Biodiversity Conservation and Sustainable use; Socio-economic, human and institutional development; Science and knowledge networks for sustainable development)* available at the following MABNET address: **http://www.unesco.org/mab/icc/icc19th.shtml**. Accordingly I believe it will be useful for EABRN meeting participants to study them separately in more detail that it is possible to present in my introduction

In the discussion that followed after concluding the first panel the members of the Council raised several key issues with regard to the theme of the session:

- The efficiency of the current biosphere reserve monitoring programmes;
- The potential of the MAB Programme in promoting the integration of new scientific tools and knowledge in biodiversity monitoring and management;
- The possibility of new types of protected areas – archipelago reserves and ecological corridors taking into account not only alpha but also beta biodiversity;

- The implementation of the ecosystem approach, particularly with regard to wetlands and migrating species habitats;
- The degree to which the MAB Programme and its WNBR reflect the importance of the countryside and/or agricultural biodiversity;
- Addressing issues in low biodiversity areas and their conservation, knowing that in these areas the loss of one or two key species can threaten the entire ecosystem.

Finally, the Chair summarized key points of the discussion as follows:
• Monitoring is very important to ensure sustainable use of biodiversity;
• Coordination with the Ramsar Convention, Convention on Migratory Species and other MEAs is imperative;
• The Ecosystem Approach as a basic strategy is crucial;
• Emphasis on conservation of biodiversity in low-biodiversity areas needs to be addressed;
• Re-thinking and re-interpretation of the biosphere reserve zonation must be supported;
• The significance of contributions of biosphere reserves to appropriate management of resources and ecosystem services needs promotion and demonstration.

At the Panel 2 there were presented four complex issues:
• Can biosphere reserves be used as instruments for sustainable development?
• Are there good ways to facilitate interactions between stakeholders at different levels?
• Is environmental pollution an unavoidable aspect of development? How can a solution be found to environmental pollution?
• How can exchanges among biosphere reserves be used for human and institutional development within the framework of adaptive management?

Several suggestions were made on these points. Emphasis was laid, first of all, on the importance of networks and on the need for them to be strengthened and interlinked. To ensure that such exchanges are productive, however, they must be based on quantitative and qualitative data. In that regard, periodic examinations of biosphere reserves could be very useful, but it was necessary to develop indicators and gather information on reference states so that changes could be better gauged. The Secretary of MAB recalled

that the Bureau had asked the Secretariat to implement a pilot project for that purpose.

At the Panel 3 the presentations and discussions covered the following key points:

• The results of MA and the relevance of MA to biosphere reserves.

• It is essential that biosphere reserves be the platforms for mining, creating and transferring knowledge.

• To further science and knowledge for sustainable development.

• It was also proposed that a framework for long-term ecological and social monitoring and research be established within MAB and WNBR so as to link biosphere reserves with other relevant scientific programmes and institutions such as LTER (Long Term Ecological Research) and the Stockholm Mistra Institute.

• The gaps and differences in visions between policy makers and scientists in many countries remain to be addressed, and communications between scientific communities and policy makers regarding sustainable development need to be enhanced.

• Networking, such as regional and sub-regional networks of MAB (EABRN, IberoMAB, AfriMAB, etc.) are good instruments for knowledge and information sharing, but more needs to be done to strengthen or to vitalize the networks.

• Genetics is a basic building block of biodiversity, but at present there is a lack of global shared information on genetic information and knowledge. Biosphere reserves have not demonstrated clear roles in generating knowledge regarding genetic resources. More cooperation should be explored within the framework of the commitment of States Parties to the CBD.

• A major challenge concerns communication of science at local, national and international levels. The message for conservation and its value/benefits to people and to societies must be made clear and visible, which is not always the case. Scientific knowledge must be translated into narratives that can be digested by the public at large in order to involve the civil society for conservation.

• MAB must actively participate in the UNDESD and efforts are needed not only for schools but also for the general public and a range of target audiences. More teaching kits are needed and UNESCO should use biosphere reserves for biodiversity education.

• There is clear need for better documentation of scientific data in biosphere reserves especially in developing countries. Capacity building is therefore critical – use of ICT is

important but need to take into account limiting conditions in many developing countries.

• The notion of biosphere reserves as learning laboratories for sustainable development should receive full support. In this undertaking, more attention is needed to the use of local and traditional knowledge, which is at times as critical as scientific knowledge and information. Codes of conduct for scientists should be established for the use of biosphere reserves as sustainable development laboratories. The already formulated consultation process of MAB with local communities and partners should be relevant and applied.

• With regard to private sector partnerships for biosphere reserve management ways and means for implicating commercial and industrial partners to long-term commitments benefiting future generations need to be worked out.

• Financial resources remain a major challenge for MAB and biosphere reserves. To address it, cooperation at international level should be put on both South-South and triangular (North-South-South) cooperation, and on building centres of excellence.

• Issues of capacity building in developing countries, public awareness on biosphere reserves, the value of evidence-based approach for ecosystem management, scientific data management and funding were addressed.

As it was mentioned above, the major issues presented and discussed in each panel as well as main recommendations are available on the MABNET at the following address: http://www.unesco.org/mab/icc/icc19th.shtml. So, I have to stop my introduction at this point right here.

7 Results of the MAB-ICC Bureau Meeting

The Bureau had met on several occasions during its 19-th session and had examined 35 proposals in total, of which 29 new proposals (21 from Mexico, and one from a country that submitted its first biosphere reserve nomination, i.e. the Sultanate of Oman), one nomination of a transboundary biosphere reserve (TBR), and five (5) revisions/extensions of existing biosphere reserves). The Council took note of the decisions and recommendations of the Bureau. With 25 additions approved by the Bureau including the first intercontinental biosphere reserve (Morocco/Spain) the World

Network of Biosphere Reserves (WNBR) now consisted of 507 sites in 102 countries. I should mention that at this round there were no new nominations of biosphere reserves from country-members of EABRN. One new Russian BR (Middle Volga integrated BR) was approved by the Bureau but it is situated at the European territory of Russia and will be included into EuroMAB network. The Bureau examined also the recommendations of the Advisory Committee for Biosphere Reserves at its meeting on 5-7 July 2006 concerning fourteen (14) biosphere reserves designated for a period of over ten years. The Bureau endorsed the recommendations and requested that they be transmitted to the Member States concerned for follow-up.

The Council took note of the MAB Young Scientist Award Laureates selected by the MAB Bureau for 2007. It is my pleasure to congratulate three winners representing EABRN region in this hard competition:

Mr. Mingyong CHEN (China) with his project on *"The ecological mechanism of conflict between elephants and humans in Xishuangbanna Biosphere Reserve";*

Ms. Ri UN HYANG (DPR Korea) with her project on *"Case study in Mt Kuwol Biosphere Reserve: Is it possible to extend the core area to the coastal wetland of Mt Kuwol Biosphere Reserve?"*

Mr. Dmitry GORSHKOV (Russian Federation)/ with his project entitled, as *"The beaver – a symbol of cooperation between humans and nature"*

The Council also took a note of the laureates for 2007 benefiting from the Young Scientist Research Grants on Great Apes in Africa. The Bureau decided that the deadline for the submission of applications for the Michel Batisse Award for Biosphere Reserve Management be set two months before the next meeting of the Advisory Committee for Biosphere Reserves.

8 Partnerships

The Secretariat introduced the document SC-06/CONF.202/6 and indicated that emphasis had been given to describe the types of partnerships rather than listing the institutions and other partners with which the Secretariat cooperated on a regular basis. Some ICC Members stressed that partnerships should be reinforced at other levels than that of the MAB Secretariat, so as to expand the number of partners involved in the implementation of the MAB Programme and the approaches followed in executing such partnerships. For example, at the level of the MAB National Committees, special efforts should be made to link up with local partners such as foundations, National Commissions for UNESCO, regional offices, main sectors, governments. SCOPE referred to the excellent ongoing cooperation with UNESCO-MAB. The Secretary provided also some examples of activities being successfully implemented in cooperation with UNESCO programmes and MEAs such as CBD, Ramsar, as well as with IUCN and with other UNESCO Sectors (Culture and Education) and several specific units of these sectors. He also referred to the very fruitful partnerships developed with business sector non-governmental organizations such as WCBSD and ICMM in the context of the on-going Landscape-Level Planning Initiative. He finally referred to ongoing cooperation with ICSU and *Diversitas*. After that presentations were then made by representatives of UNESCO's International Hydrological Programme (IHP), International Geoscience Programme (IGCP) and the IOC, who reported on the excellent cooperation with UNESCO-MAB in their respective areas of competence. Cooperation with the MOST Programme, Ramsar's MetWet as well as the Nile Basin Initiative was also reported upon.

9 Capacity Building

The Council reviewed document SC-06/CONF.202/7 on capacity building presented by the Secretariat, which included the ERAIFT project and the linking opportunities with NEPAD especially in the framework of the implementation of the Bali plan of action on capacity building, adopted by NEPAD/Environment and CMAE (African Ministerial Conference on the Environment). Several delegates expressed their satisfaction about the progress made in the implementation of ERAIFT and approved the initiative of the Secretariat aiming at launching a network of university and research centres in the

framework of the North-South-North cooperation. The Council noted the significant progress in the implementation of the ERAIFT project as MAB's "regional flagship project", and recommended that the project activities in capacity building in the framework of cooperation with NEPAD, and the Medium-Term Strategy of UNESCO (2008-2013) be continued.

The Secretariat introduced the new "UNESCO Chair on South-South Co-operation for Sustainable Development" at the Federal University of Para (UFPA), Belém, Brazil, established on 15 September 2006 in Belém. Prof. Dr Luis Aragon had been appointed Chair holder. Finally, it was mentioned that the UNESCO Chair would organize, in collaboration with MAB, an interregional seminar on tropical forest in the Democratic Republic of the Congo in May 2007.

The Secretariat introduced the UNESCO initiative of working in partnership with space agencies, space research institutions and universities providing access to less developed countries to space technologies for the benefit of UNESCO-inscribed sites. This initiative also aimed to provide Member States with the minimum capacity, both human and infrastructural, in order to take advantage of all the results derived from satellite images.

Several activities were presented including the following new ones:

• In close partnership with the University of Ghent (Belgium), UNESCO had elaborated the map for the biosphere reserves. Countries had been asked to provide comments about this new map. The electronic file could then be sent to the countries wishing to receive it so that they could print as many copies as they needed locally.

• "Taking the pulse of UNESCO tropical World Heritage sites" which was an activity that aimed to assess the state of conservation of tropical forest sites since its date of inscription up to today.

• "Monitoring the Mesoamerican corridor" which aimed to assess conservation and sustainable development for the whole Mesoamerican corridor with the participation of the European Space Agency, UNESCO, all associated Member States, the Commission for Sustainable Development (CSD) and CBD.

10 UN Decade of Education for Sustainable Development (DESD)

The Secretariat introduced the agenda item and related documentation, drawing the attention of delegates to the limited response by MAB National Committees to the 2004 ICC call that biosphere reserves be promoted and used as sites for implementing the UNDESD. France stressed that, despite the lack of response to the circular letter to MAB National Committees, many biosphere reserves were very active in educational activities that were consistent with DESD and that such activities encompassed scientific, cultural and recreational activities. Participative science activities were also organized in biosphere reserves, which involved school pupils visiting biosphere reserves and learning the basics of sciences on the ground. Other similar activities were twinning programmes between schools associated with different biosphere reserve sites. In this regard, the Secretariat was asked to assist in linking up with those schools that were associated with biosphere reserves, so as to promote communication and twining programmes and activities. Canada also supported the participation of schools that take part in UNESCO's Associated Schools Project (ASP) in the Decade; this might need some arrangements, in the fact that the programme activities implemented in the context of ASP did not always automatically coincide with the formal national curricula, although such barriers could be overcome; the involvement of Associate Schools had proven extremely successful. China also added its positive experience in using biosphere reserves for educational purposes, activities that had brought very good results. The Delegate from Egypt proposed cooperation, such as twinning between biosphere reserve schools situated in Europe and those situated in Egypt, taking into account the language barriers, as well as promoting exchanges between urban and rural biosphere reserves. The Delegate from Madagascar mentioned the worldwide programme GLOBE (Global Programme for the Benefit of the Environment) in cooperation with high schools all over the world.

11 Communication and Public Awareness

The Secretariat presented the document SC-06/CONF.202/9 on progress made since the eighteenth session in terms of enhancing the use of Web as a communication tool and primary content-bearer of information related to MAB and biosphere reserve

achievements. The Secretariat referred to some projects that had been implemented in this regard including the launching of the electronic newsletter, development of the biosphere reserve map, and the establishment of community multimedia centres in the framework of the UNESCO-MAB/UNEP-GEF regional programme. The Secretariat pointed out that Web-based template would be used as standards to print and disseminate materials locally with the assistance of UNESCO Offices, National Commissions for UNESCO, MAB National Committees and other partners. In the discussion that followed, the Council encouraged the Secretariat for the presented efforts. It supported the use of the electronic newsletter as a communication tool. The National Committees were invited to assist with the translation and distribution of this newsletter in countries with limited access to Internet. Also, the use of CD-ROMs was suggested for the dissemination of communication materials.

12 UNESCO Medium-Term Strategy (C/4 – 2008-2013) and Programme & Budget (C/5 – 2008-2009). Ecological and Earth Sciences, MAB and WNBR

The Secretary recalled the key processes that would impact the future of the MAB Programme with reference to working document SC-06/CONF.202/10:

• The Director-General's consultations with Member States (via National Commissions, Permanent Delegations, etc.); Decisions and recommendations of the 175th Session of the Executive Board (175EX/PLEN/DR.1) with regard to the Medium Term Strategy (2008-2013) and the Biennial Programme & Budget (2008-2009), both to be adopted at the 34th General Conference.

• Ongoing Expert Panel Review of Natural and Social and Human Sciences Programmes of UNESCO (second phase of the review from October 2006 will focus more on the future).

• UNDESD up to 2014.

The Secretary also informed the members of the Council that in the current draft for the Medium Term Strategy one of the proposed overarching objectives was: mobilizing

science for sustainable development; and that sustainable development was included in the Organization's mission statement together with peace. He invited the Council to provide insights and ideas with respect to the future of MAB especially in relation to the following questions:

1) What future for MAB, given UNESCO's planning and programming emphasis on greater focus of the mission, rationalization and concentration of actions and activities and targeting results to directly benefit local and national stakeholders?
2) How to best use the period leading to the 3rd International Biosphere Reserve Congress and 20th session of the ICC in early 2008 to reinvent and re-align MAB with the emerging UNESCO and UN global agendas?
3) How to better align the work of ICC to have better interactive/iterative relations with UNESCO Executive Board and General Conference sessions?

Taking into account the proposed Strategic Programme Objectives, namely: Sustainable use and management of biological and mineral resources; Combating desertification; Alternative and renewable energy sources; Capacity building for science and technology policy; and Natural disasters, the Council members identified the following issues on which MAB could concentrate in the future:

• combating desertification: Biosphere reserves should be on ground laboratories and models showing how to avoid and react to desertification through developing, demonstrating and implementing preventive measures and rehabilitation actions;
• biodiversity related issues: Biosphere reserves as laboratories and learning and demonstration sites (importance of inventory of biodiversity, and cooperation with the Global Taxonomy Initiative);
• disaster prevention and mitigation;
• exploring linkages between biodiversity and cultural diversity, making connection to the local knowledge and to the benefits for the local communities;
• considering revisiting the 14 original research MAB programmes mainly those dealing with natural resources, drylands, water resources, tropical forests;
• agriculture related issues – in cooperation and collaboration with FAO and its regional commissions;

• energy issues in terms of renewable and alternative energies in the context of the main MAB agenda – integrated land use management;
• addressing not only terrestrial and mineral resources, but also water resources
• Focusing on a smaller number of themes - good science and best practices for biodiversity conservation;
• Climate change and more generally global change issues as the main environmental issues today.

The Council members raised the additional issues with regard to the functioning of the MAB Programme:

• Need for increased support from decision makers;
• Importance of assessing the relationships between scientific programmes, MAB National Committees, practitioners and administrators;
• Synergy between MAB and other programmes must be evaluated and strengthened so as to work more effectively, provide more information, exchange practices and lessons;
• Consider programming and budgeting in a more transparent way;
• India expressed its proposal of hosting workshop on drylands;
• Need for a better interaction between the MAB Programme and the existing International Conventions.

At the final plenary session the Council approved the 19th ICC Session's Report presented by Mr. Zerihun Woldu and supported the proposal made by Ms Cristina Narbona Ruiz, Ministry of Environment of the Kingdom of Spain, on behalf of her country, to host the Third World Congress on Biosphere Reserves, in Madrid (Spain) on 4-9 February 2008, and expressed its warm thanks to the Kingdom of Spain for its kind offer. The Council also approved the holding of the 20th Session of the MAB-ICC in conjunction with the Third World Congress on the same provisional dates.

Below some more information on preparation of the Third World Congress on Biosphere Reserves and the 20th session of ICC MAB is given:

The 2nd Meeting of the Organizing Committee for the preparation of the 3rd World Congress of Biosphere Reserves (Madrid, Spain, 4-9 February 2008)

The first meeting of the Organizing Committee was held in January 2007 in Paris and following its decision the meeting in Stockholm was organised jointly with the Organizing Committee for the Madrid Congress and the MAB Bureau members. It was hosted by the University of Stockholm and by the Swedish Research Council and went over two days, 19-20 June 2007. During this meeting a number of important decisions were taken and they should be implemented during the preparation process and at the Congress itself:

1) Working methods and practices of the ICC in relation to the same of Executive Board and General Conference of UNESCO as a tool for improving science-policy practice within UNESCO's planning and programming agendas.

2) What are the implications for each of the biosphere reserve (BR) zones contributing to conservation and development taking into consideration constraints and opportunities inherent of each zone?

3) How BR can be used for innovative research and capacity building enhancing the role of ecosystem goods and services in development?

4) How can the MAB + BR Regional Networks be strengthened to become the main drivers of MAB and BR agendas?

5) How can BR be used for learning, governance and adaptive management approaches for sustainable development of land/seascapes?

Some changes in the Congress Agenda have been also proposed:

Wednesday afternoon: Working groups on implementing the Madrid Action Plan (MAP) based on 5 ecosystems: mountains, dry lands, humid tropics, urban, coastal and islands (freshwater, river basins and marine issues to be considered).

Thursday morning: Plenary: Presentation of Working groups on implementing the Madrid Action Plan following from on ecosystems based discussions.

Thursday afternoon: ICC, side events.

Friday afternoon: instead of 'The Vision for the Future' it should read "Implementing the Madrid Action Plan: The way forward".

Mr. Thomas Elmqvist presented the Chairman's View of the Congress, which changes the structure of the Congress and of the MAP. Participants approved these changes and decided to adopt the following:

Focus: Man and biosphere – tools for management and governance of ecosystem services for human well-being build on UNESCO's overarching objective 2: Mobilizing Science and Policy for sustainable development;

Output: Strategical and tactical document for how MAB effectively contribute to achieving the MDGs and DESD

Madrid Action Plan: strategy and tactics

1. Critically examine the Seville Strategy as well as the role and functions of biosphere reserve zonation (core, buffer and transition)) in the face of globalization and environmental transformations, such as urbanization, climate change, desertification and migration

2. Within the framework of UNESCO led Decade for Education for Sustainable Development, IPCC, MEA and the MDGs, discuss and propose a major six year

program of work on " Biosphere Reserves as learning platforms for sustainability – management and governance of ecosystem services for human well-being" through the establishment of active interaction with the education sector, the scientific communities, civil society, planners, policy makers and the private sector

MAB-ICC

1. Working methods and practices of the ICC in relation to the same of Executive Board and General Conference of UNESCO, as a tool for improving science-policy practice within UNESCO's planning and programming agendas.

2. Develop governance of ICC to align with the practices and working methods of the Executive Board and General Conference, to improve UNESCO's and MAB's planning and programming agendas.

It was decided that the new MAP should follow the below-mentioned outline:

Madrid Action Plan – outline

1. BR from Seville to Madrid: emerging questions since Seville strategy, migration, climate change, urbanization, fragmentation, scale and anthropogenic influences, role of protected areas in production landscapes
2. BR and ecosystem services: The BR network usefulness as testing sites and learning platforms for how to combine IPCC, MEA and MDG/One UN at the site level
3. Action Plan:
    - MAB semantics: Man and the biosphere, `"reserves" new name
    - Zonation
    - Governance
    - Update of the Statutory framework including nomination and periodic review process

- Science and capacity building: outreach and education agenda for the MAB
- Funding mechanisms
- Roles and responsibilities
- Evaluation process and time frame

Finally, mentioned was made on a consultation process regarding Member Sates, which could be summarized as follows:

Consultation process of Member States

1. Via governing bodies such as MAB Bureau in June and September 2007
2. Advisory Committee on BRs in June 2007
3. Circular letter in July 2007
4. Possibly via an internet forum as of July/August 2007
5. Regional network meetings mainly in November 2007

Moreover, discussion took place at UNESCO HQs and at the Ministry for Environment of Spain about the possibility to establish a web-base in order to facilitate this consultation process. Suggestions from EABRN members are welcome and accordingly we should consider all above mentioned suggestions taken at the 2nd Meeting of the Organizing Committee for the preparation of the 3rd World Congress of Biosphere Reserves (Madrid, Spain, 4-9 February 2008).

As it was proposed at the 19th session of ICC MAB and the following meeting of ICC MAB Bureau regional networks could and should take active part in preparing relevant key-studies for 3rd World Congress of Biosphere Reserves keeping in mind that all managers of 507 biosphere reserves of WNBR to be invited to Madrid. The time for preparation is very limited and at this EABRN meeting we have to elaborate a set of actions to guarantee our proper preparations for this important event in Madrid.

Report from the EABRN Ad-hoc Committee Meeting[1] and EABRN work plan for 2008-2009

R. Jayakumar

Science Programme Specialist, UNESCO Office Beijing

1 EABRN Training Workshop - 2008

As it was carried out during 2006, if the ad-hoc committee meeting recommends for GIS and data handling training workshop, we can negotiate with Chinese Academy of Sciences to organize this event during 2008.

a. We can negotiate with the Chinese Academy of Sciences to provide organizational support as well as one each licensed GIS Software copy to all the participants, the software will improve the capacity of the BR managers to continue use what he/she learned from the training workshop.
b. As you aware 2008 is the year of Olympic in Beijing therefore we would organize the training sometime around November – December 2008, after the Olympic Games are over.
c. This year, we can also encourage the participation of other Asian Regional Networks (SeaBRNet, SACAM, PacNET - in this case we will provide only the local facilities and the international travel will be sponsored by the concerned network), which will facilitate the regional cooperation.
d. During the previous two training programmes, all participants recommended to have more practical training. If we can get some additional supports from the donor, we can consider extending it for three weeks (one week for theory and two weeks for practice)

[1] See the minutes of the EABRN Members' Ad-hoc Meeting in Appendices

2 EABRN Biosphere Reserve Atlas

First Phase: Already completed China and Mongolia, DPRK is in progress, and will be published at the end of this year. In the second phase, Japan, ROK and Russia have to come up with the Atlas. We will continue to be in touch with members for necessary maps and write-up. In most cases the Atlas are bilingual (English-local language), so it is advisable to print the Atlas in the same country itself as there are some problems of local language fonts and at the same time it is possible for us to print-out the same in China if the member countries provided high quality graphic files.

3 11th EABRN Meeting

The preliminary negotiations are going on where we consulted DPRK, Japan and China for the possible next venue. Although we are still negotiating with the DPRK National Commission for UNESCO, it seems that might be difficult to get permission. With regard to Japan, the present Chairperson tenure is coming to an end during early 2008 and it is not possible for him to commit for 2009 and he suggested that he leaves a briefing note to his successor about the EABRN meetings, and it might be possible to organize 12th meeting in Japan. China, in principle, has agreed to organize the 11th EABRN meeting in China. In that case, we shall discuss this in the ad hoc committee meeting and provide the priorities of special topics to China MAB Committee.

In this regard I would like to make a proposal to the ROK National Commission and the ROK MAB Committee, as you all aware of; there will be the Third World Congress on Biosphere Reserves, Madrid (Spain) during February 2008. EABRN would take a lead role and organize the 1st Asian Regional Congress on Biosphere Reserves. Out of 4 sub-regional MAB Networks in Asia, only EABRN (financially supported by ROK) and SeaBRnet (to some extent financially supported by Japan) are financially stable and PacMAB is recently born and SACAM is also 4-5 years old and doesn't have any financial commitment from donors. If ROK agrees for this, then there must be substantial financial support to invite experts from Asia and Pacific Region. This is only an initial thought, and we can have a detailed discussion during EABRN ad-hoc committee meeting or forthcoming ICC Meeting. ROK can propose the same in the ICC and see the reaction from other partners from Asia. In any case, we need to do consultation with other UNESCO Cluster Offices in Asia Pacific to include this activity

in the next biennium workplan and try to allot some financial resources from the UNESCO Regular Budget. In case Asian Regional meeting is materialized, we may also have the 11th EABRN and SeaBRnet meeting during the same duration which will save us time and budget. The potential venue should be Korea in this case. Please have a preliminary dialogue with your Ministries and let us discuss further during the EABRN Meeting.

4 Small Project "Guidelines for a field evaluation of the Biosphere Reserve"

The 9th EABRN Meeting report suggested that the EABRN Secretariat prepare brief guidelines or instructions or format for the field evaluation referring to existing samples of other related cases. It may be considered to carry out a small research for developing such guidelines as an EABRN activity.

5 Proposed Budget in US$

1. EABRN Training Course	:	35,000.00
2. 11th EABRN meeting	:	35,000.00
3. EABRN Atlas	:	15,000.00
4. Small project (Guidelines for BRS Field evaluation)	:	10,000.00
UNESCO Overhead Charges (13%)@	:	12,350.00
Total	:	107,350.00

@ The normal overhead charges from UNESCO were 13% during 2006-2007. UNESCO Office Beijing made a special request to Director General for special derogation to reduce the overhead charges to 8%. During 2008-2009 UNESCO Office Beijing expects there will be some cut in the Natural Sciences budget and accordingly this office may not be able to provide the additional support to network activities as it was. That is the reason for which there is an increase in the budget. Upon the request from ROK this year also this office may apply for special derogation from DG for reduced overhead charges and at this time this office is not in a position to make any commitments.

SACAM – The Regional Network for the South and Central Asia

Ram Boojh

Division of Ecological & Earth Sciences, UNESCO New Delhi

Abstract

The Man and Biosphere (MAB) programme of UNESCO was launched to study and improve the relationship between people and their environment and to conserve the environment through sustainable use of natural resources. The programme is focusing mainly on reducing the biodiversity loss, improving livelihoods and enhancing social, economic and cultural conditions of the people for environmental sustainability. The Programme is supported by regional and sub-regional networks, and UNESCO regional offices play a vital role in the implementation of network activities. One of the significant initiatives of the MAB programme over the years is the development of the World Network of Biosphere Reserves (WNBR). The Statutory Framework of the World Network of Biosphere Reserves, and in particular its Article 8 encourages the establishment of regional and thematic sub-networks. Presently, there are following regional and sub regional networks:

East Asian Biosphere Reserve Network, EABRN
Southeast Asian Biosphere Reserve Network, SeaBRNet
African MAB Network, AfriMAB
Arab MAB Network, ArabMAB
European MAB Network, EuroMAB
Latin American Biosphere Reserves Network, IberoMAB
South and Central Asian MAB Network, SACAM

1 South and Central Asia MAB Network, SACAM

The South and Central Asian MAB- SACAM Network, is one of the youngest regional MAB network The idea of the network was mooted during the Regional Meeting of coordinators of National MAB Committees and Biosphere Reserves organized by UNESCO New Delhi Office in collaboration with Indian National Committee for MAB and Ministry of Environment and Forests, Government of India at Dehradun, India from 22-25 February 2001. The meeting was hosted by the Indian Council of Forestry Research and Education. It was attended by MAB representatives from eight Asian countries -Bangladesh, Bhutan, India, Islamic Republic of Iran, Mongolia, Nepal, Pakistan and Sri Lanka, who decided to create the 'South and Central Asia MAB Network' for greater synergy and collaboration in south and central Asian regional MAB programmes.

The participants of the meeting discussed in detail the operative principles of the Network and decided that the network would work on biosphere reserves and similarly managed areas. It was agreed that the network will focus on issues such as traditional ecological knowledge, biodiversity conservation, forest ecosystems, land degradation and rehabilitation in vulnerable ecological systems (such as wetlands, drylands, and mountains) and waste management.

2 Institutional Framework

The SACAM network provides an institutional mechanism for South and Central Asian countries to exchange information on biosphere reserves. The objective is to facilitate sharing of experience in the management of biosphere reserves in the region, particularly in relation to zoning and harmonizing the biosphere reserve's goal of conserving biodiversity with its function of supporting socio-economic development of local economies and the people. The network also promotes exchange of information with regard to institutional and administrative arrangements for the management of biosphere reserves and facilitates inter-regional co-operation with similar Networks in other parts of Asia and in the world and international organizations, such as IUCN, WWF etc.

The Network is also a platform to help the member countries to identify, design and implement short-term multi-disciplinary and inter-disciplinary studies that explore and demonstrate links between conservation of biodiversity and sustainable socioeconomic development of local people in and around biosphere reserves of the region. The network also works towards providing opportunities for staff of biosphere reserves and coordinators of MAB National Committees to improve their knowledge and skills in implementing the Seville Strategy for Biosphere Reserves.

3 The Beginning

The first meeting of the SACAM Network was held in Hikkaduwa (Sri Lanka) from 15 to 18 October 2002. The representatives of Bangladesh, Bhutan, India, the Islamic Republic of Iran, Nepal, the Maldives, Pakistan and Sri Lanka participated in this meeting. The statutes of the SACAM network were finalized in this meeting and a newsletter was also launched to facilitate closer networking and exchange of information.

The first meeting of the SACAM Network was held in Hikkaduwa (Sri Lanka) from 15 to 18 October 2002. The representatives of Bangladesh, Bhutan, India, the Islamic Republic of Iran, Nepal, the Maldives, Pakistan and Sri Lanka participated in this meeting. The statutes of the SACAM network were finalized in this meeting and a newsletter was also launched to facilitate closer networking and exchange of information.

The second meeting of the network was organized at Zibakenar, in the Islamic Republic of Iran from 25 - 28 September 2004. The meeting focused on "Sustainable Eco-tourism in Biosphere Reserves and Similarly Managed Areas". The meeting was attended by representatives from Bangladesh, Bhutan, India, Islamic Republic of Iran, Nepal, Pakistan and Sri Lanka.

The 3rd SACAM meeting planned in Jodhpur, India from 12- 15 November 2007 will discuss some of the challenges being faced by the network and devise strategies and action plan for the same. The meeting is being organized as part of an international

workshop on "Ensuring the future of drylands - towards implementing the MAB agenda for a sustainable future of drylands". It will aim at identifying the specific research priorities for the dryland countries in a regional, and possibly also in inter-regional, context. The workshop will spell out specific dryland research and education themes, and will identify pilot/field demonstration projects as study sites for national and international dryland collaboration.

The 3rd SACAM Meeting will work to come up with a strategy to strengthen the network in the region particularly areas for collaboration among scientists and government officials to better understand human-environment interactions, to promote environmental conservation and to foster sustainable development based on scientific finding and education schemes. The meeting and workshop participants will also reflect on the experiences of managing biosphere reserves or similarly managed areas in respective countries. Apart from SACAM member countries, dryland experts of other Asian countries are also participating in the meet.

4 Activities

The statute of the SACAM network envisages activities like organizing meetings, seminars, workshops, exchange of specialists, scientists, administrators, managers and policy-makers concerned with the Biosphere Reserves to share knowledge and experience. The network facilitates visit to biosphere reserves to learn from successful management. It also envisages that Network Members will regularly exchange information on issues, problems and solutions to the management of biosphere reserves through electronic media as well as conventional instruments such as newsletters, brochures and technical and popular articles. The network will ensure that the proceedings of all meetings, seminars and workshops covered as part of its activities are published and disseminated.

The network will initiate bilateral and multilateral co-operation for carrying out research on specific themes and issues of biosphere reserve management. The members are encouraged to launch specific projects of cooperation between management of trans-border biosphere reserves (e.g. Sunderbans Mangrove Ecosystems, both in India and

Bangladesh; Manas - in Bhutan and India). Such co-operation is particularly encouraged with respect to SACAM Members' participation in the implementation of multilateral agreements, such as the Convention on Biological Diversity (CBD), the United Nations Convention to Combat Desertification (UNCCD), the Ramsar Convention on Wetlands, the World Heritage Convention (WHC) and other relevant multilateral agreements.
The network members may launch private or public sector campaigns to promote the work of SACAM and to generate funds for its activities.

5 Challenges Ahead

The SACAM Network has tremendous challenges before it owing to the complex socio economic and environmental problems being faced by the countries of the region. In its journey of more than 5 years, it has been mostly struggling to bring together the MAB committees of the region. It is hoped that the 3rd SACAM Meeting at Jodhpur in November 2007 and the subsequent regional networks meeting in the World Congress on Biosphere Reserves in Madrid in February 2008 will provide great impetus to this nascent network

The South and Central Asian Countries have vast potential and wealth of natural and human resources. The region is the cradle of several great civilizations and home to many indigenous people, with immense natural resource base and biogeographical diversity constituting some of the interesting biomes. The region's rich biodiversity with unique faunal and floral forms have been determined by varied ecological condition, geology, hydrology, soil and topography. Of particular interest is the region's topography which consists of an amazing variety of mountains, plateaus, dry regions, intervening structural basins, beaches, etc. It varies from world highest point, the Mount Everest to the world lowest, the sea beach.

The region faces major ecological challenges and natural resource depletion issues including depletion of water quality and quantity, dwindling forests and coastal resources, biodiversity loss, soil degradation leading to nutrient depletion, salinity, desertification, waste management, air pollution etc. Despite the diversity of cultures, socioeconomic and ecological conditions, the countries of the region have many

similarities in terms of poverty, environmental problems and socioeconomic and developmental issues. The quest for rapid economic growth in the region has put increasing pressure on natural resources and the environment.

The countries of the region have taken actions for the protection and management of the environment. They are also parties to many multilateral environmental agreements requiring them to work cooperatively for the mitigation of concern issues. The SACAM network has to augment and strengthen such efforts in view of the mounting challenges being face by the region. The network can also provide an important platform for South- South Cooperation where all the members can work together for bringing out experiences of the region in the area of cultural and biological diversity to ensure peace and sustainability in the region through world heritage sites, biosphere reserves and peace parks. The network should consolidate and build upon the areas of competence of each country for a better environment and quality of life in the region. It should also bring together local, regional and international experiences for sustainable development in the region.

The network should also promote the biosphere reserves in the region to serve as living laboratories to test and implement environmental conservation and sustainable development programmes based on scientific research on human-environment interactions. These internationally recognized sites can act as best examples of the natural heritage of the humanity for demonstration and learning as well research, education and variety of socioeconomic programmes in accordance with the objectives of the United decade of Education for Sustainable Development (DESD) and also to fulfil international commitments of the millennium development goals and the World Summit on Sustainable Development (WSSD).

Exchange Programme for UNESCO Biosphere Reserve Managers between ROK and Mongolia

Won-Woo Shin

Executive Director, Korea National Park Service, RO Korea

1 Introduction

During the EABRN – 9 in Jeju Island BR, Republic of Korea, 30 August – 3 September 2005, participants from MAB-Mongolia suggested the establishment of a exchange programme of the BR managers from ROK and Mongolia to improve management capacity of Mongolian BRs and ROK. The MAB – ROK welcomed this proposal very much and agreed to implement the programme from 2006. The exchange programme is the first cooperative activity between the two countries under the EABRN and is expected to continue and expand to include other cooperative activities.

2 Exchange Programme in ROK, 2006

15 Mongolian delegation including Mr. Bayarsaikhan Bayarmagnai, Chairperson of MAB – Mongolia and Director of the Mongolian Ministry of Nature and Environment (Table 1) visited Korea during 12-16 June 2006. Five Korean BR managers joined the programme and they visited Mt. Seorak BR and other protected areas, including the Baekdu Daegan Reserve, Daekwanryung Recreation Forest and the Korea Botanical Garden. From this programme, they learned and experienced practices for biodiversity conservation and sustainable development of protected areas. They also exchanged ideas and information on conservation and management of protected areas in ROK and Mongolia. The Ministry of Environment, Korea Forest Service, and the Korea National Park Service supported this programme. The programme resulted in MAB – ROK and

MAB – Mongolia signing the Memorandum of Agreement (MOA) to further continue and develop mutual cooperation.

Table 1. The list of Mongolian delegates who visited in ROK, 2006.

	Name	Affiliation
1	**Mr.Bayarsaikhan BAYARMAGNAI**	Director, Ministry of Nature and Environment (Chairperson, Mongolian MAB National Committee)
2	Mr. Tumur BATTUMUR	Ranger, Hustai Nuruu Biosphere Reserve
3	Mr. Batmunkh BAATAR	Ranger, Hustai Nuruu Biosphere Reserve
4	Mr. Tsetsgee UUGANTUGS	Pasture Officer, Hustai Nuruu Biosphere Reserve
5	Ms. Bayarkhuu BOLORMAA	Administrative Personnel, Hustai Nuruu Biosphere Reserve
6	**Mr. Khurelbaatar DASHDORJ**	Director, Dornod Mongol Biosphere Reserve
7	Ms. Dashdorj ALTANCHIMEG	Administrative Officer, Dornod Mongol Biosphere Reserve
8	Mr. Tsagaan SARUULTUGS	Specialist, Dornod Mongol Biosphere Reserve
9	Mr. Dagvadorj BOLDKHUYAG	Specialist, Dornod Mongol Biosphere Reserve
10	Mr. Battogtokh GANBAT	Inspector, Dornod Mongol Biosphere Reserve
11	**Mr. Munkhuu ANKHBAYAR**	Director, Uvs Lake Biosphere Reserve
12	Ms. Sandagdorj ZOLZAYA	Administrative Assistant, Uvs Lake Biosphere Reserve
13	Ms. Lkhagvasuren OTGONTSETSEG	Administrative Officer, Uvs Lake Biosphere Reserve
14	Mr. Tsagaan ERDENEBAATAR	Ranger, Uvs Lake Biosphere Reserve
15	Ms. Gankhuyag GANCHIMEG	Eco-tour Guide, Uvs Lake Biosphere Reserve

3 Exchange Programme in Mongolia, 2007

Pursuant to MOA between MAB-Mongolia and MAB-ROK, MAB–Mongolia hosted the second exchange programme and invited ROK participants to visit Mongolia during 28 August - 1 September 2007.

In response to exchange programme in 2006, 15 Korean delegation including Mr. Won-Woo Shin, Executive director of Korea National Park Service and also a member of MAB Korea National Committee (Table 2) visited Mongolia. Three Mongolian BR managers joined the programme. Korean delegation visited the Ministry of Nature and Environment of Mongolia and other main protected areas, including ancient Mongolian capital city (Kharakhorum), the Authority of Orkhon valley National Reserve, Khogno-Tarina National Reserve, Khustai National Park and Gorki-Terelj National Park where we learned and exchanged ideas for biodiversity conservation and sustainable development of protected areas in ROK and Mongolia.

For instance, natural resource management is one of core management activities by KNPS. As part of restoration of natural ecosystem, KNPS is carrying out "Asiatic Black Bear (*Ursus thibetanus ussuricus*) Restoration Project" in Jirisan (Mt.) National Park. This kind of restoration of endangered species will help restore natural ecosystem. We learned about research history and exchanged ideas for restoration of Mongolian wild horse in collaboration with foreign experts and volunteers.

Table 2. The list of Korean delegates who visited in Mongolia, 2007.

	Name	Affiliation
1	SHIN Won-Woo*	Executive Director of Park Conservation, Korea National Park Service (KNPS)
2	CHOI In-Su*	Staff, Park Conservation Department, KNPS
3	LEE Young-Kyu*	Staff, Partnership Management Department, KNPS
4	PARK Soo-Joon*	Staff, Seoraksan National Park Office, KNPS
5	OH Moon-Ho	Director-General, Clean Environment Bureau, Jeju Special Self-Governing Province (Jeju Province)

6	MOON Kyung-Jin*	Assistant Director, Environment Policy Division, Jeju Province
7	PARK Dong-Heun	Assistant-Director, Environmental Management Department, Jeju-City, Jeju Province
8	RHA Ui-Woong	Assistant-Director, Living Environment Department, Seogwipo-City, Jeju Province
9	HUR Jin-Young	Chairman of Environment and City Committee, Jeju Special Self-Governing Provincial Council
10	KIM Soo-Nam	Member of Environment and City Committee, Jeju Special Self-Governing Provincial Council
11	PARK Myung-Taek	〃
12	KIM Jin-Hyeun	Committee Staff, Jeju Special Self Governing Provincial Council
13	KO Bong-Kook	Chief of Office, Jeju Regional Environmental Technology Development Center
14	KANG Jin-Young	Head of Section, Jeju Regional Environmental Technology Development Center
15	KIM Eun-Young*	Secretariat of MAB-ROK, Programme Specialist, Science Team, Korean National Commission for UNESCO

* denotes EABRN-10 Meeting Participant

4 Future Action Plan of Cooperation Activities

The following is an excerpt from "According to Memorandum of Arrangement between the Ministry of Nature and Environment Mongolia and the Ministry of Environment of ROK on cooperation in the management, research and protection of natural protected areas" concluded in 6 August 2007 regarding cooperation activities.

a) Exchange technical and professional information, on the basis of mutual interest and concern, through designated contact points for each Participant
b) The arrangement of joint seminars, workshops, or forums on issues of mutual interest and concern

c) Establishment and implementation of research programme on the natural resources and ecosystems of protected wild areas in the territory of the Participants
d) Initiate a short term(1-2 months) or a longer-term (up to 24 months) Staff exchange programme by jointly selecting areas of exchange, subject to the availability of resources and the legislation of two countries
e) Participants may provide assistance to representatives of other Participants visiting their country for purposes related to the activities to be developed under MOA.
f) Provision of training courses of instruction which provides staff of the Participants with knowledge and expertise.

So far, cooperation activities in the field of nature and environment between ROK and Mongolia have focused on tree-planting projects regarding yellow sand. However, based on the MOA, the two countries will proceed with co-research and education training to improve and support management system of protected areas, restoration project of endangered species and improvement of visitor service for Mongolia.
In 2008, research on the feasible cooperation areas will be made and they will be reflected in the mid and long-term plans for international cooperation in 2009. As part of cooperation, co-workshop and staff exchange in 2010 are expected to realize and we will proceed with follow-ups along with evaluation, based on the results from those cooperative activities.

5 Conclusion

Mongolia has very rich natural resources and ecosystem, also has a good research field like Mongolian wild horse while ROK has advanced management skill and know-how. Therefore, there are many rooms for cooperation between the two. This second exchange program this year, as the beginning stage of bilateral cooperation between the two countries, will put us to the next step for further cooperative activities.

Proposal for a Successful 'Jeju Initiative'

Kyung-Jin Moon

Assistant Director, Environment Policy Division, Jeju Province, ROK

1 Introduction

On June 27, 2007, Jeju Volcanic Island and Lava Tubes of Jeju Special Self-Governing Province was inscribed on the list of UNESCO World Natural Heritages. One of the factors that greatly contributed to the inscription is the fact that Jeju Special Self-Governing Province is a Biosphere Reserve. I would like to thank everyone who contributed to the success of its inscription.

On December 16, 2002, UNESCO designated Jeju Island as a UNESCO Biosphere Reserve. As a result, Jeju Special Self-Governing Province became responsible for effectively managing the area according to international standards.

To fulfill this responsibility, the Jeju Island Biosphere Reserve (JIBR) management plan was established in 2005. Highlights of the plan include the following: management of major natural assets, enhancement of the area's value by creating brands for production resources, efficient management of natural assets including environmental education and eco-tourism, promotion of residents' participation, creation of an organization in charge of the project, and the establishment of a network for international information exchange.

In accordance with the plan, an ordinance for the management of JIBR was promulgated and a JIBR Management Committee was established. Environmental education has become part of school curricula and ecotourism has increased in importance. Meanwhile, a project for conservation and communization of Gotjawal has been implemented to concentrate on conservation and management of natural assets. However, the

independent organization in charge of management had not yet been established and Jeju Special Self-Governing Province is still in charge of diverse operations. The independent organization should be founded in the near future to pursue projects.

2 Project for Conservation and Communization of Gotjawal

Gotjawal, which means "forest rock" in the Jeju dialect, is a forest in the mid-mountain area of Jeju Island. The area is characterized by blocky lavas with high viscosity, dense vegetation, and dozens of lava layers in its lower parts which play an important role for the formation of groundwater.

Even deep in the winter, a large evergreen broad-leafed forest boasts greenery at Gotjawal. Many rare or endangered species of plants are found at Gotjawal. Gotjawal is the last ecological haven of the Jeju area and the largest warm-temperate forest in Korea. The forest, which is a paradise of bio-diversity where northern and southern plants coexist, occupies 6% (110km^2) of the total area of Jeju Special Self-Governing Province. About 60% (66 km^2) of the forest is privately-owned land.

Worldwide popularity of the national trust model for environmental protection and the necessity to implement systematic conservation of Gotjawal has urged the creation of the project for Gotjawal's communization. It is expected that turning Gotjawal into a public land, independent of private ownership, will support the creation of an environment-friendly community.

According to the ten-year plan (2007-2016), 10% (6.6 km^2) of private land (66 km^2) in Gotjawal will be purchased by a fund amounting to KRW 35 billion. For a systematic implementation of the project, a foundation for communization of Gotjawal was recently established.

3 Implementation of Jeju Initiative

From August 30 to September 3, 2005, Jeju Special Self-Governing Province hosted the ninth EABRN Meeting. The theme of the conference was "Conservation and Sustainable Use of Insular Biosphere Reserves." During the meeting, Jeju Special Self-

Governing Province proposed a new type of regional cooperation for management and improvement of Biosphere Reserves on islands and coastal areas in the Asia-Pacific region. The proposal, which is currently called "Jeju Initiative," demonstrates the strong commitment of Jeju Special Self-Governing Province to the conservation of biological and cultural diversity in the Asia-Pacific region.

On September 28 2006, Jeju Special Self-Governing Province signed an agreement with UNESCO Jakarta for establishing Funds-in-Trust for biosphere conservation in Asia and the Pacific. For six years, from 2006 to 2011, a yearly trust fund of USD 50,000 will be provided. The fund will strengthen activities and networks for conservation and development of Biosphere Reserves on island and coastal areas in the Asia-Pacific region. To pursue the initiative, active support of UNESCO's Jakarta office is necessary.

The overall goal of "Jeju Initiative" is to strengthen cooperation among governments, academic organizations and public organizations for sustainable development of island and coastal biosphere reserves in the Asia-Pacific region, as well as conservation and wise management of cultural and biological diversity.

The goals of "Jeju Initiative" are as follows:

(1) Conservation of biodiversity, sustainable use of natural resources, and conservation and improvement of cultural diversity in island and coastal biosphere reserves from ecological and landscape architecture perspectives.

(2) Strengthening and improving management capability for conservation of island and coastal biosphere reserves through research and other related activities that are centered on technological training and actual practice.

(3) Enhancement of awareness at local, national and international levels regarding conservation of island and coastal areas, as well as enhancement of values, tasks and opportunities for development

To achieve the goals of the Jeju Initiative, close contact among Biosphere Reserves are necessary. Because opportunities for person-to-person contact are limited in practice, information exchange and sharing through the Internet are expected to be more beneficial and practical.

4 Proposals

1. The establishment and operation of a cyber network of Asia-Pacific Biosphere Reserves

When a more detailed plan is established, a staff member from Jeju Special Self-Governing Province Administration will be dispatched to UNESCO's Jakarta office so as to become familiar with operations and programs and concentrate on establishing the network.

2. Proposal for international cooperation project for Earth Biosphere Reserve

Based on the agreement for cooperation and a trust fund for biosphere conservation between itself and UNESCO, Jeju Special Self-Governing Province will cooperate with UNESCO member countries and regions, which are also inscribed on the list of World Natural Heritages and designated as biosphere reserves, to implement an international cooperation project for Earth Biosphere Reserve international cooperation for conservation and recovery of biological species. Under the guidance of UNESCO and through consultation with the world's local governments and specialized organizations, MOU's will be concluded and discussions on scheduling and methods of the project will be made.

It is expected that the project will help to establish a global system of cooperation in the field of biodiversity to upgrade the system of conservation for Biosphere Reserves and natural heritage sites in the twenty-first century.

VII

APPENDICES

- Terelj Statement
- Minutes of the EABRN Members' Ad-hoc Meeting
- Meeting Agenda
- Participation List

Terelj Statement

The 10th Meeting of UNESCO East Asian Biosphere Reserve Network (EABRN)
Terelj, National Park, Mongolia, 2-5 September 2007

In Terelj, National Park/Ulaanbaatar, Mongolia, 27 representatives of the East Asian Biosphere Reserve Network from Six East Asian Member Countries (China, DPR Korea, Japan, Mongolia, RO Korea and Russian Federation) as well as various experts from the Government of Mongolia, international and national NGOs (IUCN and ARC), religious leaders from a Buddhist Monastery, Mongolia, and representatives of UNESCO Offices (Beijing, New Delhi and Paris) met, discussed the main theme of the 10th EABRN meeting on ***"Protection of Sacred Natural Sites: Importance for Biodiversity Conservation'*** and presented country reports on biosphere reserves activities. They also discussed various issues related to the East Asian Biosphere Reserve Network.

Resulting from an intensive and interactive process, the participants:

1. **Extended** special thanks and appreciation to the host of the meeting, the Mongolian National Commission for UNESCO, the Mongolian National Committee for the MAB, and the Ministry of Nature and Environment of Mongolia; they also extended their appreciation to the Ministry of Environment of the Republic of Korea for its continued professional and financial support to the EABRN and UNESCO Office Beijing for its concerted coordination;
2. **Underlined** the urgent need for the exchange and transfer of information and the sharing of experiences on Biosphere Reserve management among six member countries through their National Committees for MAB, relevant national partners, biosphere reserves managers by following the recent successful experience of RO Korea and Mongolia, EABRN Web Portal;
3. **Called upon** UNESCO and EABRN Secretariat to come up with biosphere reserve periodical review/field evaluation guidelines, and invited EABRN members to make constructive comments on biosphere reserve management, as the field evaluation of a biosphere reserve remains to be a key element in EABRN Meetings;
4. **Called upon** the Global MAB Network to enhance its technical support for the submission of new UNESCO-MAB Biosphere Reserve nominations including Transboundary Biosphere Reserves (TBRs) through the EABRN Secretariat;
5. **Committed** themselves to develop transboundary and site-to-site cooperation for the conservation of biodiversity and endangered, migratory species more actively in the region;
6. **Called upon** the EABRN Members and Secretariat to further strengthen its partnership with other related bilateral and multilateral organizations and institutions in the fields of biodiversity conservation and sustainable development in order to explore the possibility of regional projects and technical cooperation;
7. **Called upon** the EABRN Secretariat to coordinate with other sub-regional and regional MAB networks for cooperation and information sharing;

8. **Called upon** East Asian Member States and other relevant international organizations to establish an International Network of Sacred Sites for Environmental Conservation;
9. **Recognized** the excellent work on sacred natural sites that has been carried out by the EABRN countries and encouraged its further development
10. **Recognized** and appreciated ongoing collaboration between UNESCO and IUCN regarding the recognition of the biological and cultural values of sacred natural sites
11. **Explored** options for the MAB EABRN BR network to use biosphere reserves as pilot sites for testing IUCN/UNESCO guidelines on the management and conservation of sacred natural sites
12. **Agreed** to encourage more participation of biosphere reserve managers in EABRN meetings
13. **Called upon** the EABRN Secretariat to contact member countries about possibilities to prepare an East Asian landscape convention to be considered and reviewed as a framework convention on environment protection for sustainable development of East Asia.
14. **Agreed on** the following decision of Ad-Hoc Committee meeting of EABRN Members
    - Possible venue of 11th EABRN meeting:
        - In line with the rotation principle, the next meeting of the EARBN should be held in the DPRK. The DPRK MAB Committee delegates will consult the National Authorities and inform its decision to the EABRN secretariat about the possibility of organizing the 11th EABRN meeting.
        - In addition, China offered to organize the 11th EABRN meeting in China during 2009 with the possible focus on sustainable social ecological systems-potential solutions at local level which need to be confirmed and approved by the Chinese National Commission for UNESCO.
    - Third World Biosphere Reserve Congress:
        - all the members of EABRN are strongly encouraged to participate in this congress;
        - to take activities of EABRN to other regions, there is a need to organize a special session on EABRN with presentations from all the members countries on facts and figures of BRs, bylaws in BR management, success stories of Biosphere Reserves in the various countries, challenges faced, current status and problems and solutions;
        - to prepare a summary report to be distributed during the congress in the form of a brochure.
        - distribute the tangible outcomes of the EABRN to all the congress participants
    - 3rd EABRN Training:
        - possibly on GIS technology implications on specific issues related to BR management.
    - The EABRN Project Secretariat will continue the second phase of BRs Atlas for Japan, RO Korea and Russian Federation.

- BRs reviews of EABRN members:
  - at the 11th EABRN meeting, there is a need to hold a session on Biosphere Reserves review from EABRN member countries.

Minutes of the EABRN Ad-hoc Committee Meeting

3 September 2007
Terelj National Park, Mongolia

Chair: Prof. CHOI Chung-il, Chairperson Koran MAB Committee

Members:
Prof. SON Kyong Nam, DPR Korea MAB Committee
Dr. Yi Zhijun, Chinese MAB National Committee
Prof. Kunio Iwatsuki, Japanese MAB Committee
Dr. Namkhai, Secretary General Mongolian MAB Committee
Dr. Valery M Neronov, Deputy Chair of Russian MAB Committee

Donor:
Ms. KIM Eun-Young, Koran National Commission for UNESCO

EABRN Project Secretariat:
Dr. R. Jayakumar, UNESCO Office Beijing
Ms. KIM Eunah, UNESCO Office Beijing

MAB Secretariat:
Dr. Thomas Schaaf, MAB Secretariat, UNESCO Paris

SACAM Network:
Dr. Ram Boohj, UNESCO Office New Delhi

1. Report of 2005-2006

   Under EABRN, in total eight activities were carried out for the last years and reported as follows: 1) review of EABRN in 2005, 2) 9th EABRN meeting in 2005, 3) small scale project by DPRK, 4) Publication of EABRN Atlas of China and Mongolia followed by DPRK's by the end of this year, 5) GIS training programme by Chinese Academy of Sciences, 6) EABRN Biosphere Reserves Directory, 7) Creation and endorsement of EABRN logo, and 8) update on EABRN website.

2. Venue for the 11th EABRN meeting

   EABRN Project Secretariat undertook preliminary consultation with DPRK, Japan and China for the possible next venue. With regard to DPRK the MAB Committee informed us that we need to consult DPRK National Commission for approval, accordingly UNESCO is in touch with DPRK National Commission for UNESCO, from UNESCO's observation it seems that might be difficult to get permission at this stage. With regard to Japan, the present Chairperson tenure is coming to an end during early 2008 and it is not possible for him to commit for 2009. He suggested that he leave a briefing note to his successor about EABRN meetings, and it might be possible to organize 12th meeting in Japan. China, in

principle, has agreed to organize the 11th EABRN meeting in China during 2009, which need to be confirmed and approved by the Chinese National Commission for UNESCO.

3. Theme of the 11th EABRN meeting

Until now, the EABRN meetings mainly concentrated on natural and eco-sciences, and there was lack of efforts for comprehensive understanding of Biosphere Reserves in the context of social sciences. Dr. Thomas Schaaf from UNESCO HQ suggested social scientific approach for the management of biosphere reserves and studies on the effects of EABRN activities on policy making for the theme of the next meeting. After the presentation about Wudalianchi Biosphere reserve, Dr. Yi Zhijun suggested the following 2 issues:

1) Large scale woodland planting scheme in grazing area/environmental, cultural, and livelihood benefits.
2) Sustainable social, ecological system potentially appropriate solution at local level.

4. The 3rd World Congress on Biosphere Reserves

After the previous two landmark world congress, 1st in 1983, Belarus, with the outcome of action plane of Biosphere, and 2nd in 1995, Seville which procured Seville Strategy, the 3rd world congress will be held during February 2008 in Madrid, Spain.

a. How to represent EABRN: Each member state of MAB can provide biosphere reserves' history, MAB programme, and MAB secretariat Beijing Office would make one brochure for EABRN which can contain complete Atlas of each country. Poster and CD will be good alternatives. We will also prepare 2 pages introduction of EABRN for the overall introduction.
b. Participants: If extra funds are available from ROK or other sources, all EABRN member states, especially developing countries-DPRK, Mongolia, will be able to participate.
c. What to be prepared by the member states: Each country might present successful story or challenging issues regarding biosphere reserves along with facts and figures, management and problems.
d. It can be a good chance to expose EABRN activities to other regional networks through EABRN session in the World Congress. However, if EABRN is to charge one session in the World Congress where other MAB networks also hold their session at the same time, some technical management problems will follow. So, proper adjustment between Headquarter and EABRN member states by UNESCO Beijing office is asked beforehand.

5. Next training course

During the previous two training programmes, all the participants recommended to have more practical training. If the EABRN Project Secretariat can get some additional support from the donor, it may be considered to extent the training for three weeks (one week for theory and two weeks for practice) The 3rd GIS training oriented on application of the technique would be a relevant option. Each member

state should be careful when selecting participants for the training in terms of sustainability of the training.

6. Suggestions

Review of biosphere reserves by guideline or expertise such as IUCN is suggested, which can be accommodated in the session for country reports on the next meeting.

10th EABRN Meeting-Agenda
TERELJ CAMP, MONGOLIA

Date	Time	Description
1 Sep. 2007, Saturday		Arrival of regional and international participants in Ulaanbaatar, transfer to workshop venue Terelj Camp (3 hours drive from Ulaanbaatar, special bus will be organized) in order to receive all the participants the bus might leave in the evening, all guest who arrives in the morning will be provided a temporary accommodation at Ulaanbaatar
	19:00-20:00	Registration of participants
2 Sep. 2007, Sunday	07:30-08:30	Break fast
	08:00-08:30	Registration of participants
	09:00-10:30	**Opening session**
		Opening remarks by ***Dr. A. Namkhai***, Chairperson of Mongolian National Committee for MAB
		Delivering the message from His Excellency ***Mr. Enkhbayar Nambar***, The President of Mongolia, (by Dr.D.Nergui, Advisor to the President of Mongolia)
		Welcome speech by ***Mr. Erdenbaatar Ichinkhorloo***, Minister for Nature and Environment of Mongolia
		Opening remarks by ***Mr. N. Urtnasan***, Secretary - General, Mongolian National Commission for UNESCO
		Welcome speech by ***Y. Aoshima***, Director of UNESCO Beijing Office
		Welcome speech by Representative of Republic of Korea
	10:30-11:00	Group Photo and Tea break
	11:00-12:30	**Session 1: Sacred Natural Sites – Key note address**
		Chair: ***Prof. Kunio Iwatsuki***, Japanese MAB Committee Rapporteur: **EARBN Project Secretariat**
		***Dr. N. Urtnasan*, Secretary** - General, Mongolian National Commission for UNESCO- Some management problems of biodiversity conservation through sacred sites
		***Dr. N. Urtnasan*, Secretary** - General, Mongolian National Commission for UNESCO- Some management problems of biodiversity conservation through sacred sites
		Dr. Thomas Schaaf: UNESCO-MAB and WHC involvement in Biodiversity Conservation through Scared Natural Sites
		Mr. Robert Wild - Task Force on Cultural and Spiritual Values of Protected Areas IUCN-World Commission on Protected Areas - IUCN-UNESCO Sacred Natural Sites – Guidelines for Protected Area Managers

	12:30-14:00	Lunch break
	14:00-15:15	**Session 2: Biodiversity and Cultural Spaces of Sacred Natural Sites in East Asia**
		Chair: ***Dr. SON Kyong Nam***, DPRK MAB Committee Rapporteur: **EARBN Project Secretariat**
		***Mr. Guido Verboom*:** Religions and Conservation: The potential
		Mr. Ma Jianzhang - The Nature Conservancy, China Program - Conservation and Tibetan Culture: A Case Study in Northwest Yunnan. P. R. China
		Mr. Yu. Drobyshev -The role of sacred sites in conservation of ecosystems of Lake Baikal Basin - Joint Mongolian and Russian research (Drs. S. Bazha, P. Gunin, and Yu. Drobyshev and Ch. Dugarzhav)
		Prof. Luo Peng - Sacred sites in Southwestern China: biodiversity, importance and management
	15:15-15:30	Tea break
	15:30-18:00	**Session 3: Sacred Natural Sites Case study from Members of EABRN**
		Chair: ***Dr. Yi Zhijun*,** Chinese MAB Committee Rapporteur: **EARBN Project Secretariat**
		Dr. Yun Chol Nam - Mt. Paektu, the Sacred Mountain of Korea
		Prof. Kunio Iwatsuki – Sacred Sites and Zoning of Japanese Archipelago
		Dr. Cho Do-soon -Case study presentation from R. O. Korea
		Dr. Valery M. Neronov - Case Studies presentation from Russia with additional reports from Sokhondo BR (V. Yashnov, E. Malkov) and Khanty-Mansisk Autonomous District (Merkushina T.)
		Ms. R.Enkhtuul, Officer, Bogd Khan Special Protection Authority Key issues from Bogd Khan Mountain BR as case study presentation for Bogd Khan Sacred Mountain
	19:00-20:00	Dinner hosted by the Authority of Gorkhi-Terelj SPA
3 Sep. 2007, Monday	07:30-08:30	Breakfast
	08:45-12:00	Leaving for **Buddha Statue near Zaisan Hill**. Drive to **Jargalant valley** Chair and Team Leader for **field visit**: ***Dr. N. Urtnasan***, Secretary General Mongolian National Commission and by ***Dr. A.Namkhai***, Chairperson of Mongolian National Committee for MAB
	12:00-13:00	Lunch in Jargalant valley
	13:00-14:30	Drive back to Terelj
	14:30-18:00	***Chinggis Sacred Mountain*** Worship Ceremony in Terelj area
	18:00-19:00	***EABRN Member Ad-hoc committee meeting*** *(Chair of MAB Committee from EABRN Members (China, DPRK, Japan, Mongolia, ROK and Russia), Project Secretariat (UNESCO), Representatives from ROK National Commission*

	19:15-21:00	Reception hosted by Mongolian National Commission for UNESCO and Mongolia MAB Committee
4 Sep. 2007, Tuesday	07:40-08:45	Breakfast
	09:00-11:00	**Session 4: Special Presentations and Country Reports I part**
		Chair: ***Dr. Valery M. Neronov***, Russian MAB Rapporteur: **EARBN Project Secretariat**
		Venerable Baasansuren, Khamba Lama of Erdene Zuu: The Dharma in Action: Buddhist Environmentalist Case Study of Erdene Zuu - Alliance for Religions and Conservation
		Venerable Kh. Byambajav and B.Munkhbaatar, Lamas of Gandan Tekhchilen Temple Monastery: Traditions and customs of Mongolians for protecting nature
		Prof. Tomoko Nakanishi - Metal Accumulation by Natural Plants
		Presentation from IUCN and discussion on the IUCN-UNESCO Proposed Guidelines
		Dr. Yi Zhijun - China Country Report
		Dr. Son Kyong Nam - DPRK Country Report
	11:00-11:15	Tea break
	11:15-12:30	**Session 5: Country reports Part II**
		Chair: ***Dr. Choi Chung-il***, ROK MAB Committee Rapporteur: **EABRN Project Secretariat**
		Prof. Kunio Iwatsuki - Japan Country Report
		Dr. A. Namkhai - Mongolian Country Report
		Ms. KIM Eun-Young – ROK Country Report
		Dr. Valery M. Neronov - Country report from Russian Federation
		Dr. Jayakumar - East Asian Biosphere Reserve Network 2005-2006
	12:30-14:00	Lunch
	14:00-16:30	**Session 6: Follow up for the 9th EABRN Meeting and future planning of the EABRN Activities**
		Chair: ***Dr. A. Namkhai***, Mongolian MAB Committee Rapporteur: **EABRN Project Secretariat**
		Dr. Valery M. Neronov - Report on the 19th MAB ICC session and Bureau's meeting
		Dr. R. Jayakumar - Report from the EABRN Ad-hoc Committee meeting and EABRN work plan for 2008-2009 -
		Mr. Ram Bhooj - UNESCO Office New Delhi: Report from SACAM and other regional Networks
		Mr. Shin Won-Woo - Korea National Park Service: Experience of Exchange programme between MAB ROK and Mongolia
		Mr. Moon Kyung-Jin, Jeju Provincial Government: Jeju Initiatives on Insular Biosphere Reserves

	16:30-17:00	Tea break
	17:00-17:20	Packing and check-out
	17:30	Departure from TERELJ Camp to Ulaanbaatar
	19:00-21:00	Reception hosted by MNE
5 Sep. 2007, Wednesday	07:30-08:30	Break fast
	09:00-10:30	**Session 7: Preparatory discussion on Third World Congress on Biosphere Reserves, Madrid (Spain) – Open discussion** (Room # 401, Ministry of Nature and Environment, Government Building-3, Baga Toiruu-44 Ulaanbaatar)
		Facilitators: ***Dr. Choi Chung-il, Dr. Thomas Schaaf***
		Dr. Thomas Schaaf - UNESCO - Paris: Overview on objectives and expected results of the Third World Congress on Biosphere Reserves
		Dr. Choi Chung-il - Input of EABRN to the WC on BR in 2008: Open discussion EABRN-MAB Committees on future plan and EABRN inputs to the Third World Congress on Biosphere reserves, Madrid (Spain), 4-8 February 2008- (EABRN Members)
	10:30-10:40	Tea break
	10:40-12:00	**Closing session**
		Chair: ***Dr. Choi Chung-il,***
		• Reporting Chair of sessions
		• Adoption of the EABRN statement
		• Venue for the next EABRN Meeting
		• Closing remarks from Chair
		• Vote of thanks from local organizer (Mongolian MAB Committee)
	12:00-13:00	Lunch
	13:00	Departure from Ulaanbaatar to international flights Stay and dismiss

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