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ABOUT US

LexForti is a free open access peer-reviewed journal, which gives insight upon broad and dynamic legal issues. The very objective of the LexForti is to provide open and free access to knowledge to everyone. LexForti is highly committed to helping law students to get their research articles published and an avenue to the aspiring students, teachers and scholars to make a contribution in the legal sphere. LexForti revolves around the firmament of legal issues; consisting of corporate law, family law, contract law, taxation, alternative dispute resolution, IP Laws, Criminal Laws and various other Civil issues.

IPR & Biodiversity

Yashwanth A S

INTRODUCTION

Biological diversity is the hallmark of life on earth. It is very backbone of sustainable development. The current Intellectual Property Rights (IPR) regime is encouraging commercialization of seed development, monoculture and protection of new plant varieties, microorganisms, and genetically modified organisms. As a consequence, our rich biogenetic diversity is being eroded irreversibly. We must find out a path to make an alternative approach that will bring a balance in between formal Intellectual Property (IP) system and sustainable aspects of biodiversity.

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The relationship between the objectives of the Convention on Biological Diversity (CBD) and intellectual property rights (IPRs) is the subject of continuing debate. Equally controversial is the effect of the Agreement on Trade-Related Aspects of Intellectual property (TRIPS Agreement) – one of the agreements binding on Members of the World Trade Organisation (WTO) – on the achievement of the CBD's objectives and on sustainable development generally.

Biodiversity is the basic of our sustainability. The developed countries are not rich in biogenetic resources but are better equipped in research and development. They use the biogenetic resources accessed from the developing countries.

As a result, there is a beginning in the unprotected flow of genetic information from the developing countries to the capital-rich west, and a protected flow in the reverse direction mainly through patents and Plant Breeders' Rights (PBR). It has both visible and invisible impacts. Genetic erosion is one of the most important invisible impacts that is in long run manifested visibly with the loss of biodiversity.

Progress in resolving these complex issues has been slow. In this discussion paper, CIEL and WWF offer an overview of progress at the WTO and the CBD and recommend some ways forward. We explore the relationships between these legal frameworks, and outline key steps that CBD parties and WTO Members – who comprise many of the same countries – should take at the international and national levels. In particular, to support these key steps, we call for action by the Conference of the Parties (COP) and subsidiary bodies of the CBD, and by the WTO's Council for TRIPS and General Council.

Though IPRs such as copyrights, patents, and trademarks are centuries old, the extension of IPRs to living beings and knowledge/technologies related to them is a relatively recent phenomenon

which has raised many controversies. It all started when in 1930, the US Plant Patent Act was passed, which gave IPRs to asexually reproduced plant varieties.

Several other countries subsequently extended such or other forms of protection to plant varieties, until in 1961, an International Convention for the Protection of New Varieties of Plants was signed. Most signatories were industrialized countries, who had also formed a Union for the Protection of New Varieties of Plants (UPOV) in 1968.

Now the scenario has changed. Boundaries have expanded and horizons have widened. Monopolistic restrictions are no longer limited to technology but have been extended to plant varieties, micro-organisms, and genetically modified animals in many countries.

HISTORY OF IPR AND BIODIVERSITY

The initial step towards making biodiversity a commodity evolved from the United Kingdom wanting to use high-quality seeds for agricultural production. This slowly led to the Companies selling registered seeds. Later the government rewarded individuals who improved seeds further. This led to the development of Breeders' Rights that become more commercialized and very soon restrictive.

For over 60 years, different forms of protection of new plant varieties through system of PBR have in existence in industrialized countries. In 1961, a "Union International Pour la Protection Des Ostentations Vegetables" (UPOV-International Union for the Protection of New Varieties of Plants) was established in Geneva for coordinating the intercountry implementation of PBR. Although the Convention was signed in Paris in 1961, it came into force only in 1968. It was revised in Geneva in 1972, 1978, and 1991.

The 1978 Act came into effect in 1981. To be eligible for protection, varieties have to be:

- Distinct from the existing, commonly known varieties
- Sufficiently homogenous /uniform.
- Stable and
- New in the sense that they must not have been commercialized prior to certain dates established by reference to the date of application for protection.

A diversity of views has been expressed about the relationship between traditional knowledge and IPRs. Some commentators argue that IPRs can provide an incentive for continued investment in the preservation of these practices.

Other commentators argue that traditional knowledge generally falls outside the parameters of protection offered by current IPR regimes, and that these regimes may enable the knowledge of indigenous and local communities to be misappropriated by others. These views are not mutually exclusive, and there are examples where both are true. Nevertheless, there are a growing number of instances in which IPRs have been used to gain control over traditional knowledge, without provision for benefit sharing.

The relationship between IPRs and technology transfer under the CBD is multifaceted. IPRs (and the market incentives that accompany them) should be evaluated for their effect on the nature of technology developed from genetic resources, and on the transfer of these technologies. IPRs will also need to be evaluated to ensure that they do not "run counter" to the objectives of the CBD.

INTERFACE BETWEEN IPRS AND BIODIVERSITY

Historically patents have served to protect the lone inventor from being ripped-off by big business, though whether he can afford to establish his right in law is another matter. Patents or any Intellectual Property Rights exist to award intellectual endeavour.

On the basis of the current granting of patents Newton could have patented the laws of gravity, Einstein the Theory of Relativity, the elements could have been patented, new planets could be patented, a royalty charged for anyone who chose to look at them, etc. Extensive commercial exploitation of genetic diversity catalysed by research and development for obtaining IPR will decide the future of our rich biodiversity.

VALUE OF BIODIVERSITY

- Diversity is the most ecologically sustained form.
- Diversified crops maintain soil fertility.
- Diversity optimizes soil management in rain fed belts.
- Diversity means insurance against crop failure. Diversity optimizes labour availability.
- Diversity ensures food security.
- Diversity of range of foods ensures nutritional balance.
- Diversity provides a range of fodder to the cattle keeping them healthy and productive.

LEGISLATIONS

In order to comply with the TRIPs (Trade Related Intellectual Property Rights) and CBD (convention on Biological Diversity) India has passed Indian Patent (Second Amendment) Act, 2002 and the Biological Diversity Bill, 2002 respectively. According to this Amendment Act, 2002

the duration of the term of patent has been extended to 20 years for all product and process (under the existing Act of section 53 as well as those included in the present bill) patents.
Now microorganisms will be patentable subject in India. In addition, new plant varieties will get PBR certification in India as India has joined recently in UPOV (1978 Act). Earlier India has also passed Plant Protection Bill to develop a sui generis system (a system of its own). The deposit of biological materials has also been included in compliance with the Budapest Treaty.

DIRECT IMPACTS OF IPRS ON BIODIVERSITY ARE HARD TO PERCEIVE, BUT SOME OF THEM ARE AS FOLLOWS:

- Current IPR regimes have allowed industrial and commercial interests to appropriate the resources and knowledge of resource-rich but economically poor countries and communities, further 'impoverishing' them or excluding them from technological improvements.
- IPRs are likely to greatly intensify the trend to homogenize agricultural production and medicinal plant use systems. In agriculture, for instance, any corporation which has spent enormous amounts of money obtaining an IPR, would want to push its varieties in as large an area as possible. The result would be serious displacement of local diversity of crops (though of course IPRs would not be the only factor in this); increasingly species-wide IPRs (such as those on transgenic cotton and soya bean) could stifle even public sector and small-scale private sector crop variety development.
- Having to pay substantial royalties to industrial countries and corporations could greatly increase the debt burdens of many countries. This could further intensify the environmental and social disruption that is caused when debt repayment measures are taken up, such as the export of natural products.
- The privatization of knowledge (repugnant to many societies which held knowledge largely, though by no means only, in the public domain).
- Farmers who innovate on seeds through re-use, exchange with other farmers, and other means, would be increasingly discouraged from doing so if the tighter regimes that UPOV 1991 approves are imposed on their countries; these regimes would also increase the economic burden on farmers, further discouraging innovation.

- The ethical aspects of IPRs are serious, and to many communities and people the most important reasons for opposing current IPR regimes: the patenting of life forms (abhorrent

to many traditional societies and modem conservationists because of its assumption that Nature exists apart from, and for the interest of, humans); and others.

FURTHER INTERFERENCE

Furthermore, an engineered organism may produce unanticipated harmful impacts on other species in its new environment. A group of scientists at Oregon State University, for example, engineered a variety of Klebsiella Plant cola, a bacterium known to reside in the soil and contributing to the decomposition of plant material. Their goal was to engineer a product that would efficiently convert agricultural wastes to ethanol fuel.

Although the project was successful in meeting this goal, the scientists discovered in late stages of testing that the new product also destroyed much of a beneficial Mycorrhizal fungus essential to the recycling of nitrogen through plant roots - which could lead to desertification throughout the range of the product.

Clear evidence that the patent system has stimulated the development of new products and technology, which otherwise would not have been developed, is only available for a few sectors such as pharmaceuticals. In other sectors, patents are sometimes considered to have mainly anti-competitive effects. They serve to secure and strengthen the position of market leaders and limit the entry of new competitors.

Although policymakers have sought to limit the adverse effects of patents through revised IPR legislation, competition policy and other business regulations, the anti-competitive implications of patents remain a cause of concern. Such concerns have regained momentum with the emergence of patents on biotechnology products and processes that cover fundamental research tools, genetically engineered plants, human genes, and living organisms.

In 1993, Kalpvriksh, a Delhi based environmental NGO released information that it had received from the Rural Advancement Foundation International (RAFI), a Canadian group, about the patenting of several microorganisms taken from India by American pharmaceutical companies. In effect, what should rightfully have been thought of as the property of Nature or of India was being claimed as the property of some private corporations sitting thousands of kilometres away from their place of origin.

The bulk of the world's biological diversity, about 70% of all recorded species, is concentrated in the Tropics. The majority of the world's most widely used crops have originated in tropical countries; the genetic material derived from these contributes more than 90% of the global production of food crops.

CONCLUSION

The successful development of biological diversity will depend upon creative relationship that can be nurtured between two opposite poles –formal innovative and community systems. For this to work, policymakers must implement technology transfer with a strong inclination towards active participatory approaches to research and extension.

Active participation means exercising practical power and command over genetic resources by farmers and rural people that would be reciprocated by the formal system with their analysis, experimentation, professional, institutional and policy changes from time to time in order to discharge our international obligations and at the same time keeping in view of sustainability of biodiversity.

Ultimately, the reason to conserve our genetic diversity and to encourage innovation out of these biogenetic resources is to improve the quality of human life and this should be kept in mind always before any invention or policy changes, otherwise our very existence will be at stake.

Policy-makers have an important role to play in ensuring that policies and practices relating to IPRs, and the need for the conservation of biodiversity, are mutually supportive. Governments must adopt an integrated approach across national and international fora, as well as between different international fora, if they are to create space for implementing the objectives and provisions of the CBD. While IPRs are several centuries old, their extension to living beings and related technologies is a recent phenomenon, and one that has evoked considerable controversy.

IPRs on biological resources and related technologies or knowledge are justified much as industrial invention IPRs are:

That they stimulate innovation by giving recognition and rewards to inventors, that they encourage investments in research, and that they make possible the eventual disclosure and dissemination of related knowledge. Whether or not these goals are met is hotly disputed.

Historically, the non-patentability of biological matter seemed a topic beyond discussion, or in any case of limited importance. This changed with the grant in 1873 of a patents to Louis Pasteur on certain yeast strains that were free from organic germs. Even if it is true that in an increasingly monetized world, personal profits are a powerful incentive, IPRs on life forms have serious legal, ethical, social, economic, and ecological implications that must be considered.

Unfortunately, ethical viewpoints no longer have as much acceptance in today's hard-headed world as considerations-based return to the market each year to purchase seed, as has to be done for hybrids at present.

Improved seeds require more fertilizer and pesticide consumption, which has tremendous contribution towards biodiversity loss, and have direct impact on floral, faunal and microbial

population. Moreover substantial royalties' payment to the developed countries and multinational seed companies will greatly increase the debt burden that could further intensify the environmental and social disruption if we consider the debt repayment such as the export of natural products.