

TRIPs: The Impact on Plant Variety Protection and Biopiracy in Developing Countries; Special Reference to Sri Lanka

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ABSTRACT

There is a conflict of interest, among developed and developing countries. It is regarding the protection of new varieties of plants and farmer rights. The economic power of the developed countries has suppressed the interest of the developing countries in both these issues. In order to attain a better status in this regard, developing countries have to implement suitable *sui generis* systems within their legal frame work. Biopiracy being one of the most fast spreading mafias in the world today has also threatened the rich biodiversities of the developing countries. It is also important to take necessary steps to stop biopiracy and to make use of their rich genetic resources in order to attain a better status of development.

Keywords: Intellectual property; New plant varieties; Developing countries; Biopiracy

INTRODUCTION

Intellectual Property Rights (IPR) has been recognised as universal and its importance has been acknowledged by both developed and developing world. However its economic benefits have not yet been favourable towards the developing world (Kongola *et al.*, 2004).

In order to provide an international frame work for the protection of IPRs, World Trade Organisation (WTO) introduced Trade Related Aspects of Intellectual Property Rights (TRIPs) Agreement. This multilateral agreement came into force on 01st January 1995. As for the WTO regulations all the member states are bound by this agreement. In order to implement the provisions of TRIPs Agreement, countries were given certain stipulated time periods based on their economic status. Accordingly developing countries were initially given five years and

were subsequently extended by another five years, which lapsed on 01st January 2005. The time period granted for least developed countries will lapse on 01st January 2016 (Matsushita *et al.*, 2006).

Two considerations led to the creation of The TRIPs Agreement. First, The United States and other developed countries failed in their attempts to increase normative standards of protection through the World Intellectual Property Organisation. Second, the enforcement mechanism was not effective and practically not workable at all, under the pre-TRIPs Agreement IP conventions (Matsushita *et al.*, 2006).

The TRIPs Agreement provides relatively high minimum standards for each of the main categories of IPRs, establishes standards of protection and enforcement. In addition, it provides for the WTO dispute settlement mechanism to resolve disputes between WTO members. The TRIPs Agreement however does not resolve many issues resulting from different IPRs. For example United States employ a first-to-invent criterion for priority in patent applications, while the rest of the world follows the first to file system. This discrepancy was not harmonised by the TRIPs Agreement (WTO, 2007).

Among other factors the TRIPs Agreement contain provisions for the protection of new plant varieties. However under these provisions, developing countries have faced serious challenges relating to their rights in the areas of agriculture and biodiversity (Correa, 1998). These countries experience an increasing gap between them and the developed countries, instead of achieving a fair standard. Mahamuni commented that TRIPs Agreement protects the overall investment agenda of few developed countries such as United States and the countries of the European Union, at the cost of the developing countries (Mahamuni, 2006).

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According to the statistics most of the developing countries have agriculture based economies (Malik, 2003). According to Food and Agriculture Organisation, 70% of the labour force in countries with a low income treats agriculture as their principal occupation, where as its 30% in middle income countries and only 4% in the developed countries (FAO, 2006).

Developing countries are rich in genetic resources, which have been protected by their ancestors for centuries. Out of 34 biological hotspots in the world, more than 75% are located within developing countries. Further more than 80% of earth's terrestrial biodiversity is confined to these countries (Anon, 2007a). Therefore the impact of TRIPs Agreement on these genetic resources is critically important to these countries.

TRIPs AGREEMENT AND PLANT VARIETY PROTECTION

Article 27 of the TRIPs Agreement provides protection to inventions in all fields of technology. Further Article 27.3 (b) deals with an exemption to this general provision. It states as, members may exclude from patentability: plants and animals other than non biological and microbiological processes. However, any country excluding plant varieties from patent protection must provide an effective *sui generis* system of protection (WTO, 1995).

The word *sui generis* has not been defined in the TRIPs Agreement. When its literal meaning is considered, it can be understood as "a system of its own" (Millett, 2004).

The provisions of Article 27.3 (b) directly affect the farmer rights as innovations. Farmers' seeds reflect the inventiveness and genius of developing world farmers. However the developing world farmers will find no place within the framework of TRIPs Agreement (Kongolo et. al., 2004).

In implementing the provisions of Article 27.3 (b), developing countries should act with caution. Millett comments

that plants, animals and their parts or processes should not be patented. Alternatively attempts should be made to promote the conservation and substantial use of genetic material while prohibiting biopiracy (Millett, 1999).

A *sui generis* system would be an ideal model fit into the above criteria. However it should focus on the protection of farmer rights and conservation of biological heritage.

As an example for *sui generis* system, there is a convention in Europe setup in 1960s to recognise breeders' rights. It is known as the International Union for the Protection of New Varieties of Plant (UPOV)¹. This is recognised as an effective *sui generis* system for the protection of breeder's rights. By October 2006, the number of member states has risen to 63, and 66,772 plant varieties were protected under the umbrella of UPOV (UPOV, 2006). However 1991 revised text of UPOV has restricted farmer rights. There is a negative impact on farmers, as plant breeders were given exclusive rights, which is inimical to the needs of the developing countries (Verma, 1995).

It is evidential that the recommendations of the developed countries, in light of the TRIPs Agreement, for a stronger IPR regime have negatively impacted on the developing countries. For instance cotton and rice research in India demonstrate that the implementation of new laws covering IPRs under Article 27.3 (b) will pose a threat to the local agriculture research. This is because Indian researchers are engaged in a project aiming at the development of genetically modified cotton and rice varieties with pest resistance. The components of these technologies are patented either directly or indirectly. However these researchers will not be able to follow the techniques of genetic engineering at a local level once Indian

¹ UPOV was established by the International Convention for the Protection of New Varieties of Plants. The Convention was adopted in Paris in 1961 and it was revised in 1972, 1978 and 1991.

laws are brought into line with TRIPs Agreement. This interruption in local research activities will have an adverse effect on farmers as it will become unaffordable for them to adopt products emerging from the patented technology (Alam, 1998).

PLANT VARIETY PROTECTION AND FARMER RIGHTS

Farmers in developing countries extensively use their own seeds from the previous cultivation. They had developed the skills and knowledge of breeding from their ancestors. But with the strict implementation of TRIPs Agreement, these farmers will face a challenge of replanting their own seeds. This situation will encourage the multinational seed companies to extend patent rights over new plant varieties developed through advanced biotechnological methods (Mahamuni, 2006).

This will make the multi national seed companies to have a large stake in the global seed business. In fact the ECT group (formerly Rural Advancement Fund International), estimates that farmers owe over US\$ 300 million annually to these multinational seed companies (Anon, 2006).

One example of the adverse impact of IPR granted to breeders through TRIPs Agreement is the patenting of a technology known as “terminator seed technology”. Seeds manufactured by this technology are self-poisoned or self-destructive. Therefore these can not be replanted, which is detrimental to the agricultural economies of the developing countries (Hong, 2000). In Brazil, an estimated 70 % of the 22 million hectare soybean crop is planted in farmer-saved seed. If terminator seeds were commercialized and used in soybeans, it would cost Brazilian soybean farmers US\$407 million per year. In Pakistan approximately 88% of the total wheat area is planted in farm-saved seeds. If wheat farmers in Pakistan were forced to rely on terminator seeds it would cost them an

estimated US\$191 million per year (Anon, 2006).

As a result of the above consequences, multinational seed companies had faced certain violent reactions from active farmer groups. In one instance it was reported that farmers in India burnt the administrative building of the seed company named “Cargill”. These farmers were fearful about the provisions of TRIPs Agreement, which would make them to pay royalty to the patent holders, instead of using their own seeds (Kongola et. al., 2004).

Article 28 of the TRIPs Agreement gives certain rights to the patent holders. Accordingly third parties are prevented from making, using, offering for sale, selling and importing for these purposes the patented product (WTO, 1995). Accordingly when this apply to seeds, the purchaser can use the purchased seeds for the purpose implied in the sale, but will not have the right to further multiply it for the purpose of propagation (Verma, 1995).

By a *sui generis* system, certain exemptions can be introduced to benefit farmers. For example in UPOV 1978 revised text there were provisions to allow farmers to save seeds or planting material of protected varieties from their harvest, for sowing in their land to produce further crops. However it must be noted that this provision was repealed in the 1991, revised edition of UPOV (Verma, 1995).

BIOPIRACY

With the development of biotechnology, genetic resources have become a valuable treasure, which can be converted into money. Since most of the developing countries are rich in their biodiversity, they can make these genetic resources productively in order to attain a better status of economy and development. However biopiracy or looting of the genetic information has become a serious threat to the developing countries. (Brooks et. al., 2002)

Implementation of TRIPs Agreement, which allows patenting the live

forms, has encouraged biopiracy. Prior to the formation of TRIPs Agreement there were no provision which permit the patenting of live forms and genetic information (Khor, 2002).

Commentators writing on the African position faced with the implementation of the TRIPs Agreement have recommended that Article 27.3(b) should be implemented with certain considerations in mind. For example plants, animals, micro-organisms, their parts and natural processes should not be patented. Attempts should be made to promote the conservation and sustainable use of genetic material, while prohibiting biopiracy (Malik, 2003).

It is anticipated that, biopiracy will lead to the **exhaustion** of the rich biological wealth of the developing countries. One example for a well known biopiracy incident is the patenting of products derived from neem tree (*Azadirachta indica*), which grows in the natural habitat of Indian forests. This plant was used as a medicine for a wide range of human diseases such as diabetes and leprosy. Another example is patenting of turmeric grown in South Asia (*Curcuma longa*) by an American company (Mahamuni, 2006).

Biopiracy is an extremely lucrative business. For example one American company had obtained patent for a plant named rosy periwinkle (*Catharanthus roseus*) which naturally grows in Madagascar. It is estimated that the patent holder earns over US\$100 million annually by this patent. Further the Madagascar people who protected this plant and used it as part of their traditional medicine for centuries will have no benefit at all; instead they also have to pay royalty to the patent holder (Hong, 2000).

The inadequate protection for the genetic resources has encouraged biopiracy and also threatens the legitimacy of IPR protected under TRIPs Agreement (Khor, 2002). Even the Commission of Intellectual Property agrees that the provisions in the TRIPs Agreement which permits the patenting of live organism may be

considered as encouraging biopiracy (Anon, 1999).

SRI LANKAN CONTEXT

Sri Lanka being a developing country and having an agro based economy will have a threat of breaching their farmer rights under the TRIPs regime. Further its rich biodiversity is under threat of biopiracy.

At present there is no legislation with regard to Article 27.3 (b) of the TRIPs Agreement. Some time ago there was a draft Plant Variety Protection Act which was broadly discussed by the people concerned. However it did not work out as there were some inherent weaknesses in the draft document (Sri Lanka Government, 2001). It is still being discussed.

In Sri Lanka there are no sufficient laws to protect the biopiracy. As a solution there is a special Biodiversity Protection Unit (BPU) established under the Sri Lanka Customs Department in year 2001 (Anon, 2007b). However the effectiveness of this unit is questionable, without a proper legal frame work.

Sri Lanka being a member of WTO is bound to implement TRIPs Agreement in its legal framework. Time granted to developing countries such as Sri Lanka had lapsed on 01st January 2005. Now there is a threat of a developed country making a complaint to the WTO secretariat against Sri Lanka for their IPR violation. Two such instances occurred against India. In them United States and European Union complained to the WTO, regarding India's non implementation of TRIPs Agreement, which led to violate their IPRs. Both the disputes were settled in favour of the complainants, while directing India to make necessary laws within the country (WTO, 2007).

If a developed country complains to WTO against Sri Lanka, the dispute settlement body of WTO might impose a fine or might direct to increase tariff on Sri Lankan trade with the complaining nation (Matsushita et al., 2006). This scenario will

adversely affect on Sri Lankan economic and international trade.

As there are inherent weaknesses in patenting live forms, Sri Lanka can develop a *sui generis* system. The positive features of such systems as UPOV can be adopted. But it's advisable to develop a one of its own rather than adopting a ready made one.

A significant example of such a *sui generis* system is the Indian Plant Variety Protection and Farmer Rights Act of 2001 (Indian Government, 2001). It respects and rewards farmers' inventive capacity, while fulfilling the TRIPs Agreement requirements (Mahamuni, 2006).

There are reported incidents of biopiracy in Sri Lanka, further its predicted that there are many more unreported incidents (Anon, 2007b). Even though there are certain provisions in Sri Lankan law in this regard, those are not strong enough to protect against the well organised global mafia of biopiracy.

In order to overcome this it can be suggested that the genetic material of the inhabitant plants which had been protected and used for centuries, to be patented. This will protect the looting of the biological material of these plants and will create a huge economic benefit with the development of science and technology.

CONCLUSION

Former Chief Justice of India, Justice Bogawathi comments, that WTO is about mutual gains in trade, where as IP protection through the medium of TRIPs Agreement is a "tax on poor countries" (Khor, 2002).

Since Sri Lanka being a small island with a negligible share in the world trade, is not in a position to fight against the injustices occurred through TRIPs Agreement. Therefore the most appropriate measure is to implement a proper and adequate legal frame work, in order to protect farmer rights as well as to protect its rich bio diversity, while satisfying the WTO requirements. It's also important to take these steps without further delay as the time granted by WTO had already been lapsed.

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