CHAPTER 2

Convention on Biodiversity

Introduction

In this chapter the international legal framework evolved through Convention on Biological Diversity (CBD) and the scope and limitations of CBD are analyzed. The roots of CBD and its evolution are also discussed. CBD is an ambitious convention with a very broad mandate and hence it is in examined in detail. Finally the CBD is also evaluated in terms of its functioning and the relationship between CBD and other Conventions/Treaties is also discussed. Since the relationship between CBD and TRIPS is dealt with in a separate chapter the related issues are not discussed here in detail.

CBD: Its Origin and the Negotiating Process

CBD was signed at the Rio Earth Summit, also known as the United Nations Conference on Environment and Development (UNCED) and the CBD and UNFCC are the two major conventions that emerged out of UNCED.[1] The CBD is much more than a convention to protect biodiversity; it is also a convention that deals with access, benefit sharing, indigenous knowledge, national sovergenity, bio-safety, among other things. Thus issues relating to economics, sustainable use, technology transfer, and law became as important as conservation of biodiversity during the negotiations over CBD.[2] The developing nations which are home to a major portion of the global biodiversity asserted their sovereign rights and were keen to ensure that conservation is linked to other issues in the CBD. Hence it would be desirable to look at CBD as more than a Convention or treaty on environment. In any case it is not contended that CBD is the only convention that deals with biodiversity. Rather it is the major convention that has significant linkages with economics, technology and property rights, and use of biodiversity. CBD could be understood better only if these linkages are taken in to account. There are many regional and multilateral environmental

agreements that are relevant to biodiversity in one way or other but some are more important than others.[3]

The Origins of CBD could be traced to many sources and initiatives. The landmark report Our Common Future (Report of the Commission headed by Bruntland) pointed out the economic significance of biodiversity and also recommended that a convention on protection of species be set up. In tune with the thinking prevailing then it considered biodiversity as a "common heritage". But this notion of common heritage became a contentious issue during negotiations over CBD. In the early 1980s initiatives were made in various for a organized by IUCN for development of international instruments to deal with regulation and use of genetic resources.[4]

In 1985 the basic principles of a draft global agreement were outlined in the Resolution (16/24) adopted at the IUCN General Assembly. The principles were, inter alia, access to genetic resources, state responsibility towards conservation, national laws, and financial resources. Based on this the process towards a draft gathered momentum and Commission on Environmental Law and various bodies associated with IUCN worked on this. This idea found favor with NGOs and UNEP also evinced interested in that. As a result in June 1987 USA sponsored in the Governing Council of UNEP on an all–encompassing convention on the conservation of species. But this was not supported by all and some members were in the favor of the initiatives within IUCN on this matter. The UNEP extended its support to the efforts of IUCN.

The 1988 Draft Convention by IUCN focused more on conservation than on development and proposed a global fund , that would derive its financial resources from license fees, royalties from Intellectual Property Rights vested with the Fund and from amount levied on private sector users of genetic resources. The Draft Convention had other provisions that were tuned more towards the conservation of biological diversity than towards

commercial use or use of biodiversity for development. The International Fund idea was a problematic one.[5]

Thus the negotiations for CBD were done over a period of three and a half year period, from November 1998 and May 1992.[6] Although there were many obstacles the Final Text for Adoption was ready by 25th May 1992. The Intergovernmental Negotiating Committee (INC) adopted the text on the last day of the final negotiation session. The text was criticized by the USA for provisions relating to intellectual property rights, biotechnology, technology transfer etc. This point of view was also expressed by the USA later and although USA signed the Agenda 21 and Rio Declaration it refused to sign CBD. Thus although USA played an important role in initiating the process within UNEP that led to the formation of CBD it refused to accept the outcome.

The major objective of the previous treaties was to protect particular species or habitats or nature conservation in a comprehensive way. These objectives were intended to be fulfilled in many ways. In treaties that focus on particular species or particular species protection against over exploitation was the major goal. Hence these treaties have provisions that enable listing of species as endangered and hence they are given protection and a system is designed to save them from extinction. Habitat conservation and protection is the major objective of conventions like Ramsar Convention, World Heritage Convention. These conventions enable the nations to declare some areas as protected areas and regulate use of them. In many areas there are regional treaties that cover species protection and habitat preservation. Thus before the CBD they were many treaties relating to conservation and protection and the CBD was envisaged in the beginning as a umbrella agreement. But the final outcome was quite different and the CBD turned out to be a framework that supplements rather than subsume earlier treaties and conventions. The major weakness of the CBD is that it does not cover tropical forests and these are home to a significant portion

of biodiversity. Thus the CBD has very little to do with this biotic resource and the forests are covered under national sovereignty.[7]

It is no doubt that such a view sounds too pessimistic and too harsh. But when compared to the original intention the outcome, the CBD was a compromised convention that bears the mark of North-South debate all over. The CBD is a failure if one compares that with an ideal convention that accords priority to conservation and sustainable development over development. It does not envisage any obligation to protect biodiversity from the Parties and has abdicated the Common Heritage of Mankind principle. Thus the local perspectives and demands get priority over global responsibilities and commitments. It is not green enough to satisfy the demands of the conservationists who expected a stronger convention. But it is a convention that should be seen more as a trade off between the North-South positions on conservation, use and development.

What is CBD? A New Type of Animal or a(nother) Paper Tiger ?

The CBD has been hailed as one of the major achievements of Rio Summit but has also been criticized. But the importance of CBD lies in the fact that it is an agreement that tries to strike a balance between developmental concerns of the developing nations with the conservation interests of the developed nations[8]. Whatever it is there is no doubt that the CBD is a step forward and is better than the previous treaties in many ways.[9]

The principle underpinning CBD is holistic is nature, and unlike the other conventions which are oriented primarily towards conserving some areas (e.g. wetlands) or some species(migratory birds, endangered species) the CBD is concerned with biodiversity in all aspects and by is based on a ecosystem approach, which views that ecosystem plays a critical role in conservation and hence conservation of biodiversity has to be more than conservation of particular species and has to focus on conservation of ecosystems as well.[10]

The issue of preserving species is closely linked to the conservation of ecosystems of which they are part. Once the ecosystem is destroyed or a particular habitat is ravaged the very survival of those species would be in question. Hence conservation efforts which aim at protection of a particular specie or species without considering the state of the ecosystem are bound to fail.[11]

On the other hand there link between biodiversity and the capability of an ecosystem to provide goods and services needs to be understood. How to assess the impacts, particularly the long term impacts of human actions on ecosystems and the biodiversity is an important question. Unfortunately there are no clear cut answers to this question. Although it is acknowledged that biodiversity is essential for the ecosystem, and biodiversity plays an important role in maintaining the stability of the ecosystem knowledge on this is limited but still that gives some insights about the significance of biodiversity.[12] Thus CBD is based on principles of conservation biology and is an improvement over earlier treaties on safeguarding flora and fauna.

However CBD does not go very far when it comes to conservation of biodiversity, for there is a tension between conservation of biodiversity, sustainable use and development. The conservation of biodiversity may require less human intervention in terms of conversion of forests into agricultural lands or conservation of ecosystems as they are and protecting the ecosystems from human activities that threaten not only the integrity but also the long term stability and resilience.

But the economic imperatives and demands for resources put pressure on resources and forests rich in biodiversity are replaced with monocultures, of tress that meet the needs of industries. Similarly mega projects like irrigation projects, hydroelectric projects destroy ecosystems or alter them to a great extent and as a consequence the biodiversity is diminished. Thus technically the river ecosystem may still be there but its diversity is

diminished or the forest remains no longer the forest it was before, although there would not be any reduction in the size of the forest. Sustainable development cautions us that resources are valuable and hence should be used with care and requires that economic development and environmental concerns are taken into account in decision making.

CBD tries to balance the two divergent viewpoints. Unfortunately biodiversity is a global phenomenon and hence needs commitment and action at levels that go beyond national boundaries but CBD is a convention that recognizes the sovereign rights of the nations over resources. And nations do differ on the priority for conservation vis-à-vis development.

Biodiversity is an international issue although prima facie it would appear that it is a local/national issue, issue of protecting species or ecosystems. There are many reasons for considering biodiversity as an international issue. In case of saving endangered species which are facing extinction on account of poaching and trade only an international convention that curbs such activities and international cooperation would be effective as it is no longer a national issue. The benefits of biodiversity are not just local, but global. Thus Amazon forests act as 'lungs' for the whole world and tropical forests are rich sources of medicinal plants that are useful for the whole humankind. Moreover only if biodiversity is considered as a matter of global concern, international efforts in conservation which go beyond the interests of a particular region can be justified.

Biodiversity conservation is akin to insurance against extinction of a particular species. So as the benefits of biodiversity are global it is rational that international community should seek to internalize the costs of conservation also.[13] So some environmental principles are most relevant for biodiversity.[14] The three main objectives or goals of CBD are conservation of biodiversity, sustainable use and fair and equitable sharing of benefits that arise out of using genetic resources. CBD has been viewed as the outcome of

six main movements and the various articles and provisions of CBD reflect this concern.[15],[16] It has been argued that CBD was an opportunity than a set of obligations on the part of the States.[17]

This perspective differs much from the views expressed by those who see this as a new breed of international environmental agreement. The CBD is much more than the confluence of these movements, the developments in the international environmental law since the seventies have had more impact on CBD than these movements.[18] In one sense CBD is the response to the biodiversity crisis which was brought into focus in many books and articles and the idea of sustainable development too has played a major role in the convention making process. The Bruntland Commission did speak about the need for an international convention and its recommendations played a significant role in conceptualizing the agenda for Rio summit. Thus CBD is a Convention that has benefited much from the developments in international environmental law and it is not just an opportunity. At the same time CBD is not a Convention that is free of problems or controversies. The CBD has been the outcome of a negotiating process in which the developed and developing nations bargained hard to include their interests and view points. It should be seen as a compromise, a compromise over conserving, and sharing the benefits of biodiversity. CBD is not based on the idea that experts and scientists know the best and hence can decide on the solutions. Rather it explicitly recognizes the role and contribution of women, indigenous communities and has ample scope for participatory decision making. In this context there has been considerable debate within the environmental movement about the appropriateness of the conservation strategies advocated by a section of parks and protected areas movement and the relevance of the idea of wilderness as put forth by them.[19]

What is the nature of CBD - Is it a full fledged convention with specific duties, obligations and rights or is it a just a framework which lacks specificity but only outlines some general principles and intentions and leaves the rest for nation states to interpret and act according to their priorities and objectivities which need not always be coherent with the over all objective of the Convention. Scholars have differed on this. Is CBD a specific treaty [20] or a framework convention [21], [22] or just an opportunity that lacks features of a hard law.[23] CBD does not have many features of a hard law. It is full of many statements which may not be interpreted differently, nor is based on well defined principles and enforceable mechanisms. Hence it might be viewed more as a framework convention than as a full treaty or a comprehensive convention with a clear cut mandate supplemented by mechanisms to oversee that. An umbrella convention has an element of retroactivity and either supersedes existing conventions or they are absorbed in to it. But a framework convention does not invalidate or dissolve existing conventions. Rather it is expected to complement and o-operate with the other conventions. In case of CBD the original intention was to build an umbrella convention but the outcome was a framework convention. It is no wonder that CBD has been recognized as a Convention that imposes few obligations, and at the same time it is a Convention that has specific objectives.[24]

Given the multi-faceted aspects of biodiversity it is not surprising that CBD was founded on an approach that went beyond the legal and scientific basis for biodiversity and this is reflected in the CBD itself as it pays attention to social, economic issues and reiterates values like fair and equity. [25]

It is worth noting that CBD though labeled as a vague framework convention, has mechanisms for creating institutional structures to further the objectives of the CBD. Thus processes are opened up and structures are created where the Parties can express their views. In CBD it is ensured that a majority is not sufficient to amend the Convention and hence

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capturing CBD by a group of nations or a bloc is not possible. But it is also likely that in the absence of a consensus or in view of irreconcilable differences Parties may agree on a very weak agenda or work program which satisfies all but falls short of the response expected from Parties.

Thus it would be better to view CBD as a framework convention which is just a beginning and given the nature and scope of CBD it is an ambitious convention, unprecedented when it comes to conservation .Hence it is reasonable to view CBD as a new type of convention is different from a typical Treaty or Convention but it is much more than mere statement of objectives or a non binding soft law instrument.

The CBD: Structures and Processes: A Brief Overview

The CBD provides for establishment of various bodies under its Articles.

A Secretariat is envisaged under Article 40 for administrating and coordinating with other relevant bodies. To exchange and share information for supporting scientific and technical co-operation a Clearing House Mechanism (CHM) is envisaged under Article 17. The Conference of Parties (COP) is created pursuant to Article 23 for the purpose of overseeing the implementation of CBD and for further work on CBD. For providing scientific, technical and technological advice to COP a subsidiary party is envisaged by Article 25 and this body is called SBSTTA. Based on this the CBD process has resulted in formation of various working groups and other bodies in the context of the mandate of CBD. A detailed analysis of this is beyond the scope of this chapter.

CBD and Sustainable Use

Sustainable use is an idea which was expressed in the World Conservation Strategy in 1980. The concept sustainable development became popular after the WCED. In CBD sustainable use is defined in Article 2.[26]

This definition is closely related to the definition of sustainable development as given by WCED. As argued earlier this idea of sustainable use makes sense only in the context of protection of ecosystems. Since the definition speaks both needs and aspirations of generations, both present and future, it only implies that the Convention is sensitive to both intergenerational equity and intra generational equity. However the question is how does the CBD help in actualizing this concept of sustainable use. According to one scholar various provisions of CBD can be interpreted to indicate or imply measures and approaches to put this idea in to practice.[27]

He cites various provisions of CBD as examples. But he also points out that the CBD does not go very far in this. He argues that these provisions are 'little more than purely exhortatory' and points out that the many key terms are implied by the Convention but they not are explicitly referred to. Thus he views CBD as a beginning and acknowledges that there are many difficult issues to be resolved. [28]

A major shortcoming of CBD is that it leaves national governments to decide what is appropriate or possible. The whole convention is replete with clauses and phrases like "as far as possible and as appropriate", "particular conditions and capabilities" and as a result it is more than a set of guidelines than full fledged obligations. Hence although the CBD is based on the ecosystem concept and is not limited to particular species or region it ultimately leaves much to the discretion to the nation states.

A stronger emphasis on conservation, coupled with commitments would have made it a better convention. In any case the inherent contradiction between development and conservation is bound to have its impacts on the priorities of the national governments. CBD does not list any areas or species for preference in conservation, nor provides for any methodology to assess the priorities in conservation and hence it does not go very far in terms of identifying global priorities and actions for conservation. Much is left to the national

governments. Thus although countries which are home to many hotspots or very rich in biodiversity have signed CBD this itself does not guarantee that CBD will result in greater attention to the issues relating to conservation. Moreover all said and done, even if nations draw comprehensive plans through national biodiversity plans there is no way to evaluate or assess them in terms of priorities in global conservation. Further under CBD there is no binding obligation that a nation should give priority to conservation over development. Thus a nation may well decide to invest in mega projects or undertake industrial activity that could endanger ecosystems.

Thus CBD as a Convention is a significant step forward in actualizing the idea of sustainable use but it is not without limitations. The ethical issues and moral conflicts cannot be wished away irrespective of interpretations on sustainable development.[29]

Thus CBD has to reconcile the different perspectives on use and equity if it were to fulfill its objectives. Ultimately if biodiversity is the common concern of all nations they have to rise above their narrow national interests and realize the limitations of utilitarian perspective and recognize the intrinsic value of biodiversity. There are no easy answers for many questions relating to many moral questions but not posing them is not a good solution. Critics like Vanadna Shiva, have pointed out that sustainable use of biodiversity and issues relating to cultural diversity, development and rights of indigenous communities are important, for biodiversity is closely related to cultural diversity and the dominant development paradigm is a threat to both biodiversity and cultural diversity. This view, which is often labeled as a grass roots perspective is necessary but not sufficient to understand the complex issues relating to biodiversity and sustainable use. A major shortcoming of that perspective is that it is based on essentialism. Please refer to the discussion in the chapter on Biodiversity for perspectives on bio cultural diversity.

CBD, National Sovereignty and State Responsibility

CBD is significant in terms of national sovereignty and natural resources and the Article 3 of CBD flows from Stockholm Principle 3[30]. Thus CBD concedes the national sovereignty over natural resources but it also links this with the responsibility, the responsibility not to damage the environment of other nations. This can be a significant responsibility in some cases where key ecosystems are spread over more than one country and activities undertaken in one country cause harm or damage to the parts of the ecosystems in the neighboring countries. However when hotspots are well within a country according to this provision the sovereignty is beyond dispute. Thus although CBD mentions that biodiversity is a 'common concern of humankind' it empowers the nation state in this regard. And 'common concern of humankind' is very different from the idea of common heritage of mankind.[31] It has also been pointed out that CBD differs radically from UNCLOS, as the latter internationalizes the deep seabed mineral resources and terms of access to these resources are dealt in very different ways by both.[32] Thus the legal status of biodiversity under CBD is amply clear. It is subject to national sovereignty and not part of Common Heritage of mankind.[33] But under Articles 6-10 it at the same time has included the key aspects of the idea of common heritage.[34]

The common heritage approach implies that biodiversity is a global commons and hence regulating would have been subject to a Convention or Treaty that is similar to UNCLOS. But when biodiversity is viewed as a common concern it only indicates that all nations have an interest it but that interest is not tantamount to global juridical right over biodiversity. However the CBD also provides opportunities for co-operation among countries in conservation and utilization. Thus while CBD recognizes the right of the nations, it also makes it clear that this right is a right that is subject to some responsibilities as well.

CBD, National Sovereignty, Biodiversity

It is well known that during negotiations for a Convention developing nations insisted that access is subject to certain conditions and the national sovereignty should be respected. The stated objective of the Convention as indicated by the negotiations does speak of this.[35]

In the 1983 FAO undertaking the plant genetic resources was specified as common heritage of humankind. But by the time the negotiations began in 1990s the idea was given up and the national right over bio resources became the dominant perspective. For developing nations the Common Heritage Perspective meant free access to genetic resources and loss of control over them. NGOs and others have pointed out the anomaly that while germplasm is provided at no cost or is available for access easily from various sources, the intellectual property rights are resulting privatizing the genetic resources and using biotechnology the developed nations are in an advantageous position to do this. The developing nations were seen as mere providers with no rights, while the developed nations were seen as monopolists who used intellectual property rights and technology to their advantage. . The rationale for Farmers' Rights was that while plant breeders who used the materials from farmers and communities could claim plant breeders' rights, but neither the farmers nor the communities had any similar rights and hence their contribution was not recognized. NGOs pointed out that developed nations made huge gains out of the germplasm taken from the developing nations and the gains were significant in agriculture and pharmaceuticals sector where improved varieties, new drugs etc brought in millions of dollars of revenues. The case of rose periwinkle and others were cited to prove this. The developing nations were also concerned about the global conservation politics and viewed demands for protection of tropical rainforests as a threat to their right to development and using natural resources. Thus be it forests in Amazon or in Malaysia the idea that forests are common heritage was viewed with

suspicion. The comments made by the Malaysian Prime Minster on deforestation and development illustrate this thinking.[36]

The developing nations are also centers of mega diversity and are home to a significant portion of the global diversity. Thus it was easy to speak of a gene rich south and technology rich north[37]. But the distribution is not even and there are wide disparities within regions/continents. For developing nations the priority was development and not conservation per se. And it was asserted that the developed nations having consumed too much of the global resources were trying use conservation as a pretext to impose their views on natural resources and development. This was seen as a threat to the developing nations' development objectives. Only by asserting that they have sovereign rights over natural resources developing nations could indicate that they do not want any interference from the developed nations. The North South divide ignored the basic fact that development with utter disregard for natural resources protection or conservation will do more harm than good in the long run and in their own interest the developing nations invest in natural capital and promote sustainable use of resources. Moreover to exploit biodiversity using biotechnology would make sense only if the importance of biodiversity is recognized and conservation be viewed accordingly. But if tropical forests are evaluated in terms of revenues from timber sales alone, the value of biodiversity is not recognized. Thus a prudent policy would be to integrate both conservation and development and to ensure that the long term negative impacts of developmental projects are minimized. Unfortunately although this view was advocated by NGOs and civil society groups it found little favor with developing nations. The North South divide thus is based on a faulty logic but that provided the basis for the position taken by developing nations in the negotiations over CBD. But the North has no moral right to preach about conservation as it has devoured the earth's resources and continues to do so.

Before examining in detail the idea of national sovereignty over biological resources it is important to note that CBD confers the sovereign rights over 'natural resources' of a country and natural resources cannot be equated with biological diversity. In other words CBD extends the concept of national sovereignty from UN Resolutions and applies it to natural resources. The term (natural resources) is not defined by CBD. But natural resources and rights over them could be interpreted in many ways. For example this right could be interpreted as right to improve upon natural resources, modify them or use them, deal with them in any manner as deemed appropriate.

Moreover biological diversity is a part of natural resources and the broad term natural resources thus includes biological diversity, ecosystems and all other resources including forests etc. Thus the right over natural resources could be used in such a way that it affects biological diversity also. This could be interpreted as a right to undertake development projects, bring in extensive changes in natural ecosystems.

Does this right include a right or claim for intellectual property rights over biological diversity? It does not imply so for intellectual property rights in most cases, however long they may be, are not rights in perpetuity. Rather they are rights to be enjoyed subject to certain conditions for a particular period. Again intellectual property rights are limited in the sense they are rights over ideas, techniques, processes than right over materials per se.

For example a plant breeders' right over a new variety is a right that is specific to that variety and is not a right over all germplasm that contributed to that variety. Thus the mere expression 'rights over natural resources' does not automatically translate in to an intellectual property right. For example this right does not prevent another country using germplasm to create a new variety and claim patents over the new variety. Thus although country A may argue that it provided the resource or basis for the new variety its rights do not include the right to stop other nations claiming intellectual property rights over materials derived out of

this as long as the norms for intellectual property protection are met. Thus the right to natural resources cannot be used to obstruct or object to technological development and intellectual property rights. This is related to the question of intellectual property rights over products of nature and the norms of intellectual property rights as appropriate and applicable will be the guiding factors in an answer to this question and not the rights over natural resources. And a nation can certainly interpret this idea of rights over natural resources to use modern biotechnology on natural resources. Thus nation can justify its replacement of a forest with trees that are fast growing and are genetically modified as long as these activities do not affect the environments of other countries, as specified in Article 3.

Sovereignty has many elements, including, but not limited to jurisdiction, territorial autonomy, non-intervention.[38] It also includes right to make use of the natural resources.[39] Thus sovereignty over natural resources could include jurisdiction, right to use/appropriate natural resources and jurisdiction could be interpreted as the right to provide/limit access, exercise caution and control and act in any manner that is at the best interests of the sovereign, subject to applicable laws and regulations. Thus sovereign rights over natural resources includes recourse to international litigation if the natural resources are damaged or harmed by the actions of another nation or its agents. Thus the sovereignty is a right that comes with obligation as well. The international treaties and conventions thus limit the freedom of states in the interest of environmental protection and to protect the global commons. The recognition that national acts could jeopardize the global commons thus translates into protocols or treaties that put limits to resource use or emissions or phasing out substances that harm the atmosphere. Montreal Protocol and Kyoto Protocol thus limit the right of the nations in the larger interests of the humankind. So sovereignty over natural resources and the right to use them is not absolute. The other challenge to sovereignty comes from globalization, trade regimes and conditions imposed by institutions like IMF, World

Bank. In case of trade regimes it could be rules under WTO Agreements or other Trade Agreements like NAFTA.[40] Conditions imposed by IMF and World Bank often limit the sovereign right to use natural resources in any manner as the sovereign deems fit. (There is an ever growing literature on state sovereignty, globalization as well as on challenges to sovereignty from various actors and technologies like information and communication technologies. As a detailed discussion on these is beyond the scope of this dissertation only few references have been cited to highlight this aspect)

Schrijver points out that in international law there is no legal definition of the term natural resources. The sovereignty over biological diversity is linked to the sovereignty over natural resources. This idea of sovereignty over natural resources flows directly from the idea of permanent sovereignty over natural resources.[41]

Moreover permanent sovereignty is considered as an absolute right that is inalienable and the right to dispose of /use natural resources is a right that is not barred by any time limitation. Such views have been the basis for many resolutions in U.N. General Assembly. The North South conflict over environment and development and the question of national sovereignty are inter related.[42]

Moreover in the context of biological diversity and forests the issue was framed in terms of global commons, piracy, enclosure and supra national control over natural resources of the south. Thus the idea of sovereignty over natural resources has been used repeatedly by the developing nations as an instrument of resistance and assertion.[43] Thus by the time CBD was being negotiated it became clear that this right over biological diversity would be used by the developing nations instead of a common heritage perspective. Interestingly much of the debate on sovereignty was on nationalization of foreign investment and property and the right to nationalize subject to appropriate compensation.

The CBD does speak of the Charter of U.N and principles of international law in the context of sovereign right of the States. This can be inferred from Article 3 of CBD.[44] Thus the sovereignty over all resources and the exclusive right to exploit resources within the national boundary is recognized. But this sovereignty is not absolute and the obligation not to cause harm to the environment beyond the territory is a binding one.

As discussed earlier the sovereign right to exploit resources is a sovereign right of a state. This right confers upon the state the power to use or exploit or dispose of the resources as it deems fit. The sovereign power includes taking over resources including land and private property and hence under CBD the state can exercise their sovereign power over natural resources to include in situ germplasm even if it is under the control of a community or a private party.[45]

A question arises about the countries which are not parties to CBD but members of United Nations and their responsibility under Article 3. Countries which are not parties to CBD cannot be expected to have an obligation under Article 3. This flows from the fact that principle of I codified in Vienna Convention on Law of Treaties Pacta sunt servanda, the duty to observe agreements and stipulations contained in treaties, derives from natural law.[46] But whether a country which is not a party to the convention is bound to respect the sovereign rights of a country which is a party to this convention is a question relating to international customary law and an examination of this issue is beyond the scope of this dissertation.

Article 3 is very similar to Principle 21 of Stockholm Declaration 1972 and the same was reaffirmed in 1992 Rio Declaration as well. This is again affirmed by many treaties and conventions and in clear cut terms in 1982 UN Convention on the Law of Sea which states "States have the sovereign right to exploit their natural resources pursuant to their environmental policies and in accordance with their duty to protect and preserve their marine environment"

At the same time this idea of permanent sovereignty is not just a simple power over natural resources. It should be exercised with caution.[47] Regarding CBD the principle of sovereignty and avoiding actions that would harm to the environment to other countries is all the more relevant because CBD is based on the need to conserve ecosystems and ecosystems are often spread over more than one country. Thus sovereignty does not preclude cooperative action for conservation and sustainable use of ecosystems.

This sovereignty cannot be claimed over genetic resources that have bee already transferred outside the country of origin or over genetic resources stored in gene banks outside the country or under any ex situ conservation outside the country. According to CBD germplasm collected prior to the signing of CBD will thus be outside the purview of CBD. The principle of non-retroactivity in law is applicable in case of CBD. If the concept of sovereignty were to be extended to germplasm already stored outside the country of origin then it would create confusion. The resources or a part of it would have been under different rules of access. Besides this there are many practical problems. For example it would be difficult to ascertain details about country of origin and identical material would have been collected from more than one country. Such recognition if given under CBD would be against the principle of non-retroactivity. The germplasm that have already been stored elsewhere are of significance but that does not mean that countries are not free to use the identical germplasm that is still available within its borders. What it cannot do is to restrict the usage of germplasm stored in gene banks in IARCs and in other countries. For example a country can still provide access and other rights and enter in to benefit sharing arrangements with another country even if the germplasm in question is available in the gene bank of an IARC. This does not affect the rights of IARC and in any case IARCs holds rights in trusteeship. Thus although the decision to exclude such resources was controversial it did not derail the CBD process because of the reasons mentioned above.

How a nation asserts its sovereignty is again left to the countries to decide. Apart from Article 3 the sovereignty concept is relevant in the context of some other articles also. A country is free to pass appropriate laws that are in conformity with articles of CBD and in exercise of sovereign power over natural resources. If at all anything the provisions of CBD can be creatively used to do that.

State Responsibility, International Environmental Law and CBD

States have the responsibility to ensure that their actions within their boundary or jurisdiction do not harm the environment of other countries. This is a well settled principle of international environmental law which has been affirmed by decisions of ICJ also.[48] The Stockholm Declaration of 1972 has formulated this concept of state responsibility in Principle 21 which while acknowledging the sovereign rights of the states over own resources also stressed the responsibility of not harming the environment of other states.[49] This was subsequently affirmed by the Rio Declaration of 1992 as Principle 2 with some modifications.[50] But states can harm the environment of other states or pollute the global commons in many ways and the many conventions/treaties to prevent transnational/trans-border pollution are weak or are only soft laws.[51]

Moreover there are many unresolved issues in invoking this in practice[52]. Hence this concept was not invoked in cases which resulted in trans-national environmental damage (e.g. Chernobyl disaster. But this does not mean that this idea is totally useless as it has been affirmed in cases involving trans-border pollution and projects that harm the environment[53]. In the case relating to Gabcikovo-Nagymaros project ICJ affirmed this principle[54]. In an earlier case ICJ made some significant observations regarding state responsibility towards global environment also even as went on describing the contours of *obligations erga omnes.*[55] The state responsibility to do no harm to environment of other states has been affirmed in many cases.[56] The Principle 21 of Stockholm Declaration is recognized as rule of customary

international law. Moreover this principle has been affirmed by many international declarations, treaties and conventions, while the Principle restated in Rio Conference is echoed in both UNFCC and CBD.[57]

Thus prima facie the state responsibility to do no harm to the environment of another country is an accepted norm in international environmental law. There are two elements in state responsibility. While the sovereign rights of the state is affirmed and is mentioned in many a declaration and international instruments, the duty towards other states is also affirmed in Principle 21 under which they have an obligation not only to ensure that activities with their jurisdiction or control do not result in damage in environment of other states, but also to ensure that activities whether public or private, within their jurisdiction or control are regulated in such a manner so as to not to cause damage to the environment of other states. This is also in accordance with the standard set in Corfu Channel case, that no state could allow use of its territory to harm another state.

The Principle 21 speaks of 'areas beyond the limit of national jurisdiction' and hence the responsibility is also towards high seas, deep sea-bed, air space above them and global commons like Antarctica. Viewed in the context of sustainable development as affirmed by Rio Declaration it can be argued as biodiversity is of common concern to humankind all states have a responsibility towards protection or conservation of biodiversity. The Article 3 of CBD echoes the Principle 21 of Stockholm Declaration as restated in the Rio declaration. But to what extent states have respected the state responsibility to do no harm is a question that cannot be avoided. Unfortunately very little has been achieved in this regard for various reasons.[58]

In the context of biodiversity although it can be considered as common concern of humankind the responsibility to do no harm has to be viewed in conjunction with common but differentiated responsibility. The idea of common but differentiated responsibility does

not override the other responsibility enshrined in Principle 21. But in case of biodiversity trans-boundary harm need not necessarily arise out of wanton plan to do so. Rather severe disturbance in ecosystem spread over more than one country is enough to do so. The damage to biodiversity of another country may occur over a period of time and it is difficult to identify and fix the cause for the same. For example acid rain can cause damage to forests but to prove that acid rain arose solely out of the action of one country is difficult to prove. In case of damage to global biodiversity on account of global warming it is difficult if not impossible to responsibility on any particular state or states. Hence given the global nature of biodiversity a territorial perspective based on the territorial responsibility of the states is inadequate. It has been pointed out despite treaties and the applicability of the principle of state responsibility international environmental law has not been much helpful in protecting rivers in Europe from trans-border pollution etc.[59] It has been pointed out that this principle is well established in modern international law, in practice it has not been an effective deterrent.[60] Further in case of applying this principle to global commons there are many legal problems, including the opposition to accept the harm to environment per se, as a legal concept in practice.[61] Hence the state responsibility principle as enshrined in Article 3 may not be all that effective when it comes to global biodiversity conservation.

Common Heritage of Mankind, CBD and Plant Genetic Resources

The Common Heritage of Mankind was articulated first by Ambassador Padro of Malta in 1967 as a principle to be applied in international law. Since then the concept has been discussed widely and there is no consensus on what exactly is meant by CHM. Nevertheless it has been invoked in discussions relating to global commons which include but not limited to outer space, ocean floor, Antarctica, and the moon. These are resources or territories that are beyond the sovereign rights of any nation or its authority. This notion of CHM became an important theme in discussions regarding sea bed and exploiting the

resources of the sea bed. But both South and North have used CHM as and when it suited their interests. On the other hand the notion of CHM is useful when it is applied as a concept that illustrates the limits f national sovereignty approach on natural resources. The national states given their mandate and nature to put their interests before the interests of other nations or collective interests are ill equipped to handle global commons and take steps for their protection. At the same time global commons can be protected if only nation states understand collective action and shared responsibility is a better option. But what are the global commons is a matter of dispute and if so ca we allocate rights for each individual over them is another question that has wider ramifications. Global commons are not be confused with common property resources or common pool resources and hence CHM will not be appropriate concept for these.

An interesting issue is whether Permanent Sovereignty over Natural Resources and (PSNR) and CHM are contradictory or can be they reconciled. PSNR arose as a measure to assert the rights of developing nations, most of which obtained freedom from colonial system in the 1940s, 50s ad 60s and were interested in using natural resources for economic development and to embark on development plans. The developing nations argued that this right is an exclusive right and the natural resources can be used in any manner as they deem fit. The controversy over Amazon region illustrates the different perceptions on CHM. The Amazon region in Brazil is very rich in biodiversity and it is estimated that it produces 50% of the world's oxygen. So it was argued that protecting it is in the interest of all countries and hence it should not be subject to the complete sovereign rights of a single country, i.e., Brazil. However Brazil did not endorse this view and insisted that Brazil has every right to determine as to how to use or not to use that region and forests. In case of tropical rain forests and Amazon region their importance as biodiversity hotspots does not mean that they are CHM. Such a notion of CHM is opposed to the idea of common but differentiated responsibility.

North cannot claim to speak for the whole humankind, nor can argue that it has better interests ad hence rights over such hotspots. This does not mean that developing nations are perfectly right when they destroy natural resources like tropical forests for earning revenue through exports. Rather it would be desirable that economic development is integrated with conservation and sustainable use. Ideas like debt for nature are based on the view that resources mobilized in the North could be used for conservation in South. However a detailed analysis of this is beyond the scope of this chapter. The North – South controversy over interpreting CHM was evident in negotiations over UNCLOS and Antarctica. The South argued that CHM implied controlled use that would benefit all countries but North found this to be impractical. If a resource is considered as CHM, it does not mean free access regime exists.[62]

In case of biodiversity, particularly plant germ plasm application of CHM has been controversial. As discussed earlier the global transfer of germ plasm from South to North has a long history and much of this transfer took place as a part of the strategy to use the genetic resources to further the interests of North. In the 1980's the debate on sovereignty and genetic resources intensified as it was alleged that the developed nations are misappropriating the genetic resources obtained from the developing nations without sharing any benefits that arise out of the genetic resources and at the same time are using intellectual property rights to assert their rights over new varieties of seeds etc[63]. For long the CHM as interpreted by the North was the guiding principle regarding collections and trans-border movement of germplasm and establishment of gene banks.[64] But plant genetic resources were not part of the discussions or resolutions on CHM. Prior to CBD access to plant genetic resources was open and they were not considered to be under sovereignty although the base or organic material was under national sovereignty. But this was of little relevance for all that was needed was taking out a few samples and storing it elsewhere in a gene bank. But CBD had

changed this. Prior to CBD CHM over plant genetic resources was considered by South as controlled and restricted use and this was for all countries but North viewed CHM over plant genetic materials as open access, free and without charge or obligations, in the context of gene banks. But with reference to Intellectual Property Rights over plant genetic resources North dumped the CHM concept. Article 15 of CBD not only recognized the sovereignty over plant genetic resources but also extended this to information inherent in genetic resources. The information inherent in genetic resources is a crucial input and the value of plant genetic resources is related to the value of this information. Thus the status of plant genetic resources undergoes a dramatic change with the advent of CBD, from CHM to national sovereignty. This is important because right to genetic resources is made subject to the question of sovereignty and acquiring the genetic resources under due process of law. A national government may refuse the right to access if it feels that it is better to utilize the genetic resources indigenously than sharing them with others. The sovereign right over natural resources is quite extensive and hence just as a nation can refuse to open up mines or oil wells for other countries to exploit it can deny access to areas whose biodiversity it prefers to reserve for its own use. As CBD provisions are applicable to Parties who ratify CBD and hence only member states are obliged to respect this sovereignty over plant genetic resources. The relevance of the idea of ownership of genetic resources is examined elsewhere.

The extension of PSNR concept to genetic resources and the consequent demise of CHM are not without merits and demerits. The extension has helped south to assert its rights over plat genetic resources and to plan for their use and conservation in accordance with their national development priorities. Moreover it has ensured that germplasm transfer that took place in the colonial era is no longer an accepted practice. As a result plant genetic resources are longer free goods or available under free access. At the same time a global resource, global biodiversity is left to the mercy of nation states and this means that national interests

will override the duty to preserve biodiversity and nurture it. The demise of CHM also means end of free germplasm exchange and access among countries.

With this there is little incentive for global conservation and collaborative work and collective interests and welfare are relegated. The International Treaty on Plant Genetic Resources is an attempt to balance both these perspectives and to promote conservation and sustainable use in the context of a multilateral system and in accordance with the Global Plan of Action. The Treaty does not cover all crops or all plant genetic resources and hence is only a beginning. The Treaty complements CBD in many ways and also recognizes the national sovereignty.[65]

But PNSR and CHM are not in total contradiction with each other. It depends on how these concepts are developed further and refined.[66] It is also argued that they are not contradictory but are inherent in each other.[67]

Owning Genetic Resources

Ownership should not be confused with sovereignty. Rather ownership flows from sovereign right over genetic resources and here we refer to right of the state(s). Ownership in case of genetic resources could be a combination of rights and obligations and rights and obligations make sense if only there is an authority or regime to guarantee rights and to ensure that obligations are met. But such an authority rests with a sovereign state or with a legal framework established by the state. Thus the ownership over genetic resources is subject to the rules and regulations framed by the state. The rights could include the right to share benefits, the right to refuse access, the right to determine norms for access etc and the obligations could include sustainable use or sustainable harvest, maintaining the ecosystem in a good condition, using only up to the extent permitted or honoring the quotas set, and obligation could be in form of any condition which puts restriction o any further use For

example a country can demand that access is subject to the obligation that micro organisms obtained should not be used to develop biological weapons or toxins.

Under CBD Article 15 no specific guidelines on ownership are stated. It is for the individual states to identify the owners or establish a legal mechanism which deals with these questions. Ownership and access are linked and owners can be the benefit sharers as well. Again the law may identify different owners and provide for different forms of access. Ownership could be co ownership also. For example a state can designate indigenous communities as co owners with it and hence can specify that they are entitled to benefit sharing. Similarly the state can vest the rights of ownership with an Authority and can specify rules for participation and decision making. Thus ownership over genetic resources flows from sovereignty but it need not end with the state. The CBD provides enough scope to nation states in this issue to devise regimes relating to access, ownership and benefit sharing. The authority that provides access need not necessarily own the resource. Similarly the Authority that collects revenue from benefit sharing may be different from the Authority that owns the resource. If a region is earmarked for biodiversity prospecting the state can transfer the right to provide access and grant ownership rights over in that region to a private entity or to a consortium.

Article 15 and Access to Genetic Resources

Article 15 of CBD cannot be viewed except in the context of North-South debate over genetic resources. It provides access to genetic resources in other countries and Article 16 deals with access and technology transfer. Thus these two articles together form an important part of CBD. If the CBD could be considered as an exercise in trade off these two articles reinforce that view. National sovereignty, prior informed consent, benefit sharing – these became the basic conditions for granting access and for North Article 15 facilitates access to genetic resources.[68]

But it goes further and states that the State has an obligation also, an obligation to 'create conditions to facilitate access to genetic resources for environmentally sound use by other Contracting Parties'. This facilitating access and sovereignty are closely linked for not only sovereignty but also ownership is essential to put conditions to access or to facilitate access. By this article CBD removes once and for all any doubt over sovereignty over biological diversity. By this article CHM has been discarded and the sovereignty principle has been established. And this sovereignty is coupled with the obligation to facilitate access. But CBD does not state that countries should compulsorily provide access to genetic resources. Because the right to sovereignty includes the right to her deal with biological diversity as the country deems fit. But creating conditions to facilitate access is too ambiguous a term that could be interpreted in many ways. Whether the conditions hinder or facilitate access is a matter of debate. The bioprospecting and linking conservation with development were the two ideas that shaped these provisions.

The North has an interest in both. Thus while conserving biodiversity is important, the exploitation of biological diversity through bioprospecting has been touted as a win-win solution for both North-South. And conservation of biological diversity is in the long term interests of both North and South. For south also it is better to have its sovereignty accepted so that it could ensure that unauthorized transfers as in the past could be prevented. But CBD as a Convention has many terms vaguely defined or poorly crafted provisions. One reason for this is it is a more a framework convention with procedural instrument than a Treaty with clear cut terms. The obligations of the Parties are not clearly defined in the CBD and freedom of interpretation is with the nations. Since it is the nation states that are expected to bring laws on access and benefit sharing this gives lots of flexibility to states.

CBD defines genetic resources as 'genetic materials of actual or potential values'. Genetic materials are defined as 'any material plant, animal, microbial or other origin

containing functional units of heredity'. Thus potential value which cannot be ascertained easily is used to define genetic resources. This definition is unfortunately misleading as even if a genetic resource has either actual or potential value as defined or assumed it still has some intrinsic value it. Sovereignty makes sense only in the context of relationships between states. But ownership is not defined in CBD Article 15 para 1. All it says is that the question of ownership is to be determined by national government and it is subject to national legislation. But state is not the only owner the other possible owners are farming communities, indigenous people, individual owners or private bodies etc. The genetic resources could be owned collectively, regulated like a common property resource or as a shared resource. It is also possible that the ownership could not be clear legally or there could be res nullius. But the national sovereignty provision enables the state to be the overriding authority in this. Irrespective of the ownership all genetic resources can be accessed only if the state permits this.

But the crucial question is who owns the inherent genetic properties or the functional units of heredity. There are no definite answers to this. But ownership to genetic properties is a question for which there could be several claimants, and often their contribution to that or their extent of ownership is difficult to ascertain or decide. For example there is confusion as to whether one owns one body parts. In case of common property regimes the ownership could be traced to some events in the past and as the community evolves the resource would have undergone changes. So who should claim ownership is a difficult question to answer. The human effort which has been a major cause in the development of the diversity deserves recognition. But CBD is silent about the question of ownership to genetic resources and hence the presumption is that sovereignty and ownership go together. Article 8j talks of 'holders of such knowledge' and does not explicitly state that holders are owners or at least owners in part. Indigenous communities do not have automatic ownership right over

biological diversity under CBD. Thus the issue is left for the national legislations to identify the owners. Prima facie it may look that ownership is a necessary condition to grant access but it need not be so. National legislation may grant a right to provide access without granting the right to ownership. For example just like an oil well which could be leased to and the lessee can use that right to extract petroleum or permit somebody else to extract petroleum national legislation can grant lease over a particular area of forest for bioprospecting which could be used by the lessee.

As indicated earlier however the ownership in the genetic information need not flow from the ownership in the physical resource. A farmer's right to use the harvest as a commodity is different from his/her right to use that as seed. The latter is restricted by plant breeders' rights, if applicable. Thus ownership of organism or physical resource is different from ownership over the genetic information or inherent properties. Of course the whole issue is related to the development of property rights and laws that govern property rights. The source country can regulate the ownership and access to genetic resources in many different ways.

Developing Nations and CBD: Some Issues

The CBD does recognize that developing nations and developed nations have different priorities and capabilities. Hence Article 6 states that parties are required to take measures for conservation and sustainable use 'in accordance with its particular conditions and capabilities'. The extent to which developing country Parties will effectively implement their commitments under this Convention will depend on the effective implementation by developed country Parties of their commitments under this Convention related to financial resources and transfer of technology and will take fully into account the fact that economic and social development and eradication of poverty are first and overriding priorities of the developing country Parties.

Economic and social development could be used as a pretext for destroying natural forests and ecosystems, although that may be against sustainable development. Now irrespective of what developed nations do, should not the developing nations show some interest in conservation and is sovereignty just a right to dispose off natural assets and is not that a responsibility as well. It is true that developed nations should fulfill their commitments but linking this with the conservation in developing nations is disastrous in theory and practice. If conservation of biodiversity is a common concern of all nations then common but differentiated responsibility makes sense only if it means that developing nations are responsible and that responsibility is not predicated upon some conditions. It is true that eradication of poverty and development in developing nations are very important but it could be argued that the developing nations have been equally at fault, if not more, on matters relating to development and eradication of poverty. Given the fact that some countries have done exceedingly well in this and some have failed miserably the question is what is the linkage between foreign aid and technology transfer on development and eradication of poverty. There is no need to link the legitimacy of conservation of biodiversity with other factors or priorities. The long term interests of developing nations cannot be sacrificed in the name of economic and social development and eradication of poverty.

Articles 16 to 19 deal with transfer of technology. The Article 16(1) states that transfers should be in 'fair and most favorable terms', 16(3) states that parties should take steps with the objective that parties that provide genetic resources have access to technologies to make use of these resources and also provide for transfer of technology. The CBD also talks of technology transfer in 'mutually agreed terms'. The CBD thus views transfer of technology and access to technology as goals that would benefit the developing countries. This follows from the understanding North is technology rich and South is gene rich and only a technology transfer can help the South to make the best use of the genetic resources. But

technology transfer and transfer of technology have been controversial. Governments are not keen to force the private sector in transfer of technology or providing access to technologies as these are commercial matters in which market forces are expected to play a major role than governments. The technology transfer is always a contentious issue with linkages to other matters like Foreign Direct Investment Policies, Intellectual Property Rights Regimes, and Industrial Development Policy etc. MNCs are often reluctant to transfer key technologies except to their own subsidiaries or associates and are also not interested in transfer of technology to every country that needs them. Moreover as a matter of policy they would prefer transfer of technology only if they find that it is in their interests to do. Hence despite the good intentions expressed in CBD, transfer of technology is a matter that is determined by policies and market forces than by these provisions.

The crucial question and the question which this dissertation tries to address- the question of intellectual property rights is specified in Article 16(2), which states that access and transfer "shall be provided on terms which recognize and are consistent with the adequate and effective protection of intellectual property rights". Article 16(5) wants the parties to cooperate so that intellectual property rights do not run counter to the objectives of the Convention. Thus protecting intellectual property rights is fine as long as they do not hinder the implementation or objectives of the CBD and help in fulfilling the objectives. While this sounds nice but there are many unresolved questions. First of all Intellectual Property Rights is subject to provisions of WTO TRIPS than any other Convention. Thus respecting IPRs would amount to adhering to TRIPS norms .So adequate and effective protection is a matter that is left best to WTO than to CBD for interpretation. Whether IPRs run counter to the objectives of the CBD is again a controversial question and whether they can help in achieving the objectives of the CBD is also an equally controversial issue. Although USA was among the first to suggest the need for a Convention it has always remained

apprehensive about the provisions of CBD on IPRs. What can be patented and what cannot be is again a matter that is subject to national laws and TRIPS. So linking IPRs and transfer of technology only complicates the matter as a country which has technology may refuse to provide transfer or access if it feels that the other country has an IPR regime which is not strong enough to protect the interests of the country that provides technology or the IPR regime enables free riding. Again the question of IPRs over the products produced/made out of the genetic resources using the technology transferred or provided access is a controversial question.

According to Article 19(2) 'Each Contracting Party shall take all practicable measures to promote and advance priority access on a fair and equitable basis by Contracting parties, especially developing countries, to the results and benefits arising from biotechnologies based upon genetic resources provided by those Contracting parties. Such access shall be on mutually agreed terms'.

The provisions of CBD do not give a right to developing nations to access technologies covered by intellectual property rights by overriding those rights. CBD talks of access and transfer based on mutually agreed terms and hence the supplier of technology is free to put restrictions on the use of technology. But these provisions were one of the reasons for the US reservation on CBD. But provisions of CBD are not against intellectual property rights per se. The CBD could be read either as a Convention that supports or opposes IPRs depending upon one's perspective. CBD does recognize the importance and relevance of IPRs and role of technology transfer.

It is not requesting the technologically advanced countries to provide technologies or access free of cost. Rather it expresses the view that technology transfer could be done in terms that would be favorable to developing nations. Thus the letter and spirit of CBD as evident in Articles 16(2), 16(3), is that technology transfer and access should be on terms that

reduce the financial barrier and help developing countries in sustainable use of genetic resources. Articles 20, 21 provide for a financial mechanism for facilitating access and transfer of technology. Thus a part of the funds contributed for implementation of CBD could be used in technology transfer.

In situ, Ex Situ Conservation and CBD

According to CBD in situ conservation is defined as "the conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings and in the case of a domesticated or cultivated species, in the surroundings where they have developed their distinctive properties" (Article 8). Ex situ conservation is also important and CBD defines that as 'conservation of components of biological diversity outside their natural habitats'. (Please refer to the discussion in the chapter on biodiversity). Thus in situ conservation encompasses measures that protect a whole range of eco systems, including protected areas, natural habitats, regenerating degraded areas and safeguarding endangered species etc. These are already subject to other Convention and Treaties like CITES, Ramsar, Bonn etc. As with most other articles of CBD the Articles 8, 9 which deal with in situ and ex situ conservation, leave the implementation to individual states and they are enjoined to implement them 'as far as possible and appropriate'. Read with other articles like Article 5 it gives an impression that CBD encourages co-operation between parties on matters relating to conservation but does not lay down an agenda or lists the priorities in global conservation. But international cooperation on this needs not only a shared agenda but also commitment to find resources and devise appropriate mechanism to support global conservation or conservation in a specific region.

CBD and Other Conventions

According to Article 22 of CBD "the Convention shall not affect the rights and obligations of a Contracting Party deriving from any existing international agreement, except

where the exercise of those rights and obligations would cause a serious damage or threat to biological diversity". The question of inconsistency arises not with the objectives of other Conventions or Treaties but with their specific provisions on the utilization or trade in the species/resources. For example the International Convention on Regulation of Whaling and CITES explicitly restrict/regulate whaling and hunting/trade in species or products derived out of them. When the measures taken under such conventions run counter to the objectives of CBD or result in damage to ecosystems or loss of biological diversity the Parties to CBD might reconsider those measures or could try to reconcile them in such a way that the impact of such measures is minimal.

However CBD is a framework convention and hence should be read as a broad framework that incorporates many views/perspectives on conservation and development than as a Convention that is focused upon conservation per se.

CBD focuses on ecosystems and this could result in increased co-operation with other regional conventions and treaties and as often biodiversity in one region is affected due to forces operating outside a particular region the CBD framework is ideally suited for finding the causes of biodiversity decline or loss and find solutions that strengthen the existing arrangements with additional support from CBD. CBD COP3 had recognized this and hence has called for closer collaboration with Convention on Desertification and also invited Ramsar Convention to become lead partner.[69] Although existing agreements on preservation of species and habitats have made some progress they have not achieved much. One reason for this is that they do not cover all geographical areas, habitats and species. Most agreements do not have any effective regulatory mechanism and areas rich in biodiversity are often not covered by such agreements[70]. Hence CBD which is concerned with global biodiversity offers an opportunity to overcome the drawbacks of existing agreements and formulate policies that address the causes for biodiversity decline. Thus in theory CBD is well placed to

act as a convention that could achieve what the other conventions that focus on one or few aspects of biodiversity cannot achieve. But what has happened is different.[71]

Moreover the co-operation between older regimes and treaties and CBD is not easy because harmonization involves reconciling different objectives, norms and principles that govern them. For example CITES is a species-centered convention and its relevance of its provisions have been questioned for conservation. CITES is a convention with a narrow focus and it does not take a holistic perspective on the human society-nature nexus and on the other hand CBD adopts a holistic perspective. But CITES has a very different mandate and is more oriented towards regulating the Trade to ensure that endangered species are protected and hence trade bans or restrictions are the major modes of regulation, which is not the case with CBD. In case of intellectual property rights the relationship between ITPGR and CBD on one hand and the relationship between ITPGR and TRIPS on the other hand and the relationship between the three is not yet clear. Similarly although UNFCC has Linkages with CBD nothing much has happened in terms of coordination between the both Conventions. There are too many conventions and treaties that are related to biodiversity in one way or other. The linkages are too many and the issues are more complex to be handled by a small secretariat. The CBD thus may have an ambitious objective but it cannot find solutions to all problems related to global biodiversity. Moreover in the context of forests although forests are very important in terms of biodiversity there are other fora and bodies that get the most attention from Parties to CBD in this. Both FAO and ITTO have become the major fora in this than CBD. As a result there is little coordination between these three. CBD comes under UNEP where as FAO is an independent UN Agency. Moreover apart from FAO, ITTO discussion on forests related issues have taken place in other UN sponsored fora as well. As a result, though, logically CBD should have the primary forum for discussion on forests in view of the significance of forest biodiversity it is not so. A forum like ITTO which has a focus on use

and trade in timber products gets more importance than CBD. This has more to do with the perspectives of states than with CBD per se. For many states forests are resources that have to be exploited and biodiversity becomes less importance than regulating trade in forest products. The turf wars cannot be wished away and they are part and parcel of any global initiative that deals with issues that cut across many treaties and conventions and the programs or agendas of many agencies.[72]

As a result of such developments the comprehensive mandate of CBD is left unfulfilled. The real problem is that there are too many conventions and treaties and co-ordination and cooperation between the treaty implementing bodies becomes more complicated. The linkages are too many to be handled by a small organization and the choice is either to focus on some key areas and continue to work on that or to give importance to inter agency co operation and co ordination and develop the linkages. The former seems to be a better choice in terms of functioning and building up an agenda and workable programs in the long run. Given the fact that CBD is just a decade old and the CBD has a very ambitious mandate it is too early to write off that as a failure. Rather it would be wise to expect that CBD would do well despite the constraints.

CBD and Jus Cogens

Some norms are so fundamental that states will not be permitted by international community to violate them or to enter into treaties that would result in such a violation. These are called jus cogens norms[73]. The Article 53 of the Vienna Convention defines jus cogens as below for the purpose of the Convention.

"a norm accepted and recognized by the international community of States as a whole as a norm from which no derogation is permitted and which can be modified only by a subsequent norm of general international law having same character"

But whether environmental law principles can be identified as jus cogens is a controversial issue[74]. It has been suggested a norm which can meet the four conditions can be justified as jus cogens.

The four conditions are :

First, the object and purpose of the norm must be the protection of a state community interest. Second, the norm must have a foundation in morality. Third, the norm must be of an absolute nature. Fourth, the vast majority of states must agree to the peremptory nature of the international norm[75]. But such views are challenged by scholars who argue that there is no agreement on the criteria to identify which norms can be recognized as preemptory norms. In other words it is a question of the nature of the subject matter than a question of recognizing some as jus cogens at all times. Thus while it is argued that prohibitions on genocide, slavery may be considered as jus cogens, the acts prohibited by human rights conventions may not be considered as jus cogens.[76] So in the absence of a consensus it can be concluded that while the principle of jus cogens is widely acknowledged the criteria to identify a norm as jus cogens may not be acceptable to all. Its normative status is also contested. It has been pointed out that it might evolve into a jus cogens norm.[77]

The Convention on Biodiversity is a Convention based on the principle of sustainable development and it refers to sustainable use. As a concept sustainable development has come a long way during the past two decades or so and has been accepted as a principle by many governments and agencies. It has also been referred to in many Conventions and Treaties.[78] But whether sustainable development is a legal obligation or is it a part of the International law and has been accepted so is an issue that has evoked mixed response.[79] According to one perspective it is yet to become a binding principle on states, but it is just not a concept and it has influenced international environmental law.[80] It is a contestable concept.[81] Hence the view that sustainable development can be used as a criterion to identify a norm or practice as

jus congens is difficult to sustain in view of the discussion above. So whether CBD is laying down a preemptory norm (jus cogens) of international law is a question that has to be examined in light of the four conditions mentioned above.

CBD has been signed by or ratified by most members of the UN. It has been in force for more than a decade. It is a Convention that has overriding authority in matters relating to biodiversity. It was negotiated under the auspices of a UN body (UNEP) and has a mechanism to oversee its implementation. The Parties to CBD have held many meetings and Conference of the Parties (COP) to identify the objectives of CBD for implementation and have consistently supported the various plans and agendas set forth by COPS. Moreover the Cartegna Protocol was negotiated under CBD and it is a binding Protocol.

By virtue of subscription CBD is in a preeminent position as it has been ratified by more than 120 member states and the ITPGR which was negotiated for being compatible with CBD has also entered into force. The need to protect and conserve biodiversity and promote sustainable use of the same has been accepted by many countries and the WSSD has also affirmed the same. CBD has set the customary rules regarding biodiversity – conservation, use, access and benefit sharing besides regulating the international transfer of GMOs through Cartegna Protocol. Thus it has emerged as the Convention which has the authority to lay down norms and binding rules on the international community. The structure of the Convention gives it an overriding authority.

Based on the above it can be inferred that conservation and sustainable use of biodiversity is emerging as a preemptory norm with CBD as the customary source for the same. Thus it can be contended that CBD is laying down a jus cogens of international law. The norm envisaged by CBD – protection and sustainable use of biodiversity meets the four criteria mentioned above.

Protection of state community interest: Protection and conservation of biodiversity is very much a state community interest because the sovereign rights of the states over the genetic resources can be asserted effectively only biodiversity is protected. The assertion of sovereignty is not possible if there were no genetic resources. States have an interest in biodiversity because of the various functions it does and the services/amenities it provides. So the object and purpose of the norm is to protect state community interest. Biodiversity being a global resource and is a matter of common concern to humanity all states have an interest in protecting it. So the Parties have an interest in it both as a individual signatory nations with sovereign rights as well as a collective interest and commitment.

Foundation in Morality: The CBD is based on the principle of sustainable development. Although there are many definitions on sustainable development the one given by WCED is a widely cited and accepted one.[82] The moral and ethical dimensions of the concept have been discussed at length by various scholars. Sustainable development as articulated by WCED is sensitive to generations present and generations of the future. Further WCED also considered the global ecosystem in conceptualizing sustainable development and tried to reconcile the ideas of development and sustainability. The CBD also mentions the concerns of the generations and the role of the ecosystems even as it articulates a holistic perspective on conservation of biodiversity. Thus the founding principles of CBD are rooted in morality and they are guided by a world view in which ethics provides the norm to assess policies. Hence the norm (protection and conservation of biodiversity and sustainable use) are grounded in morality.

Absolute Nature: Whether this norm is of absolute nature is a question that cannot be answered affirmatively in full. As the status of sustainable development in international environmental law is doubtful it is difficult to argue that conservation and sustainable use of biodiversity is a norm of absolute nature. Another problem is as discussed in this chapter the

CBD itself does not assert that this is an absolute obligation with no reservations. Rather it leaves it to the Parties to fulfill the objectives of CBD and is full of vaguely defined words and provisions. Moreover it is a Framework Convention and hence it suffers from many flaws. Hence conservation and sustainable development of biodiversity cannot be considered as a norm of absolute nature. It at best can be considered as norm which is gaining acceptance in the international community. The fourth criterion is certainly not applicable as this norm has not been accepted by most states as a preemptory norm.

Hence CBD cannot said to be laying down a preemptory norm of international law in view of the above discussion. But this norm is fast emerging as a guiding principle of state practice and hence it is not just an idea. So CBD is not resulting in any norm that could be called jus cogens but is emerging as the de facto Convention and authority on biodiversity.

CBD: An Assessment of Its Functioning

It can be argued that in the issues addressed by CBD some have not given the attention they deserve by the Secretariat and despite all the rhetoric nothing much has been achieved in concrete. One reason for this perception is that even after ten years there are lot of gaps and deficiencies in our understanding of global biodiversity and the priorities in terms of global conservation are yet to be decided. Similarly although the focus has been on implementation here also the progress has been less than satisfactory. In other words neither the fundamental knowledge nor the practical needs have been served. This criticism is true but the fault is that biodiversity is too complex an issue and the assumption that a universal body of knowledge is a must to find any workable solutions is misleading. For once most biodiversity issues are not global but local and regional and the problems have more to do with socio economic dimensions than with knowledge per se. Moreover the scientific knowledge that is generated may be necessary but not sufficient to answer the issues relating to biodiversity. There are some questions which science can address but cannot answer. The

'trans-scientific' dimension of biodiversity conservation and use cannot be wished away. Scientific knowledge coupled with political and other processes is essential to find solutions. And it is here the problem becomes complicated because scientific knowledge cannot address economic aspects. A scientist may point out that the ecosystem is significant for conservation purposes but when conservation should get priority over economic development is a question which (s)he cannot decide. Of course it has been argued that services provided by ecosystems can be measured and converted in to monetary terms but that will not go a long way when the issue is posed in very different terms. Thus in a region where landlessness is a major issue it is always attractive to convert forests into lands although in the long run this would create more problems than it solves. Hence it is often it is not the absence of scientific knowledge that is hampering finding solutions. So at best the various subsidiary bodies of CBD can generate knowledge and inform the Parties. They can also produce policy relevant science and help in identifying technological solutions but how parties respond to them is a different issue. On the other hand such knowledge could be effectively used by the Secretariat and by bodies like GEF in identifying areas that deserve more attention and in identifying projects.

Given the fact that CBD is a convention that leaves much to the states for implementation how CBD is implemented at the national level is very important. The Parties to CBD are also parties to most other conventions and treaties. And what is important is that CBD could be effectively used to bring in appropriate legislations in conservation, access and benefit sharing, sustainable use etc. But not much has been done by nations in this and most nations have focused on issues which they think are more relevant than others. Not all states have been very successful in putting CBD into practice. The problems are many, and many developing nations lack the capacity to prepare detailed plans for conservation and integrate conservation and development. Inter agency co ordination and cooperation is again a major

issue that cannot be wished away. Often conservation is seen less legitimate than development. Although it may appear in theory that there are many win-win possibilities in practice it is not so. For example sustainable use implies some regulation or restriction on use of resources but when revenue becomes the key factor sustainable use is relegated to the background. Similarly protecting ecosystems may be in conflict with human use, access to ecosystems and reconciling both is very difficult. Another major factor is that in many countries biodiversity is seen as a subject of state monopoly and control and not as a subject that should concern all. In the absence of participatory structures and mechanisms that are sensitive to aspirations of people conservation is often seen a bunch of measures that are thrust from above with little respect for peoples wishes. Thus relocation from forests for conservation purposes or denying access even for needs that would not harm forests or species only create an ill will against conservation although the goal may be laudable. The success or failure of CBD thus depends to a great extent on how states implement the provisions of CBD in letter and spirit. But it is argued that CBD is flawed from the beginning and hence its capabilities are limited.[83] So it is argued that cannot be expected to play the role of a coordinator with other treaties.

But this does not mean that CBD is hopelessly flawed when it comes to other treaties or conventions and hence not much can be expected from that. The CBD is not just a framework convention, but also a new breed of treaty. It is a compromise between two view points on biodiversity- valuing biodiversity for its own sake and valuing biodiversity as a resource. Both views are balanced in CBD in the context of sustainable development. Although both views need not be complementary always CBD tries to grapple with related issues like socio-economic development, technology and biodiversity, indigenous knowledge etc. And none of the other conventions or treaties related to biodiversity deal with such complex issues. Thus CBD has more linkages than any other treaty or convention. CBD

creates new responsibilities as well as expectations. It is equally true that CBD that implementing CBD is fraught with difficulties and part of this stems from the contested claims and politicized nature of the debates over intellectual property rights, conservation and indigenous knowledge.[84]

The CBD can be viewed as an unique attempt to build bridges and create linkages and reconcile diverging views, on the premise that biodiversity is a common concern of humankind. It is just a beginning and there is much scope for learning and capacity building and co-ordination.[85] Thus although CBD has come is in vogue for about ten years the past is no indication that future would just be a repetition of the past. How far CBD will succeed in the next decade depends on how the issues that were incorporated in CBD are handled by the Parties in future.[86]

Conclusion

The CBD is the outcome of trade offs during the negotiations and as a result it has objectives that are not always complementary. However CBD is unique more than one way. It adopts the ecosystem principle as a basic principle. It affirms the national sovereignty over natural resources and rejects the Common Heritage of Mankind approach. It recognizes the state sovereignty subject to certain responsibilities and obligations. The CBD tries to strike a balance between two competing perspectives – the conservation of biodiversity and appropriation of biodiversity for development. Its provisions on access and benefit sharing and its recognition of indigenous knowledge are very important. The CBD leaves most of the implementation to the nation states and it has provisions that foster international cooperation. The CBD has been viewed as a framework convention than as a full fledged treaty. The CBD could be understood in the context of the North-South divide over genetic resources. In the past decade CBD has covered a lot of ground and signing of a Protocol on Bio safety was a major achievement. The CBD process has resulted in founding of various bodies, sub groups

that focus on particular aspects of biodiversity. The CBD has not made rapid strides in interagency cooperation and although attempts were made there is more to be done. It is true that CBD has not been able to galvanize the global community on biodiversity conservation and the financial resources for conservation have been inadequate. CBD has facilitated building networks and has stimulated processes outside the state sector and UN, on issues relating to biodiversity. The relationship between CBD and other conventions like WTO is not clear. The conflicts over Intellectual Property Resources still persist and it is likely to become a key issue in the years to come. What role CBD play in global conservation is also not very clear as of now. There are no ambitious programs that tackle conservation issues at the global level. Regarding access and benefit sharing, although there have been lots of talks and legal initiatives, nothing much has happened and this issue remains as controversial as before. Similarly in technology transfer and capacity building and assistance to developing nations for use of their biodiversity the progress has been inadequate and CBD has not been able to function as a catalyst in this. But this has more to do with the complexities involved and the controversies over intellectual property rights than with functioning of CBD per se. It is no secret that CBD cannot bring in major changes in this. The signing off a global treaty which a multilateral system for access under ITPGR is also not likely have much impact on implementing the provisions of CBD, for how successful ITPGR itself is yet to be seen. Thus after a decade, CBD is yet to fulfill the mandate. It is neither a grand failure, nor a grand success. If at all anything it only proves that conservation of biodiversity and sustainable use will get the priority they deserve if only the Parties are fully committed to that. As long as biodiversity is viewed only as a resource from a utilitarian perspective the broader dimensions will not be given much importance. But whether such a utilitarian perspective is found wanting among the Parties is a different question.

Notes and References:

[1] *Convention on Biological Diversity,* Done at Rio de Janeiro, 5 June 1992, UNEP/Bio.Div/N7-INC5/4; 31 International Legal Material, 818.

[2] See McConnell (1996) for an account of the negotiations.

[3] According to Glowka (1994) four conventions are important in view of their relevance and being recent. They are Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Convention on the Conservation of Migratory Species of Wild Animals (CMS), Convention on Wetlands of International Importance, and The Paris Convention (on Protection on World Cultural and Natural Heritage).

[4] De Klemm.C (1982)

[5] "While the IUCN Draft provided a starting point for the formulation of a biodiversity convention, it contained many provisions unacceptable to both developing and developed countries. In light of the "sovereign right" of nations to exploit their natural resources few countries were amenable to vesting expansive powers over these resources in an international organization. The International Fund proposal was also doomed-its orientation towards conservation efforts rather than development was later rejected by the developing countries during Biodiversity Convention negotiations. Finally, provisions imposing a mandatory "tax" on users of genetic resources and the assertion of intellectual property rights by an international entity are clearly in conflict with the U.S view of a free market process.

Nonetheless, the IUCN draft provided a basis for including in the Convention on Biological Diversity provisions regarding compensation and financial assistance to developing countries for conservation and for foregoing development opportunities. It also crystallized the notion that countries of origin should share in the profits from commercialization of their natural resources, an idea that impacts on intellectual property rights and biotechnology. The United States opposed such provisions throughout the negotiations on the Biodiversity Convention to no anvil " Bell, David Euegene (1993).

[6] McConnell (1996) P 100-103.

[7] "What emerges is a deeply flawed convention that fails, at its core, to live up to expectations. On the contrary, it very nearly interdicts the obligation to protect biodiversity, fails to institutionalize the principle of differentiated responsibility and rejects sustainable development. The conclusion that CBD flounders in holding the ring between global need for biological diversity and sovereign right of states to control and develop their own resources is a somber one" Gurusawmy, L.D (1998) in Guruswamy. L.D, McNeely J.A (1998)

[8] "Overall, the Convention on Biological Diversity is a far reaching and ambitious instrument of international law, which will be of increasing importance in the next century if the political will exists

to implement its provisions. This Treaty balances the self-interest of one group of nations who have something they value and can offer to others, namely a rich supply of genetic resources, and the self-interest of another group of nations who have their own resource that they, in turn, can offer to the first group, such as technology and financing. Each group has an interest in acquiring what the other has. In the language of this Treaty, the trade-off is between access to genetic resources, on the one hand, and access to the transfer of technology and the benefits of equitable sharing of the resources, on the other hand. The Convention on Biological Diversity represents the first time this kind of balance has been codified in binding treaty law and is a significant departure from the old model of top-down treaty-making where economically weaker parties were expected to sign on the dotted line when presented with a final text. The Biodiversity Treaty marks a stage of significant growth of international environmental law in the codification of Principle 21 of the Stockholm Declaration, which recognizes national sovereignty over natural resources and the responsibility not to harm the territory of other States or areas beyond national jurisdiction " Tinker. C (1995a).

[9] "The Biodiversity Convention, however, goes beyond previous treaties by dealing with the problem of biodiversity in a more comprehensive fashion, addressing all aspects of biodiversity including access to biological resources, biotechnology and financial resources" Bodansky, Daniel (1995).

[10] CBD defines biodiversity as

'The variability among living organisms from all sources including inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems'

The Convention on Biological Diversity, text available at www.biodiv.org and also *Convention on Biological Diversity,* Done at Rio de Janeiro, 5 June 1992, UNEP/Bio.Div/N7-INC5/4; 31 International Legal Material, 818.

[11] This is recognized in the World Charter for Nature which states "life depends on the uninterrupted functioning of the natural systems which ensure supply of energy and nutrients " World Charter for Nature 22 I.L.M 455(1982)

[12] Tilman D (1997) in Daily, Gretchen C. (Ed)

[13] Russel, Clifford S (1995)

[14] According to Bodansky the precautionary principle, the principle of intergenerational equity, and the principle of differentiated responsibilities are most relevant for biodiversity. Bodansky, Daniel (1995)

[15] "These objectives may be given more meaning through the recognition of the various movements from which the various parts of the biodiversity convention are derived; these movements included: the 'parks and protected areas' movement (pursuing protected national parks systems); 'the

sustainable utilization' movement (pursuing controlled wildlife utilization systems) ; and the 'plant genetic resources movement' (pursuing the managed maintenance of plant genetic resources and fair distribution of their benefits). These distinct movements have all come together for the first time in order to generate the various terms and obligations set forth within the Biodiversity Convention" Swanson, T (1997)

[16] The following are the six movements referred to elsewhere by Swanson:

1. the parks and protected areas'

2. debt-for-nature movement

3. the environmental fund movement

4. the sustainable utilization' movement

5. the farmers' rights movement and

6. the bioprospecting movement Swanson, T (1999)

[17] "The Biodiversity Convention is best understood as the confluence of these major conservation movements : a 'snapshot' of the state of these negotiations at the time of the Rio conference. The implementation of Biodiversity Convention represents an opportunity to integrate these concerns and to meet the problems that have arisen in the pursuit of their objectives. Therefore, at present, the Convention represents more of an opportunity than a set of obligations for the contracting states" Swanson, T (1997).

[18] A detailed discussion on post Stockholm conference developments in international environmental law and Rio process and CBD can be found in Pallemaerts, Marc (1996) arguing that 'The Goal of this new 'international law of sustainable development" whose emergence is announced by the Rio Conference,is in fact of a different nature : it is the promotion of sustainable development' ;

Meyers, Gary.D, Muller, Simone.C(1996)

Tinker, Catherine (1995b)

Kimball, Lee. A(1995)

The above list is only illustrative, not exhaustive. The developments discussed in these articles and in other volumes on global environmental law indicate that the idea of sustainable development has come to play a major role in framing policies and laws. But there is no consensus on the idea of sustainable development or what exactly it means. Thus it has been viewed as an idea which is not inimical to economic development by some and it has been viewed as an idea which gives priority to ecological prudence over economic development.

[19] For example see

C.Potvin et al. (2001)

Lewis, Michael (2003)

Brenchin S.R. et al (eds) (2003)

A discussion on this is beyond the scope of this dissertation, and there is an ever growing literature on this topic.

[20] "It is a specific treaty with duties and obligations structured within a fully operational system" Tinker.C (1995a)

[21] Lang. W (1993)

[22] Kiss.A (1976)

Framework Convention has been defined by Lang "a framework convention sets the tone, establishes certain principles and even enunciates certain commitments". In the words of Kiss a Framework Convention "lays down the basic principles regarding the form of co-operation and the objectives for which the institutional framework is created. The hallmark of a framework agreement, therefore, is that it is followed by additional protocols or even complementary instruments which are related to the main instrument but are partially or completely independent"

[23] "The Biodiversity Convention falls short from the traditional perspective that international law establishes binding rules. Under the Convention, states have very few obligations, and most of these are watered down with the phrases "as far as possible and as appropriate," or "in accordance with [one's] capabilities." .For developing nations, implementing measures are further contingent on commitments from First World parties to provide technology and funding.

The Biodiversity Convention, however, arguably falls into a new category of recent, comprehensive, global conventions on environmental matters that define objectives, if not legal obligations. These conventions recognize the possibility of more detailed legal instruments that may contain binding obligations. They provide incentives for states to act. And even in the absence of hard law, they provide a conceptual framework for national and international implementation and management actions. In this sense, the Biodiversity Convention offers a starting point."

Kimball. Lee A (1995)

[25] "Both the strictly scientific and strictly legalistic bases for a biodiversity convention were rejected in favor of an approach that also recognized the social, economic and political dimensions and values of biodiversity" McGraw, Desiree (2002) P 17.

[26] "Sustainable Use" means the use of components of biological diversity in a way and at a rate that does not lead to long-term decline of biological diversity, thereby maintaining its potential to meet the needs and aspirations of present and future generations"

[27] "The Convention can be interpreted as containing provisions calling for quotas; preservation; management on the basis of biological unity; holistic ecosystem approach to management; an integrated approach; rehabilitation of denuded aspects of biodiversity, intergenerational equity, research efforts; monitoring the effects of use establishment of management systems which are flexible and able to respond to change; and the precautionary approach " Johnston, Sam in Bowman, M. and Redgwell, C. (Eds) (1996).

[28]. Johnston, Sam in Bowman, M. and Redgwell, C. (Eds) (1996).

[29] Stone who identifies five kinds of moral conflicts (International Equity, International Equity, Species Equity, Intergenerational Equity, and Planetary Equity) writes

"While many of the debates that arise are basically scientific or managerial – for example, which species and ecosystems are most critically endangered? - many other questions percolating under the surface are essentially normative. Indeed unless the Parties face up to the underlying moral tensions, meaningful co-operation will remain problematic" Stone. C (1997)

[30] According to Article 3

"States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources in pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction "

[31] "A large number of international instruments recognize the common concern of humanity. The term "common interest". appeared early in international treaties concerning the exploitation of natural resources"

Kiss, Alexandre , Shelton, Dianah (2004) P.31 -37

[32] Boyle, Alan.E in Bowman, M. and Redgwell, C. (Eds) (1996).

[33] "One of the most important achievements of this Convention lies in its clear endorsement of the fact that biodiversity is a national resource and not part of common heritage of mankind Panjabee, Ranee (1993).

[34] Kiss, Alexandre, Shelton, Dianah (2004) P 36

[35] "... conservation of biological diversity , the sustainable use of its components and fair and equitable sharing of the benefits arising out of the utilization of genetic resources , including by appropriate access to genetic resources and by appropriate transfer of relevant technologies , taking in to account all rights over those resources and to technologies, and by appropriate funding "

[36] See the details in Dove, Michael, R in Kalland and Persoon (eds) (1998). The then Malaysian Prime Minister responding to a letter from a school boy from UK reminded him that a country like Malaysia knew how to deal with its resources.

[37]Nayar, Jayakumar R. Ong, David Mohan in Bowman, M. and Redgwell, C. (Eds) (1996), see also Dove, Michael, R in Kalland and Persoon (eds) (1998)

[38] Liftin, Karen in Litfin, Karen M.I.T. Press 1998, See also Birnie and Boyle (1992)

[39] Schrijver, Nico (1997), Kiss, Alexandre, Shelton, Dianah (2004) P 27-28

[40] Middleton, Stacey L (2003), Rittich, Kerry (2000) for example.

[41] "The conflict between the developing countries' need for permanent sovereignty and the developed countries' fear for nationalization of foreigner's properties and loss of favorable access to natural resources, in particular, minerals and oil, has been reflected by several resolutions from the General Assembly of the United Nations". Schrijver, Nico (1997).

"The principle of permanent sovereignty over natural resources is "a fundamental principle of contemporary international law." It emerged in the 1950s during the process of decolonization as "a basic constituent of the right to self-determination and an essential and inherent element of state sovereignty." The concept originated in negotiations over natural resource development agreements because developing nations wished to avoid the inequitable and onerous arrangements imposed upon their unwary and vulnerable governments during the colonial period. The typical context where permanent sovereignty is invoked concerns the relationship between host states rich with natural resources and transnational or multinational corporations which are engaged in or wish to begin the exploitation of such resources especially with regard to the nationalization of such foreign enterprises and the question of compensation. The discussions on the principle of permanent sovereignty over natural resources are thus characterized by a conflict of interest between capital exporting and capital importing nations." Perrez, Franz Xaver (1996) at 1191 (footnotes omitted)

[42] "In 1971, in response to the Northern initiative to internationalize environmental protection issues, Southern sovereigns collectively passed a U.N. resolution. The resolution emphasized the full respect for permanent sovereignty over natural resources while accusing the North of irresponsibility in causing industrial pollution. The Southern sovereigns' position was reflected in the Stockholm Declaration of the U.N. Conference on the Human Environment in 1972 and reiterated in the Rio Declaration in 1992 through provisions regarding sovereign rights to use natural resources pursuant to national environmental policy"

Tanaka, Maki (2003) at 128

[43] Kolk, Ans (1996) (discussing that Southern sovereigns opposed adoption of a binding international forest agreement supported by the North because they perceived the Northern attempt at "supranational control" of Southern forests as an easy method of counteracting Northern carbon dioxide emissions at 159-60).

[44] Article 3 states

"States have, in accordance with the Charter of the United Nations and principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction"

[45] Powledge, Fred (2001) (explaining that Southern sovereigns, as they fought for permanent sovereignty over natural resources, claimed sovereign control over biological resources, which have been exploited by Northern companies and researchers without compensation).

See also Guzman, Andrew T (1998) for a discussion on U.N G.A Resolutions on sovereignty in the 1960s, 1970s.

[46] Pacta Sunt Servnada (latin) means pacts must be respected. In the context of international agreements, "every treaty in force is binding upon the parties to it and must be performed by them in good faith" Vienna Convention on the Law of Treaties 1969, art. 26 and the Vienna Convention on the Law of Treaties between States and International Organizations or between International Organizations, 1986, art. 26).

Black's Law Dictionary 1133 (7th ed. 1999) (pacta sunt servanda literally as "agreements must be kept").

Many extol pacta sunt servanda as one of the most important principles in international law

"Pacta sunt servanda is a durable obligation, so irrespective of whatever system of governance may be in place, a state is constrained by norms prescribed in a treaty and must discharge the duties established in international human rights law. Pacta sunt servanda is also constant, meaning that a change of government does not absolve the new government of the obligations entered into by a previous government. A state cannot, therefore, invoke the provisions of its domestic legislation, including its constitution, to evade its treaty obligations. The Principle of pacta sunt servanda is "an absolute postulate of the international legal system, and manifests itself in one way or another in all the rules belonging to international law." This principle is apparent in the jurisprudence of the Permanent Court of Arbitration, the Permanent Court of International Justice, and the International Court of Justice. The Vienna Convention embodies this settled customary rule as well" Udombana, Nsongurua J. (2004) at 127 (footnotes omitted)

Chayes, Abram, Antonia H. Chayes (1993) (pacta sunt servanda as tenet of international law). Commentators, are, divided over whether the principle constitutes a general principle of international law or rather customary international law. See Swaine, Edward T. (2003)

[47] "The Challenge of the next two or three decades will be how to balance permanent sovereignty with other basic principles and emerging norms of international law- including duty to observe international agreements, grant fair treatment to foreign investors, pursue sustainable development at

national and international levels and to respect human and people's rights – and in this way to serve best the interests of present and future generations" See Schrijver, Nico (1997) Pp. 274-276.

[48] For example the ICJ has opined in 1996.

"The existence of the general obligation of states to ensure that activities within their jurisdiction and control respect the environment of other states or of areas beyond national control is now part of the corpus of international law relating to the environment"

Legality of the Threat or Use of Nuclear Weapons ICJ Rep. 241-42 (paragraph 29).

[49] Principle 21 states

"States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction".

[50] Rio Declaration on Environment and Development, June 14, 1992, U.N. Doc. A/CONF.151/5/Rev.1, reprinted in 31 I.L.M. 874, 876 (1992).

[51] "On the one hand, there is widespread agreement with the customary law principle that "States have ... the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction. "On the other hand, international treaties on the subject are weak and largely unenforceable. Laws on hazardous waste, for example, are primarily concerned with international trade and transport of toxic substances, and do not set standards for storage or recycling, nor set limits on environmental releases"

Hamilton, Sarah. R (2004) at 99

[52] Although the concept of state responsibility and liability is recognized in principle, the preconditions of responsibility and the extent of liability remain unclear. First, it is hard to demonstrate a direct causal relationship between an activity and environmental damage, especially damage done to global commons such as the ozone layer and the climate. Second, it is unclear whether and to what extent responsibility is based on unlawfulness, risk, or fault. Finally, even if the preconditions of responsibility are fulfilled, the content and the extent of liability raises a number of questions. Liability entails restitution in kind or other compensation. However, defining restitution or compensation for environmental damage remains problematic. Furthermore, it is difficult to identify an injured state which could seek to enforce any liability for the breach of an international environmental treaty for the protection of global commons. This could only be possible if the obligation in question was to be an erga-omnes obligation. However, the concept of erga-omnes obligations in international environmental law is not generally accepted."

Ehrmann, Markus (2002) at 380, 381.

[53] In Trail Smelter (U.S. v. Canada), 3 R.I.A.A. 1905 (1941), both countries agreed for further co-operation outside the tribunal's jurisdiction. The International Joint Commission recommended that Canada pay damages for trans-border pollution.

"No State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the properties or persons therein, when the case is of serious consequence and the injury is established by clear and convincing evidence." Trail Smelter Arbitral Tribunal (U.S. v. Can.), 3 R.I.A.A. 1905 (1941), reprinted in 35 Am. J. Int'l L. 684 (1941) at 716.

[54] Para. 53

[55] Barcelona Traction, Light & Power Co., (Belgium v. Spain), 1970 I.C.J. 3, 32

[56] Trail Smelter Arbitral Tribunal (U.S. v. Can.), 3 R.I.A.A. 1905 (1941), reprinted in 35 Am. J. Int'l L. 684 (1941), Corfu Channel Case (U.K. v. Alb.), 1949 I.C.J. 4 (Apr. 9), Lake Lanoux Case (Spain v. Fr.), 12 R.I.A.A. 281 (1957), digested in 53 Am. J. Int'l L. 156 (1959). See also Gabcikovo-Nagymaros Project, 37 I.L.M. 162 (1998); Jurisdiction of the European Commission of the Danube Between Galatz and Braila, Advisory Opinion, 1927 P.C.I.J. (ser. B) No. 14.

A detailed analysis of these is beyond the scope of this dissertation.

[57] Kiss, Alexandre, Shelton, Dinah (2004) at P.190. e.g.

"States... shall... ensure that activities within their jurisdictions or control do not cause damage to the natural systems located within other States or in the areas beyond the limits of national jurisdiction...." World Charter for Nature, Oct. 28, 1982, G.A. Res. 37/7, Annex, art. 21(d), U.N. GAOR, 37th Sess., Supp. No. 51, at 17, U.N. Doc. A/37/51, 22 I.L.M. 455 (1983).

[58] "However, as the evidence accumulates that each nation is causing harm abroad, or allowing activity within its territory to cause harm abroad, it is clear that national responses are inadequate to discharge their duties to each other under either general principles of international law or the norms of the many environmental conventions. These duties, of course, vary from region to region, depending on the geography, the concentrations of population, the level of economic development and technological innovation, and other factors. Recognizing these variations, the nations assembled at Rio both restated Stockholm's "Principle 21" and also posited that nations have "common but differentiated responsibilities" to cooperate together to resolve the festering environmental agenda. At the WSSD, these principles were endorsed yet again. Since the conclusion of UNCED in 1992, however, too little has been achieved to observe these state responsibilities under international law or to implement the recommendations set forth in Agenda 21. Many nations have not yet ratified all or most of the several environmental treaties, and many developing nations or states with economies in transition from communist to market systems, lack the national resources to be able to implement those treaties even if ratified" Robinson, Nicholas A (2002) at 316.

[59] Schwabach, Aaron (2000)

[60] "The law is evolving toward the recognition of more permanent ecological risk protection duties beyond the foundation principle that states have a duty not to allow state agencies and private parties, subject to the state's regulatory jurisdiction, to use their territories in a manner that causes substantial harm to other states and their nationals. The basic duty seems firmly grounded in modern international practice, but the actual deterrence effect of the rule is minimal. To complicate matters, no consensus exists as to the scope of the duty and the standard of liability." Tarlock, Dan. A (2000) at 256, 257.

[61] Kiss, Alexandre , Shelton, Dianah (2004) at 325-326 , '.. harm to the environment *per se* is a developing legal concept and meets resistance in application , as demonstrated by the Amoco Cadiz damages award'.

[62] 'Among other things, non-appropriation, regulated access to resources, sharing of benefits, reservation for peaceful purposes, and due regard to the interests of future generations'. Schrijver, Nico (1997) P. 246.

[63] Kloppenburg, Jack (Ed) (1998)

[64] "All along however, the North's interpretation of the principle of common heritage did constitute the international regime for exchange of and access to plant genetic resources (seeds): International gene banks were stocked with seeds from the most commonly used food plants….. "Technically " , the collection of seed samples was considered as a non-rival and non-exclusion activity.Moreover no-one questioned this practice on moral grounds, as the seeds of our most utilized food plants were seemed to be of basic significance to all mankind" Rosendal, G. Kristin (2000) P 72.

[65] See the discussion in the chapter on IUPGR and references therein.

[66] "Now that principles of PSNR and the CHM have got a firm stand in international law and seem not to be contradictory it might be relevant to conduct further research on the way they could complement each other. For example, in future, ~~elements of CHM could be a~~ useful concept in the management of natural wealth and resources, now within the area of national economic jurisdiction , when their management significantly affects the 'sovereign' territory of two or more States, or even , in the case of the tropical rain forests ('the lungs of the earth') , the ecological balance of the whole planet'. Schrijver, Nico (1997) P. 100.

[67] "Those United Nations General Assembly resolutions that establish or reaffirm the principle of permanent sovereignty over natural resources indicate that the principle is not an absolute concept. Rather, it is limited by the duty to respect the interests of other states. Thus, neither the principle of permanent sovereignty over natural resources nor traditional principles of state sovereignty condition environmental rights and the obligation not to cause trans boundary pollution. However, the obligation not to pollute across political borders inherently conditions and limits permanent sovereignty over natural resources. Every country not only has the right to permanent sovereignty over its natural resources, it also has the duty to recognize and respect the rights of other states. Implicit in such recognition is the corresponding duty not to act in any manner that would deny those

rights or impair their exercise. In other words: The principle of permanent sovereignty over natural resources requires each state to respect all other states in the use of their natural resources, which inherently includes the obligation not to cause trans boundary pollution." Perrez, Franz Xaver (1996) at 1191, 1212.

[68] Article 15, paragraph 1 states

"Recognizing the sovereign rights of the States over their natural resources, the authority to determine access to genetic resources rests with the national government and is subject to national legislation".

[69] Kimball (1997)

[70] Churchill in Bowman, M. and Redgwell, C. (Eds) (1996)

[71] "The sheer proliferation of programs and processes established under the CBD to date reflects both its breadth and depth. However the very comprehensiveness that makes CBD unique also makes it vulnerable to overextension." McGraw, Desiree in Le Prestre, P.G. (Ed) (2002) at P. 24.

[72] "There are going to be inevitable turf struggles. On forest resources, for example, to what extent should Parties defer to the Commission on Sustainable Development's (CSD) Open-Ended Ad Hoc Intergovernmental Forum on Forests, and how much should it pursue its own agenda concurrently and independently? How far can the CBD withdraw from forest management and still maintain credibility. Where trade-related matters are concerned, should Parties to CBD try to influence the World Trade Organization (WTO) , or do their best to withdraw trade-relatable matters (for example, in genetic resources) from WTO or place them under a competing regime. I do not know what the answers are : but one can be sure that CBD cannot take on all comers with all their issues" Stone. C (1997).

[73] "For example two states may not conclude a treaty reciprocally granting themselves the right to commit genocide against a selected group" Bederman, David. J (2001) at P. 23.

[74] "Laws based on international custom and usage, which can bind states without written agreement, have seldom been applied in the area of environmental protection, with the possible exception of the general principles of avoidance of harm, compensation, and information sharing. Nor have environmental law principles been considered ***jus cogens*** (binding on all states by virtue of their existence as states and therefore superseding any contrary treaty provision)" (foot notes and citations omiited) Roht-Arriaza, Naomi (1992).

[75] Uhlmann, Kornicker Eva M. (1998) at 104

[76] Aust, Anthony (2000) at P 257-258 "Perhaps the only generally accepted example is the prohibition of use of force as laid down in the UN Charter. The prohibitions on genocide, slavery and torture may also be said to be jus cogens" P. 257.

[77] "The popularity of sustainable development has provoked debate within international legal circles about the concept's normative status. The literature reveals several arguments in this respect. First, many scholars argue that sustainable development is too vague a concept and too ambiguous in meaning for it to have normative status. Secondly, some are of the view that sustainable development

has acquired a place in the international law lexicon, and therefore the relevant question is not whether sustainable development is law, but rather how to apply it in specific practical situations. Similarly, Gunther Handl argues that sustainable development has become a concept around which legally significant expectations regarding environmental conduct have begun to crystallize and that it might even evolve into a ***jus cogens*** norm. However, he notes that sustainable development faces a fundamental definitional problem, which renders it difficult to see how the concept could be made to work. A third view characterizes sustainable development as a rule of customary international law, while a fourth posits that the concept does not satisfy the tests of custom at international law and is at best an interstitial norm.

Marong, Alhaji B.M (2003) at 44

[78] Kiss, Alexandre , Shelton, Dianah (2004)

[79] For example see the discussion in Marong, Alhaji B.M (2003), Atapattu, Sumudu (2001)

[80] "In summary, sustainable development seems to have attained something more than a mere "concept" but falls short of a legal principle binding on states. Whatever may be its precise legal status, it is clear that sustainable development has gained wide recognition and influenced international environmental law in a significant manner. Although some commentators may not agree, it has the potential to become the most influential principle of international environmental law of recent times, at least to the extent of influencing the decision-making process relating to development." Atapattu, Sumudu (2001) at 284.

[81] Michael Jacobs points out, "the crucial recognition here is that, like other political terms (democracy, liberty, social justice, and so on), sustainable development is a 'contestable concept' . . . complex and normative." Michael Jacobs, Sustainable Development as a Contested Concept, in Fairness and Futurity: Essays. On Environmental Sustainability and Social Justice 23, 25 (Andrew Dobson ed. 1999). Cited in Stark, Barbara (2002).

[82] "Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts. The concept of 'needs', in particular, the essential needs of the world's poor, to which overriding priority should be given; and, the idea of limitations imposed by the state of technology and social organization in the environment's ability to meet present and future needs . . . . Even the narrow notion of physical sustainability implies a concern for social equity between generations, a concern that must logically be extended to equity within each generation . . . . Perceived needs are socially and culturally determined, and sustainable development requires the promotion of values that encourage consumption standards that are within the bounds of the ecological possible and to which all can reasonably aspire" WCED (1987) P 43.

[83] "The international legal community originally conceived of the CBD as an "umbrella" convention – one which might consolidate the existing panoply of global and regional treaties under a single

administrative structure. The hope was "to rationalize current activities" in the field of biodiversity, eliminating jurisdictional overlap and filling perceived gaps. Very soon, however, the utopian plan for an umbrella convention proved both legally difficult and politically unattainable. In the end, the contracting parties to the CBD adopted a fairly loose "framework" treaty one which failed to provide the CBD with even a primary coordinating role vis-à-vis the prior treaties." Hendricks, Brent in Guruswamy, L. D. McNeely, J.A.(Eds) 1998.

[84] As Le Prestre points out

"The political dynamics regarding implementation of the CBD revolves around nature and shape of a new international order. Some factors promote its advancement, such as the extension of the rights of states and local populations, the recognition of interrelationship of the three goals of the convention and attempts to give them concrete meaning, new political coalitions, the emergence of new networks, and innovative governance structures as represented by the CGS (Convention Governance System). Others work against it, such as institutional fragmentation without co-ordination, conflictual norms and contradictions within the regime itself, uncertain legitimacy, unequal power relationships at the national level, conflicts among regimes (notably between the CBD and the trade and IPR regimes), and shortcomings in national capacities" Le Prestre in Le Prestre (2002) at P. 325.

[85] "In this light, though the present provisions of the CBD remain insubstantial, the international community should continue to take heart; to those with postmodern eyes who see the framework approach, change itself is the only substantive subject. Thus, the CBD presents a significant opportunity for change--a change that could transform a vague Convention into an umbrella treaty, and one that attempts to address a problem that is just beginning through a conversation that has just begun." Hendricks, Brent (1998).

[86] "Since many of the most contentious issues were left unresolved at the time of the CBD's adoption, the post-agreement negotiations have proven particularly challenging. The level of implementation and enforcement will be the ultimate test of whether the compromise achieved during the Convention negotiations was a true success or not" McGraw, Desiree (2002).