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INTERNATIONAL TREATIES ON BIOLOGICAL RESOURCES: IMPLICATIONS FOR THE ASIAN REGION*

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The conservation and sustainable use of biological resources is to meet the demand of both present and future generations and requires a multifaceted approach. In order to strengthen the global and regional cooperation in this area, several legally binding instruments have been developed in the past. The present paper briefly describes them and also highlights some of the major current issues relating to cooperative action for conservation and sustainable use of biological resources among the countries of the Asian region.

Key words : International Treaties, Biological Resources, Conservation, Sustainable use, The Asian region

Biological resources are not only essential components of our life support system but also provide raw material for meeting human needs. Their conservation and sustainable use is of great importance to meet the demand of both the present and the future generations. The rapid degradation of major ecosystems and their biological components has become a major international concern. Developing and establishing adequate conservation measures and mechanisms for sustainable utilisation of biological resources pose a multidimensional challenge, involving scientific, socio-economic, administrative, legal and political issues. Scientists, policy makers, administrators, legal experts and the political leadership have attempted to formalise a common understanding of the scientific, socio-economic, and legal issues, and to develop viable mechanisms at the national and international levels. The process of negotiating ecologically sound and politically equitable agreements is still incomplete. However, during the last 20 years, significant developments have taken place at the national and international levels. The paper briefly describes the various international treatis that have come into force and highlights some of the major current issues relating to cooperative action for conservation and sustainable utilisation of biological resources among the countries of the Asian region.

* The views expressed in this paper are those of the author and not necessarily that of the Government of India.

Historical Perspective

The significant changes in the land-use pattern, intensive agriculture, industrial development and rapidly unscientific exploitation of natural resources have seriously altered the dynamics and the functioning of major ecosystems; consequently depleted their wide range of biological resources. This had led to the concern for conserving species and their natural habitats. At the same time, the potential value of genetic resources has been greatly enhanced by the fast-emerging biotechnologies and possibility of genetically tailoring the biological resources to meet growing human requirements for food, medicines, and industrial products. Both at national and international levels, there has been extensive debate in understanding the intricacies of the elements essential for an effective international legal regime for the conservation of biological resources and their habitats.

Scientific Perspective

Since the 1960s, the international scientific community has contributed to sharpening the focus on the conservation of biological resources. This is re-elected in the International Biological Programme, IUCN-the World Conservation Union, and MAB Programme of the UNESCO. The World Conservation Strategy (1980) published jointly by IUCN, UNEP and WWF, laid down three main conservation goals:

- the maintenance of essential ecological process,
- the preservation of genetic diversity, and
- the sustainable use of species and ecosystems.

This document had considerable influence on various nations in recognising the principles for conserving biological diversity and helped them in developing their national policies and legislations, as well as treaties like the 'ASEAN Treaty' finalised in 1985. The follow up document "Caring for the Earth - a Strategy for Sustainable living" (UNEP 1991) highlighted concrete action points such as enhancing *ex-situ* and *in-situ* conservation, sustainable harvesting of wildlife resources, and generating incentives to conserve biological diversity.

Political Perspective

The United Nations Conferences on the Human Environment, 1972, brought political leaders together for the first time, who adopted the "Stockholm Declaration" and approved the creation of UNEP. The declaration laid the foundation for internationally accepted conservation objectives. Moreover, it started a process of interactions among governments to make national and international legal instruments compatible, while upholding the principles of national sovereignty over natural resources.

Legal Perspective

With increasing scientific and political awareness, it became clear that more specific legal regimes were necessary to effectively conserve biological resources, to implement and monitor programmes of action, and several international agreements were adopted. These agreements are not legally binding but are a common declaration of principles, charters or resolutions. These "soft law instruments" (de Klemm and Shine, 1993), which express a broad consensus of the world community, include the following:

- Principle 2 and 4 of the Stockholm Declaration of 1972 which emphasis the need to protect both species and their habitats and need to be integrated in planning for economic development;
- The World Charter for Nature adopted by the United Nations General Assembly in 1982 which proclaims principles of conservation "by which all human conduct affecting nature is to be guided and judged" and incorporates the three objectives outlined in the World Conservation Strategy;
- The Brundtland Report of the World Commission on Environment and Development, adopted by the United Nations General Assembly in 1987 as a framework for sustainable yield in the use of natural animal and plant resources, and for future cooperation in the field of environment and development;
- Precautionary Principle 2 of the Rio Declaration adopted at UNCED, 1992 in conjunction with the Convention on Biological Diversity; and
- Agenda 21- an action plan drawn up by UNCED in 1992, wherein Chapter 15 outlines action points relating to the conservation of biological diversity.

International Treaties

International treaties relating to biological resources are the result of a long process of negotiation and hard-won consensus. Broadly, these treaties:

- establish uniform conservation rules;
- express the commitment of the Contracting Parties to conserve certain species; and
- organise effective international cooperation.

The treaties define the principles, objectives and methods for both conservation and utilisation of biological resources at the species (including migratory species) level. The conservation of habitats is envisaged through joint environmental impact assessment in respect of activities undertaken by one country which may have an adverse cross-boundary environmental impact

on neighbouring states. Besides the international agreements, regional treaties and other sectorial instruments have had an important role in promoting the objectives of conservation.

The only treaty in the Asian region is the Conservation of Nature and Natural Resources in Asia, considered to be one of the most comprehensive conservation treaties. The 1985 agreement was concluded by the ASEAN countries, Brunei, Indonesia, Malaysia, the Philippines, Singapore and Thailand to ensure global environmental protection to the region. It is based on the World Conservation Strategy and takes into account air, water, soil, forests, fauna, flora and also ecological processes.

In the Pacific region too there is only one treaty entitled "The Convention on the Conservation of Nature in the South Pacific" which came into force in 1990. It provides for the creation of protected areas and the protection of both plant and animal species.

The African Convention on Conservation of Nature and Natural Resources (1968) was signed by 30 African States. Article 2 of the Convention sets out the principle that "The Contracting States shall undertake to adopt measures to ensure conservation, utilisation, development of soil, flora, and faunal resources in accordance with scientific principles and with due regard to the best interests of the people". The text of the Convention deals in detail with each element mentioned, and lays down general obligations.

There are two major treaties in the American region - the "Western Hemisphere Convention (1940)" and the more recent "Convention for the Conservation of Biodiversity and the Protection of Priority Wild Areas in Central America (1992)". Specific provisions of the 1992 Convention include development of national legislation for the conservation and use of biodiversity; promotion of species recovery plans; control of illegal traffic and collection in wild flora and fauna; and regulation of domestic trade in such resources.

In Europe, besides European Community Legislation, various other conventions are in operation, such as the Berne Convention, 1979; the Benelux convention of 1970; and the Alpine Convention.

- The Directive 79/409 on the Conservation of Wild birds (1979) was the first legal instrument of the European Community. It implements the Berne Convention's provisions and is limited to the bird community only. The other species are covered by the Directive (92/43) on the Conservation of Natural Habitats and of Wild Fauna and Flora (1992). Nearly 160 plant species and 22 animals species are identified as "Priority species" for conservation including their habitats. The Directive aims to establish "a coherent European ecological network" called Natura 2000 which will comprise the special conservation areas as well as special protection areas created by member States.

- The European Community is also party to the Bonn Convention, the Regional Seas for East Africa and the Caribbean, and the Convention on the Conservation of Antarctic Marine Living Resources of 1980.
- The Convention on the Conservation of European Wildlife and Natural Habitats (Berne, 1979) deals with the protection of plant (517 species) and animal species (including most of the European mammal, bird, reptile, amphibian, and some fresh water fish and invertebrate), which are listed in Appendix I and II. It prohibits the deliberate picking, collecting, cutting or uprooting of protected plants and the killing, capturing and keeping of protected animals. It also covers the habitats of the protected plants and animals.
- The 1970 Benelux Convention on Hunting and the Protection of the Birds is mainly intended to harmonise the legislation of Belgium, Luxemberg and the Netherlands. The three countries also signed a Convention on Nature Conservation and Landscape Protection in 1982.
- The Convention on the Protection of the Alps is the first international treaty which covers a complete terrestrial ecological unit. It was signed in 1991 by all Alpine countries viz. France, Italy, Switzerland, Liechtenstein, Germany and Austria, and Slovenia was also expected to join. But it has not yet come into force. The obligations are of a general kind and cover a wide range of environmental problems of the Alpine region.

Regional Treaties

UNEP has established a marine conservation programme which currently covers eleven seas or coastal regions to preserve the natural marine and coastal habitats of the world. So far, Protocols relating to the conservation of natural areas in respect of four regional seas have been concluded. These are the Mediterranean (Geneva, 1982), East Africa (Nairobi, 1985), the South-East Pacific (Colombia, 1989) and the Caribbean region (Jamaica, 1990).

Besides there are five international instruments which relate to the protection and preservation of the Antartic region. These are the Antartic Treaty (1959) and its Protocol (1991); the Convention of Antarctic Marine Living Resources (1980); the convention on the Regulation of Antarctic Mineral Resources Activities (1986), which has since been superseded by the Madrid Protocol (1991). The Antarctic treaty, meant for only the Antarctic region, is a political treaty which was to freeze all claims to national sovereignty in the region, to ban nuclear tests, to authorise peaceful activities and to reinforce cooperation between the Parties in the field of scientific research and indirectly addresses the issues relating to the conservation of marine living resources.

Sectorial Treaties

Sectoral conservation treaties are those which deal with the components of biological diversity such as species, natural habitats or protected areas and are either regional or global.

Species-based

National conservation measures may be invalidated by differences in the legal provisions of neighbours, affecting the status of species, and even leading to their extinction. Therefore, effective protection measures for their protection have to be through international agreements for joint conservation and management of stocks, controlled withdrawal and trade, and the preservation of the regional habitats of the concerned species. For example, an agreement on the conservation of polar bear, was concluded by the five circumpolar States in 1973.

Migratory species for both terrestrial and marine categories are usually considered an international biological resource. There are numerous bilateral and multilateral agreements and conventions which have dealth with protection of species inhabiting international waters or those which migrate from one country to another. Some important agreements are:

- The Law of Sea Convention, 1982 dealing with certain migratory marine species;
- Convention of Migratory Species of Wild Animals, 1983. This is not very affective as the Russian Federation, USA, Canada, most Latin American countries, China, Japan and some S E Asian countries are still outside the Convention; and
- Bilateral Agreements concluded for North America, the Pacific and parts of Asia in the 1970s and 1980s for the protection of migratory birds.

The most important treaty responsible for the regulation of trade in endangered wild species is the Convention on International Trade in Endangered Wild Fauna and Flora (CITES) which came into force in 1975. Since most countries are parties to this convention, it is felt that the aspect of trade may not have to be dealth with in future.

Certain species-based treaties are not really conservation oriented but deal mainly with extraction from natural habitats. These provide joint regulatory mechanisms to be adopted and implemented and to share the results of scientific research in population and management of concerned wild species. Major agreements are:

- International Convention for the Regulation of Whaling, 1946;

- Convention on the Conservation of Antarctic Marine Living Resources (CCAMLR), 1980; and
- Resolution 44(225) of the U.N. General Assembly, 1989 for high seas as a whole.

Area based

The international community has also two significant global treaties on the conservation of specific ecosystems. These are:

- Convention on Wetlands of International Importance especially as Waterfowl Habitat (commonly known as Ramsar Convention), 1971; and
- Convention concerning the Protection of the World Cultural and Natural Heritage (also known as World Heritage Convention)

The Ramsar Convention focuses primarily on the conservation and management of wetlands identified as 'Ramsar Sites' of international importance. Parties have to promote the "wise use" of wetlands and take measures for their conservation. The Contracting Parties have initiated both short and long term programmes to achieve the objective of this convention, including setting up the Wetland Fund in 1990.

The World Heritage Convention has two main legal provisions. First, States are to conserve their natural and cultural heritage. Secondly, it calls for Parties to contribute financially to the conservation of natural heritage as most sites are located in low income countries. Special financial mechanism have been established to assist Parties to undertake their obligations more effectively.

Law of the Sea

In order to protect and preserve the marine environment, the Law of Sea was signed in 1982 and has yet to come in force. The scope of this convention is very broad - defining boundaries of each sea, legal regime for exploitation of mineral resources on the deep sea-bed and ocean flow beyond national jurisdictions, control of pollution of marine environments, and conservation and exploitation of marine species. Under the convention, States are fully sovereign over their "internal waters", "territorial seas", and "Exclusive Economic Zone (EEZ)" for the purpose of exploring, exploiting, conserving and managing the natural resources found there. These areas also include the continental shelf and its natural resources. The convention is largely confined to the high sea beyond the 200-mile outer limit of the EEZ and both living and non-living resources found there are declared "common heritage of mankind". Once the convention comes into force, the International Sea-Bed Authority shall be responsible for organising, exploring and exploiting the

area for the benefit of mankind, through equirable sharing of economic benefits derived from the activities (de Klemm and Shine, 1993).

Convention on Biological Diversity

The Convention of Biological Diversity (CBD) came into force in 1993 with the main objectives of conservation of biological diversity, sustainable use of its components, and fair and equitable sharing of benefits arising out of the utilisation of genetic resources. Through its 42 Articles, the Convention recognises national sovereignty over biological resources; calls for taking general measures for conservation and sustainable use; identification and monitoring; *in-situ* and *ex-situ* conservation; sustainable use of components of biological diversity; incentive measures; research and training; public education and awareness; impact assessment and minimising adverse impacts. The provisions of the CBD facilitate the access to genetic resources on 'mutually agreed terms' and with 'prior informed consent' of the country providing the resources, with the recipient country being committed to share accruing benefits. It also provides for transfer of technology, including biotechnologies, on 'fair and most favorable' terms, from developed to developing countries.

Moreover, the CBD calls on the private sector to facilitate access to and transfer of such technologies developed by them. The Contracting Parties are to cooperate in this regard to ensure that patents and other intellectual property rights are supportive of, and do not run counter to, the objectives of the Convention. It commits the Parties to consider the need for, and modalities of, a protocol in the field of safe transfer, handling and use of any living modified organism resulting from biotechnologies. The Parties also are to take measures to facilitate access on a fair and equitable basis, and mutually agreed terms, to the results and benefits arising from biotechnologies. The developed country Parties are committed to contribute to a fund to enable developing country Parties to meet the 'agreed full incremental costs' for implementing the provisions of the Convention. The financial mechanism is to 'operate within a democratic and transparent system of governance' and 'function under the authority' of the Conference of the Parties (Chauhan, 1996 a,b)

Current issues for cooperation in the Asian region

Taking into account the various international treaties adopted so far by the international community, it is very clear that most of them are either regional or sectoral, species or area based. These focus mainly on the protection, exploitation and controlling trade of biological resources, and mainly of wild animal species. The genetic resources of plants till recently were considered as 'common heritage' However, with the finalisation of the various elements

covered in its 42 Articles the CBD has for the first time enabled the international community to deal with the entire gamut of conservation, and sustainable use of components of biological diversity, thereby enhancing the scope of biological resources conservation and utilisation.

Finer insights were developed by the scientific community while confronting complex questions relating to the dynamics of populations, their interactions and association with other species and finally inter-relationships among different ecosystems, and their functioning. At the same time the development of new biotechnologies offered immense opportunities for increasing the productive potential of the existing food, forage and forest species. These recent advances also provided the scope of widening the base of utilisation of biological resources for non- conventional uses. As a result, the need for viable cooperation between the technology-rich countries and the countries rich in biological resources has become very important. In this context, each international treaty has immensely contributed to crystallizing the issues and principles, prioritisation of the issues, operationalisation of the agreed mechanism with adequate legal support for conservation and use of biological resources. The CBD is clearly a valuable contribution of the international community.

Article 5 of the CBD seeks cooperation between Contracting Parties in respect of the areas beyond national jurisdiction, and on the matter of mutual interest, for conservation and sustainable use of biological diversity. This should be considered in conjunction with Article 7 which emphasises the identification and monitoring of the components of biological diversity at ecosystem, habitat, species and genome levels, including the activities which may have a significant adverse impact on the conservation and sustainable use of biological resources. Similarly, for both *in-situ* and *ex-situ* conservation of these resources, countries of the region may adopt different strategies for sound and sustainable development of protected areas, rehabilitation and restoration of degraded ecosystems, multiplication of threatened and endangered species with special emphasis on endemic species, controlling the risks associated with the release of living modified organisms, eradication of alien species, developing an effective information network and regional repositories (e.g. gene banks) and finally the preservation of the knowledge, innovations and practices of local communities.

For the purpose of tackling problems associated with the above mentioned aspects, the relevant technologies have to be either developed indigenously or transferred from outside. Therefore, it becomes essential for countries of the Asian region to forge a workable mechanism for technical and scientific cooperation within the framework of the CBD. Some of the elements are suggested below:

- Regional and national inventories of the components of biological diversity based on survey and identification;
- Inter-regional monitoring of changes in different levels of biological diversity;
- Strategies for *in-situ* and *ex-situ* conservation;
- Regional repository of the genetic material;
- Research and human resource development such as training programmes in biosystematics, bio-informatics and other relevant disciplines;
- Software development for Biodiversity Information Systems and Electronic Information System;
- Bilateral and multilateral mechanisms for sharing indigenous and developed technologies; and
- Common strategies for "Clearing House Mechanism" and "Subsidiary Body on Scientific, Technical and Technological Advice (SBSTTA)" under the Convention.

In addition to the technical and scientific issues identified above, there are other elements for which countries of the Asia region will have to constantly cooperate with each other so as to effectively deal with the developed countries on contentious issues. These issues include the protection and customary use of traditional knowledge, impact assessment and minimising adverse trans-boundry impacts and development of emergency responses for preventing damage to regional biodiversity as a part of a common management strategy. Other important issues are related to access to genetic resources on 'mutually agreed terms' and with 'prior informed consent' for which a common policy to identify the conditionalities has to be worked out taking into account the extent of the royalties, transfer of technologies and the development of technologies in the country/countries of origin of genetic resources.

The Asian region will also have to develop a common strategy with regard to farmers' rights and claims over biological resources which were removed from the countries of origin and held in the CGIAR and the FAO systems prior to the coming into force of the CBD. The Asian region will have to act on this so that the benefits from utilisation of these resources flow back to the countries from where they were taken away. Also significant are the intellectual property rights likely to be asserted, particularly on micro-organisms and genetically transformed biological material, following the recently concluded TRIPS agreement under the GATT. The IPRs also relate to the transfer of technologies between the developed countries and developing countries, and transfer agreements will have to be negotiated. For this purpose

the common elements will have to be listed. As a part of the Group of 77 along with China, the Asian countries will have to take a lead in effectively negotiating the different provisions for the biosafety protocol.

To sum up, the Asian region will have to develop common strategies for regional cooperation by:

- Linkages of scientific capabilities, existing industrial base and rich biological diversity;
- A mechanism for education and public awareness programmes;
- Arrangements to promote impact assessment and emergency responses;
- A mutual policy on the terms and conditions for providing access to genetic material common to the region to interested parties by 'Prior Informed Consent' for commercial application based on inventories prepared for this purpose;
- An understanding on the essential element for 'Material transfer Agreements' such as provisions for royalties and exchange and development of technologies;
- A common policy of all *ex-situ* collections donated by countries of this region to CGIAR, FAO and other systems, including issues relating to farmer's right;
- Regulation of trade in living forms and genetically transformed biological materials;
- Application of intellectual property rights over biological resources including micro-organisms;
- Strategies for sharing benefits with the local communities; and
- The development of essential elements for a biosafety protocol.

International treaties have provided an impetus to prioritizing the principles, objectives and a plan of action for conservation of the world's biodiversity. These treaties also harmonise the various existing legal regimes, so that politically divisive bilateral or multilateral conflicts may be resolved. The treaties also provide the basis for countries of a particular region to persevere and conserve biological diversity with mutual interactions, so that an agreed consensus is achieved on complex issues, including transboundry problems. The elements identified this paper could facilitate a common understanding and cooperation in the Asian region, so that the concerned countries actively and effectively contribute to the challenge of conserving global and regional biological resources.

REFERENCES

Chauhan, K.P. 1996a. Implications of the convention on biological diversity: Indian approach *Indian J. Pl. Genet. Resources* **9**(1): 1-10.

Chauhan, K.P.S. 1996b. Legal requirements for fulfilling obligations under the convention on biological diversity in India. *Indian J. Pl. Genet. Resources* **9**(2): 183-191.

Chauhan, K.P.S. and Tyagi, R.K. 1997. "Conservation of biodiversity in agriculture: an action plan for the future. 265- 278". *In* Bajwa, M.S., Dhillon, J.S., Dilwari, V.K. and Chahal, S.S. (eds). Proceedings of the Third Agricultural Science Congress. Invited Paprs, Vol. 1: March 12-15, 1997, National Academy of Agricultural Sciences, New Delhi, India

Government of India. 1994. Country paper-India. International Consultation on Biological diversity. MOEF, UNEP, and IIsc, Bangalore.

Heywood, V.H. (ed.). 1995. Global biodiversity assessment. 1140. UNEP and Cambridge University Press, Cambridge.

IUCN. 1980. World Conservation Strategy. 66. IUCN/UNEP/WWF, Gland, Switzerland.

de Klemm, C. and Shine C. 1993. Biological diversity conservation and the law, 292. IUCN, Gland, Switzerland and Cambridge, UK.

McNeely, J.A., Miller, K.R., Reid, W.R., Mittermeier, R.A and Wener, T.B. 1990. Conserving the world's biological diversity. 193 pp. WRI Publications, MD.

Sanchez, V and Juma C. 1994. Biodiplomacy: genetic resources and international relations. 370. ACTS Press, African Centre for Technology Studies, Nairobi, Kenya.

UNEP. 1992. Convention on biological diversity. United Nations Environment Programme, Nairobi, Kenya.

World Commission on Environment and Development. 1987. Our common future. 383. Oxford University Press, Oxford, UK.