BIODIVERSITY AND INTELLECTUAL PROPERTY RIGHTS IMPACTS ON UNDERDEVELOPED COUNTRIES

FOR

THE SECOND MEETING OF THE FREE TRADE AREA OF THE AMERICAS (FTAA)

A.K. VENTURA
OFFICE OF THE PRIME MINISTER
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The impact of the stringent intellectual property rights (IPR) system being championed by the Organization for Economic Cooperative and Development (OECD) countries, especially the USA, on the protection and sustainable use of the biodiversity in the underdeveloped countries, is yet to be sufficiently understood and is proving to be quite complex and worrisome.

This short paper is an attempt to summarise the current situation with respect to IPR and biodiversity, with a view to inform Jamaica's negotiations on this subject.

CURRENT POPULAR OUTLOOK

The rush to install and implant IPR biotechnological regulations by the rich countries has been seen as grossly self-serving and inimical to the interest of the poor countries. Two major reasons for this are biopiracy and the perceived immorality in patenting life.

a) Biopiracy

A large portion of the world's genetic resources, including crop varieties, has resulted from innovation and conservation undertaken in the tropical and subtropical underdeveloped countries over long periods of time. Consequently, the knowledge and use of the biodiversity of these countries reside mainly with farmers, indigenous peoples and other local denizens. However, large companies from the developed countries are now poised to claim exclusive rights to produce and sell modified forms of these materials, through the instigation of the present IPR system.

This has triggered widespread protest by farmers and indigenous communities, who complain that the granting of patents to big companies on biological materials, such as plants, animals and human genes, will afford them large profits, for using the knowledge which have been generated, developed and used by locals in the underdeveloped countries for food, medicines, fibers, fuels, feeds and cultural functions over many decades and centuries. The transnational corporations involved stand to generate large revenues, while the local communities remain unrewarded, and in fact, face the threat in the future, of having to buy products from these companies, which were derived from these material, at high prices. The knowledge, innovation and husbandry efforts of these communities are not being sufficiently acknowledged when the legal IPR systems grant patents on genetic and biological materials, as well as, on living organisms. The tendency is to say that what is natural is in the public domain, but what arises in a laboratory is proprietary.

The firms are collecting a range of living biodiversity materials, including soil microorganisms, animal and human genes, from the underdeveloped world and are fashioning new products

containing the genetic materials of the collected biologicals, which they rush to patent to prevent competition. This is in stark contrast to the free sharing of biodiversity information by locals, who are the owners of the original material. These companies can reap, and are reaping large profits, from being able to raise prices for products, or by charging royalties from other firms wishing to use their technology.

The genes of living organisms are the basic raw material of the new biotechnologies. Since the temperate countries have uniformly abused their environment and have reduced their biodiversity for their development, the tropics, where many of the underdeveloped countries are to be found, have an overwhelmingly wider range of variations and endemic species than would be expected. The underdeveloped world has therefore a decided comparative advantage in the currency of the future. This is only one of the few areas where the underdeveloped countries have a decided advantage and there appears to be a dedicated push to reduce this by unreasonable international maneuvering. If this is the case, all the shouts about helping the poor countries to develop, ring hollow and present a potential threat to world harmony and peace.

The next century is already being termed the age of biology, as products derived from biological materials are expected to increasingly replace those made from metals and inorganic chemicals. Clearly then, those countries which have a strong agricultural base have a fair chance of propelling their economics forward and rasing the standard of living of their peoples. The race by the big companies, under the protection of the IPR systems, to unethically exploit these materials from the poorer countries, has been dubbed, with some justification, bio-piracy. No small wonder then that

there are an increasing number of legal challenges by civic, religious, indigenous and scientific groups, for the revocation of patents, for a wide variety of biologicals, derived from the biodiversity of these underdeveloped countries.

b) Patenting of Life Forms

As these challenges proceed, a number of diverse groups including farmers, indigenous peoples, parliamentarians, religious leaders and Non-government Organizations (NGO's), are actively opposing the patenting of all life forms, or living things, by rich concerns in the industrial states. The patenting of seeds and plants, as well as, the genes of indigenous peoples, are being vigorously opposed on all continents. For example, the Indian Parliament have recently voted to defer indefinitely a patent amendment bill to bring the Indian Patent Act in line with the World Trade Organization (WTO) treaty on IPR. The bill would have allowed the patenting of life forms. While the European Parliament has voted against the directive on "the legal protection of biotechnological inventions", which would have allowed for the patenting of biological materials and microbiological processes, with only few restrictions. Suffice it to say that, the patenting of certain biological processes may not stand up in court because they are insufficiently understood and is not more innovative they claiming to own a star because you are the first to pronounce that you have seen it.

RELEVANT INTERNATIONAL CONVENTIONS

There are two major international conventions which will have an immediate impact on the biodiversity status of poor countries. These are the trade-related intellectual property rights TRIP's agreement, and the Biodiversity Convention.

Although the WTO's trade related intellectual property rights (TRIP's) agreement is very forthright about the compulsory patenting of microorganisms, plants and animals can be excluded, but protection of one kind or another is required for plant varieties. This clause however is up for review in four years.

The Biodiversity Convention recognizes farmers rights to their knowledge over the use of biodiversity. The treaty also recognizes IPR's but at the same time upholds the need to ensure that these rights do not detract from the sustainable use of biodiversity.

The challenges is to keep the WTO from serving over to the large company's side, and add to the burdens of the poor countries.

RELATIONSHIP BETWEEN INTELLECTUAL PROPERTY RIGHTS AND THE PROTECTION AND DEVELOPMENT OF BIODIVERSITY

Intellectual property rights are linked to the value of biological diversity as a source of genetic resources. And genetic resource holds valuable information and potential for human development. Intellectual property rights will therefore play a crucial role in the implementation of international conventions concerning biodiversity, especially in the following areas:

1) Impact on traditional knowledge and practices of local communities and indigenous peoples.

2) Impact on indirect incentives affecting conservation and sustainable use of biodiversity.

3) Influence on the transfer of and access to technology and scientific information.

Although not yet verified, IPR have been projected to be beneficial to biotechnology in developing countries in a number of ways. The following are therefore being encouraged.

1) The development of local research capacity.

2) Local private sector investment in biotechnology.

3) In country investments by transnational companies to develop specific products for local markets.

4) The use of intellectual property rights in negotiation for better access to overseas markets.

However, as indicated earlier, many feel that giving proprietary property protection to living organisms is immoral as they are part of the common heritage of mankind. There is an even more serious objection, which see IPR as a major cause for the erosion of thousands of traditional crop varieties and their replacement by a much smaller number of "elite" varieties. A very dangerous and precarious situation would arise if these "elite" varieties fail, with little recourse being available from the natural environment. This is further aggravated by the concentration of agri-biotechnology research and distribution in a few corporations in the industrialized countries. Presently there is the tendency for these companies to make high yielding varieties dependent on the use of the chemicals

that they also produce.

There are counter arguments to these complaints, by viewing IPR protection as encouraging conservation through the better technologies it will bring more efficient land use which will ensue. Instead of speculation, and misinformation empirical studies and detail analyses are clearly necessary to settle these types of debates.

The same type of contentious speculation surrounds the influence of IPR systems on benefit sharing through the development of technologies using genetic resources. Unfortunately, the present focus is on conservation and sustainable use rather than on equitable benefit sharing. Some argue that IPR favour the development of products that benefit private industry and users in more lucrative markets in the developed countries, and do not respond to the needs of smaller, poorer farmers, who cannot afford such expensive technologies and varieties. Moreover the IPR system do not seem to facilitate the diffusion of technology, surely not to the small farmers.

In essence, there is a worsening disparity between the rewards flowing to the dominant companies (eg. seed companies) in the industrialized countries, and rewards flowing to countries and farm communities providing the genetic resources. There is no mechanism similar to the IPR system to ensure the fair share of benefits for the use of local resources. There is also the tendency, with the expanding scope and use of IPR, for the discouragement of researchers from fully exchanging results, as was the case before, with respect to plant varieties and similar works. The freedom of exchange that has made science strong in the past is now being curtailed.

TRADE AND INTELLECTUAL PROPERTY RIGHTS

The trade-related aspects of intellectual property rights (TRIPS) agreement seeks to balance the objectives of promoting technological innovation and facilitating access to and transfer of technology through the provision of appropriate standards of intellectual property protection. Technology transfer is important not only for the promotion of environmentally friendly technologies, but also should encourage the development of technologies that help the conservation and sustainable use of biological diversity.

The TRIPS agreement allows members to exclude from patentability plants and animals other than micro-organisms, and essentially biological processes, for the production of plants or animals, other than non-biological and micro-biological processes. Protection of plant varieties are expected through patents, or a sui-generis systems or a combination of both. These provisions, however, are up for review in 1999, and therefore require careful probing and the sifting of facts by the underdeveloped countries for them to fully protect their future.

These various international conventions, expects the underdeveloped countries to maintain national sovereignty, but they are required to endeavour to facilitate access to their genetic resources for environmentally sound uses, and should expect to obtain a fair and equitable share of the benefits arising from the use of their genetic resources by other parties. The relationship between access to genetic resources, and benefits arising from their utilization, raises fundamental questions about the status and ownership of genetic resources.

There have been calls for IPR to be extended to cover owners of these resources, in recognition of the intellectual input they have made to their conservation, sustainable use and genetic improvement. In the current intellectual property system, however, this does not obtain because the argument is that there has been no intellectual input in these cases. This clearly is a very narrow view and in some way is insulting. There is also a feeling that ownerships would be difficult to establish in some cases, and therefore complicate rewards, but again this should be left to the communities involved.

Although these matters are proving to be exceedingly complex, they have not so far received the attention they deserve, as the emphasis has been on the IPS as seen from the perspectives of the owners of technology. In this regard, it is important to recall the concerns of the Australian indigenous peoples organization, which have relevance in the context of other underdeveloped countries. They are the following:

1) The need for recognition of both the commercial and non-commercial value of knowledge systems and innovations.
2) Inherent in that, recognition of the cultures, social life and belief systems of indigenous communities, which embody the knowledge and practices supportive of biodiversity.
3) The need to address fundamental differences in protection between innovations protectable by existing intellectual property rights and traditional knowledge of, and uses for, biodiversity.

4) The reality that, for indigenous communities, priorities include the need for equitable benefit sharing, not merely for its own sake, but also, to avoid the damage that results within a community where there is a sense of unauthorized use or misappropriation of knowledge.

It would appear that it would be prudent to have along with IPR systems, codes of conduct setting out conditions for the transfer of genetic materials and mechanisms of implementation of regulations, or contractual arrangements. In this connection, the limitations of the present IPR system to deal with genetic resources should be highlighted.

1) IPR are the results of creative, or inventive, endeavours, by an individual or individuals, creating an original product.
2) There must be an identifiable creator, or owner of the intellectual property, since the laws do not recognize collectives, or community ownership, under customary law of a creation, or product, except for corporate body under company law.
3) Intellectual property rights are of limited duration, after which the work or product falls into the public domain.

It would appear that the IPR framework, as presently constructed, may not be the most effective way to cope with the demands of biodiversity and indigenous knowledge. Much is left to be done to assembly the facts, to allow the best decisions to be taken.

CONCLUSION

There are too many speculations and biases clouding the complex relationship between the IPR and the goals of maintaining and sustainably using the biodiversity in the underdeveloped countries. The expressed concerns of the parties involved should be informed by scientific studies to unveil the various parameters involved in these linkages.

Jamaica is a country rich in biodiversity and consequently has a lot at stake and should itself launch studies to clarify its own situation. What, however, is very clear, is that for technological week societies, there is little to be gained for protecting the so called IPR of other countries, except promises of investment, many of which are yet to materialize. As the situation stands, the Paris Convention have so far given little in return for the protection of the rights of foreign firms.

There are certain fundamental issues still left to be resolved with respect to patents. Chief among which is the fact that a poor country may have all the will in the world to institute a patent system, but may find it totally incapable of enforcing it, because of the human, institutional and financial resources necessary to do so. Furthermore, to collect royalties from poor small farmers seems quite unlikely and therefore patents will restrict technological flows to those who are most in need. Patents restrict technologies to marketable applications, while the markets in the poor countries are highly imperfect. Conceivable a patent system, underpinned by goodwill and savvy may not have to close-out options other than those for profit.

The special situation of a small country should be elaborated with great precision to cope with the avaricious market which has been created by the strong and the large, mainly for their own benefit.