

Genetic Resources in Biodiversity Conservation and Sustainable Development in a Changing World Order

Sanjiv de Silva
Environmental Law Programme, IUCN Sri Lanka

Introduction: Changing Conservation Patterns in Modern Development

Manipulation of the natural environment has been a prominent feature in the evolution of human societies throughout history, and is therefore not in itself a novel activity. Societies learned early on to domesticate plants and animals and understood the importance of maintaining many varieties and breeds adapted to local environmental conditions to guard against disease. The nature of this manipulation has however undergone several changes over time. As human population densities have grown exponentially and economic activities intensified, the utilisation of biodiversity have become more selective in terms of species used. Agricultural practices, for instance, have moved away from genetic diversity to the use of a few plant species and only a small number of varieties within these species, to feed the vast majority of the Earth's human population. This approach to utilising biodiversity has its inherent drawbacks from the standpoint of maintaining biodiversity. The selective use of species tends to divide them according to their degree of utility to humans, particularly in terms of species' economic and nutritional importance. This tendency to focus on economically useful species has particularly important implications in biodiversity-rich developing countries where high population densities and intense export-oriented industrialisation are giving rise to monocultures of cash crops at the expense of species and ecosystem diversity.

The homogenisation of species utilised by humans and the vast expanse of land used for their cultivation, together with other development-related activities has marked a departure from more biodiversity-oriented traditional systems. Consequently, the natural nexus that has existed between human societies and their living environment that had hitherto ensured the existence of diverse ecosystems constituted by a broad variety of species is being undermined. In this context, conservationists have for some time feared the loss of their most important allies, the local communities as market economies displace traditional systems. These developments have compelled conservationists to rethink their strategies, particularly to accept the economic dimension that is increasingly determining the status of biodiversity conservation in a world operating in terms of financial costs and benefits.

Biotechnology and Genetic Resources: Introducing a New Parity in Biodiversity Conservation

The advent of new biological technologies aggregately termed biotechnology appears to introduce another dimension to this human-biodiversity relationship. New capacities to identify and incorporate genetic material and other biochemicals into commercial products has caused the importance of these materials to expand rapidly in food production, health care, cosmetics and other industrial sectors. This synergistic relationship between biological materials and technology is expected to revolutionise production, in emerging industries. Biological material, including genetic material, are thus coming to be viewed as the source of continued economic growth and profits in the future.

From a biodiversity conservation standpoint, the new-found utility of genetic material in human societies is a mixed blessing. On the one hand, it may offer an opportunity to influence the trade off involved between the maintenance of biodiversity and economic development by once again restoring some parity amongst species and varieties by virtue of the potential utility to humans of the genes of every species. On the other hand, the exposure of genetic resources to the large scale global market economies may pose a real threat to biodiversity preservation by bringing to bare added pressure for its exploitation.

Future developments will be based on two related factors: how well states within whose geographical boundaries a large proportion of biodiversity occurs regulate access to the genetic material of these plants, animals and micro-organisms; and the degree to which the commercial use of genetic material brings discernible benefits to these states and their communities.

The Status of Access to Genetic Resources and Biotechnology Prior to the Convention on Biological Diversity

Until the Convention on Biological Diversity (the Convention/CBD) was adopted in 1992, the prevailing conditions determining the regulation of genetic resource use were different. Many countries rich in biodiversity lack the technological, human and financial capital to develop and market new products from genetic resources. To date, it has been institutions in the North that have been able to commercially utilise genetic material and benefit from it. Loopholes in developing country legislation owing to the relatively novel concept of genetic material having a legal personality, and the application of the *res nullius* concept to such material in the absence of settled principles in the international arena, have provided users with virtually free access to the genetic resources and associated

traditional knowledge held in the developing world. The absence of national legislation and an international regime to recognise sovereign rights of states over genetic resources, meant that the time, monetary and intellectual investments of local communities in the preservation and use of these resources went unrecognised and unrewarded so far.

This situation was compounded by parallel developments on the application of intellectual property rights (IPRs) to biotechnologies and their products. Born of free-market logic, and promoted by international agreements, most notably the Agreement on Trade Related Intellectual Property Rights (TRIPS), IPRs are used as a matter of course by the creators of technologies and products to recapture research and development expenditure and to earn profits by maintaining exclusive control over processes and/or products for as much as 20 years. The implications on provider states of the raw material) include possible restrictions of traditional applications and uses of biodiversity and prohibitive prices due to increased royalties which effectively remove technologies and products from the reach of many developing countries. These states have highlighted the inequity created by such rules whereby the very providers of the raw materials (genetic resources and associated knowledge) are excluded from sharing benefits resulting from the products finally derived. They thus argued that the notion of common heritage applied to genetic resources was clearly compromised and that change in this scenario was needed, as the *status quo* did not facilitate sustainable development for the common good of mankind or biodiversity conservation.

Changes Under the Convention on Biological Diversity

The CBD is seen by many as a response to the perceived need for developing and harmonising more holistic conservation strategies in a fluid world order where states appear to be increasingly unable to convince communities of the importance of conserving biological diversity and related knowledge and to reward actual conservers. Whilst seeking to guide and encourage states on a broad range of conservation issues, the Convention pays particular attention to the regulation of access to genetic resources and the sharing of benefits arising from their commercial use (Article 15). Thus, in Article 3, it affirms the application of the sovereignty principle to resources found within national jurisdiction. Furthermore, by recognising in Article 15 (1), the right of national governments to determine access to genetic resources, the CBD became the first multilateral Convention to expressly affirm sovereign rights over genetic resources, and thereby provide states with the legal leverage required for establishing national mechanisms to regulate access and share benefits. The extent of this authority is however

qualified by Article 15 (2) which, in accordance with the CBD's sustainable use objective, recognises the importance of facilitating the exchange of genetic material, but allows states to ensure that access occurs in a manner that supports national priorities as reflected in national legislation on access which the CBD foresaw being developed following its own adoption.

Recognising the variability in the needs and legal regimes of states, the Convention only outlines key features/concepts on which national access mechanisms for regulating access to genetic resources and associated knowledge be based and for promoting the fair and equitable sharing of benefits between users and suppliers, in the understanding that these would act as guides for developing national mechanisms. Three central features introduced by the CBD in this process are: that access be granted on mutually agreed terms (MATs); that access can only occur with the prior informed consent (PIC) of the source state; and that access shall be granted only for environmentally sound uses.

Mutually Agreed Terms (MATs)

Implied in the phrase "mutually agrees terms" is the expectation of a negotiation process between potential user and supplier, and that the terms reached should be acceptable to both parties. In other words, the terms agreed between suppliers and potential users should provide for the fair and equitable distribution of benefits arising from the commercial use of genetic resources between these parties. Benefits could include, but not be limited to, any or all of prior access to the results of research and development, the proceeds of commercialised products, initial access fees, participation in research activities and access to and transfer of relevant technologies. In the case of developing countries' access to technology, Article 16 (3) also calls on all member states to make special efforts to provide access to relevant technologies on MATs. These would include technologies covered by IPRs although as Article 16 (5) directs, this must be done in a manner in keeping with national and international laws on IPRs. This recognises the fact that much of this technology wrests in the hands of the private corporations. Article 16 (4) therefore aims at a compromise by encouraging rather than forcing the private sector to jointly develop and transfer technology to developing countries.

Prior Informed Consent (PIC)

PIC is a direct translation of the sovereignty principle in practice. In the context of access to generic resources and benefit sharing, it places an obligation on potential

users to seek and obtain consent through a prescribed procedure from the source country institutions delineated by national legislation. Consent of the supplier must be an informed one. This gives source states the right to require from the seeker adequate information to make the decision to grant or deny access meaningful within the context of national conservation and developmental priorities. The information could include an outline of the implications of access for biodiversity conservation, specifying how and by whom the resources will be used. This seeks to redress the unequal bargaining positions of many providers, and perhaps also to facilitate the monitoring for subsequent use. The source country can therefore set minimum terms and conditions for access to be granted whilst some details will have to be decided on a case-by-case basis.

Fair and Equitable Distribution of Benefits

Although the potential benefits arising from the utilisation of genetic material are numerous, so are the parties that may be involved in this process, ranging from local and indigenous communities as conservators, to local and foreign commercial entities and national and foreign academic institutions. The important aspect from the conservation point of view is ensuring that the roles of each group are duly recognised and rewarded, so that biodiversity becomes a viable source of community development.

Whilst governments' positions are clear through the sovereignty principle, the role and position of communities and individuals is less obvious. At the international level, the Convention expressly recognises the importance of indigenous and local communities in conservation and sustainable use of biological diversity. It also recognises that indigenous and local communities should share in the benefits derived from their traditional knowledge as they serve as incentives to conserve biological diversity. Under Article 8 (j), then, member states are to safeguard community practices and knowledge relevant to biodiversity conservation, and to include them in the negotiation process to ensure an equitable sharing of benefits. This requires states to ensure not only the protection of local and indigenous rights to knowledge, practices and innovations, but also to ensure that the communities themselves approve of the use of their resources. Whether these principles will in fact be effectively applied will depend on how well the roles and rights of each stakeholder group within each state will be defined under national access and benefit sharing regimes.

Development and Implementation of National ABS Frameworks

Whilst the existence of the CBD may be seen as a significant achievement in international diplomacy, the determining factor with regard to action at the ground level will be individual Parties' commitment to and ability in translating the CBD framework into practical legal and administrative expressions. In reality, this will often mean the adaptation of important principles and concepts such as PIC and MATs as expressed at the international level, into national political economies, fraught with various and sometimes divergent interests and philosophies as represented by different stakeholder groups. The challenge to governments will be in developing adequate consensus whilst pursuing a participatory planning, development and implementation process where international principles begin to assume precise but differing implications from one stakeholder group to another.

This complexity is perhaps reflected in the broad range of approaches adopted to date at the national level. Whilst some states have adopted formal legislation, others have preferred to 'wait and see', opting for less formal measures such as guidelines, codes of conduct and material and information transfer agreements.

Whilst strategising the development of national ABS regimes, many states will also be aware of the need to create mechanisms for regional co-ordination owing to the significant proportion of biodiversity that is shared between countries of a particular region. Whilst national needs are to be emphasised, it is nevertheless also important to bear in mind that states do not exist alone, and that a co-operative and common approach to regulating access to common biodiversity can work for the benefit of all participatory states by removing the necessity for competitive tactics amongst states which would weaken individual state's bargaining positions.

Conclusion

Underpinning the CBD's ABS framework is the philosophy that in a global context of ever-intensifying competition for resources, conservation must be combined with wise use and equity if the long-term survival of species and their diversity is to be promoted. The Convention therefore seeks to update conservation strategies to correspond with changing attitudes towards and roles of biodiversity within human societies. Through the recognition and legal empowerment of a broader set of actors, it aims to establish common ground amongst providers and users through the mechanism of access and benefit sharing principles and agreements. If well translated and implemented at the national and regional levels, these mechanisms can reflect the inseparable relationships between biodiversity conservation, benefit sharing and the maintenance of

traditional knowledge and practices, and development that provides the fabric on which access mechanisms will be written. Biodiversity becomes a development option only if significant benefits from their sustainable exploitation can be assured.