

TRIPS AND BIODIVERSITY

Suman Sahai

In the last decades there has been a distinct shift in the way biological resources are viewed. What was a 'natural' resource, accessible to all, has now become an 'economic' resource, to be privatised. In this process, public property jointly held and nurtured by communities, is converted to a private property owned by a few and withheld increasingly from the local communities.

This shift can be seen in recent international and national developments. Two major international agreements, the Agreement on 'Trade-Related Intellectual Property Rights' (TRIPS) of the WTO and the United Nations 'Convention on Biological Diversity' (CBD), with mutually conflicting approaches, are now shaping the domestic regimes of member states with respect to biological resources and associated indigenous knowledge. The Agreement on TRIPS engenders privatisation of biological resources by allowing patents to be granted on biological materials and associated indigenous knowledge, and the CBD acknowledges that local communities have rights over bio resources and indigenous knowledge.

Article 27.3(b) of TRIPS has brought biological resources under the purview of intellectual property rights, hence providing for private ownership over bio resources with exclusive commercial rights.

Biological diversity has become the sought after raw material of the life sciences industry. Whilst corporations in the developed world have mastered the techniques of recombinant DNA technology, the raw matter is located principally in the tropical and semi-tropical countries of the developing South. Not only the resources, but the associated knowledge of their properties are located within indigenous communities.

In order to gain access to biological resources, the life science corporations, through their governments, have extended the scope of intellectual property rights to biological materials at the global level. This development took place in the 'Uruguay GATT Round' that began in 1986 and concluded in Marrakech in 1994. During this round, life forms and genetic resources were brought into the ambit of one system for intellectual property rights.

TRIPS covers, amongst other things, copyright and related rights, trademarks such as the protection allowed to Champagne wine and Scotch whisky, industrial designs, patents and plant variety protection, layout-designs of integrated circuits used in electronics, protection of undisclosed information and trade secret and unfair competition.

Intellectual property rights over biological materials

The key element of the TRIPS Agreements related to agriculture and food security is the requirement for WTO Members to make patents available for any inventions, whether

products or processes, in all fields of technology without discrimination. One reason for greater interest in patents is the rapid development of biotechnology in agriculture.

There are four options within Article 27.3 (b). Firstly, it allows patents on everything. This would include all materials and all forms of technology. Secondly, to exclude plants, animals and biological processes, but not plant varieties. This means that whereas naturally found plants, animals and the natural biological process by which they are created, could be excluded from patents, crop varieties could not. The third option is to exclude plants, animals and biological processes from patenting and to introduce a special *sui generis* for the protection of plant varieties. A *sui generis* system allows the country to create a system of their choice that would enable the minimum protection agreed to in the WTO. The final option is to exclude plants, animals and essentially biological processes from patenting but not plant varieties, and to provide a *sui generis* right. This last would mean that plant varieties could be patented or protected by an independently created *sui generis* system.

Most developing countries have chosen option 3. A *sui generis* system of protection is one adapted to particular subject matter, and allows countries to make their own rules for protection of new plant varieties. One possible *sui generis* system likely to be recognised is the International Union for the Protection of New Varieties of Plants (UPOV) system. This was initially developed in Europe and has now been adopted by the industrialised countries. The UPOV system has undergone several changes after its formulation in 1961, but these have resulted in almost no concessions for farmers and breeders.

Article 27.3(b) of TRIPs is perhaps the most controversial clause of the entire WTO agreement. It requires members to provide for the patenting of micro organisms and genetically engineered organisms ("non-biological and microbiological processes") and WTO members are now in the process of defining their positions regarding the future of the provisions. There are indications that a few members like the US, would like the *sui generis* option to be eliminated altogether, while most developing countries are preparing national legislation to implement it. There are proposals to treat UPOV as the only *sui generis* option for plant varieties. UPOV is not in the interest of developing countries since it does not have any rights for farmers. There is only one right, that granted to the breeder, which in today's context is increasingly 'the company'. Patents on seeds would severely restrict the farmers' access to them, since they would have to buy fresh seed for every sowing. Women would be particularly disadvantaged under UPOV since their access to their own seeds ensures that they can contribute to food and nutrition for the household.

There are potential conflicts between TRIPs patenting regime and the Convention on Biological Diversity (CBD), as well as the International Treaty on Plant Genetic Resources (ITPGR) of the FAO. These conflicts are widely seen as more political than legal in nature, and the US government has made early implementation of TRIPs a top priority of its foreign policy. These matters are likely to emerge as matters of dispute under the WTO's dispute settlement system in the coming years.

UPOV 1991 conditions will significantly diminish the farming community's capacity to be self sufficient in seed and self-reliant as agricultural producers. It promotes the interests of commercial plant breeders in the North rather than the farming communities. UPOV requires plant varieties to be "distinct" from other varieties, produce genetically "uniform" progeny, and remain genetically "stable" over generations. After the 1991 UPOV amendment, a new quality-

"novelty"- has been added to the minimal characteristics required The uniformity requirement has potential to contribute to genetic erosion. In addition, the cost of maintaining UPOV certification is beyond the means of most farmer-breeders. Although peasant farmers have also cultivated plant varieties expressing desirable traits over time, their varieties rarely meet the UPOV requirements list.

These conditions for a 'Plant Breeders' Right certificate' under UPOV go contrary to the goal of enhancing genetic diversity. Furthermore, the kind of protection it grants is an exclusive monopoly right. This contrasts sharply with the broader goals of collective remuneration and benefit-sharing expressed in a number of other global agreements.

UPOV is against developing country interests

A number of influential bodies, including the WTO itself, are pushing for a narrowing of the *sui generis* option to one legislative model provided by the UPOV. UPOV is not mentioned in the TRIPS Agreement. Independent legal and economic experts have reiterated that UPOV should not be accepted as an effective *sui generis* system for TRIPS and that there is ample scope for manoeuvre, flexibility and national discretion in interpreting the *sui generis* option. The UPOV system promotes commercially bred plant varieties for industrial agricultural systems. Under this system farmers have to pay royalties on seed and the seed sector becomes an investment opportunity for chemical and biotech concerns. Plants are bred to grow successfully with their chemical inputs or with their patented genes at the expense of more sustainable biodiverse systems. Since 'Plant Breeders' Rights' (PBRs) are only given for a variety that is genetically uniform they limit both what kind of seeds can be marketed and who can market them. UPOV automatically discourages genetically diverse and locally adapted seeds from the market and from the field.

The impact of UPOV type regimes will be highly detrimental to developing country situations. Firstly, farmers who have contributed the varieties on which plant breeders base their own varieties would have no rights, only the breeders would. Secondly, the UPOV conditions are for industrial economies where only 2 to 5% of the population practices agriculture and there are no small and marginal farmers. UPOV laws advantage countries where agriculture is largely a commercial activity. For the majority of farmers in Asia, Africa and Latin America however, it is a livelihood.

Applying the TRIPS framework to bio resources is against the interests of indigenous and farming women and men. Women are the most skilled in the use of bio resources for food, medicine and other uses, and use these resources to improve the health and nutrition status of their families, as well as to earn some income. The TRIPS Agreement does not recognise that local communities have any rights over bio resources and associated knowledge. It fails to acknowledge or protect farmers' rights, explicitly recognised in the CBD and ITPGR. In addition, the TRIPS Agreement, unlike CBD or ITPGR, does not acknowledge the essential role of women in rural communities in conserving bio diversity. It does not make any provision to ensure benefit sharing from technology and innovation, or require any prior informed consent of the people (primarily women) whose knowledge is tapped for technological innovation.

Impact on biodiversity and communities

Biodiversity is the basis of food and livelihood as well as human & animal health security for poor and marginalised communities. To alter the dynamics of control and usage of biodiversity through IPR rules will further impoverish and marginalise local communities, and women will be disadvantaged both in terms of their economic and decision making roles.

IPR regimes on bioresources and the commercialisation of these for markets will result in resource depletion. The case of the Canadian farmer Percy Schmeiser and his run in with Monsanto, over an alleged violation of IPR shows the way IPR regimes are being implemented by corporations to establish monopolies. Monsanto sued Schmeiser for huge damages for violating its patent on 'Roundup Ready' canola after specimens of the proprietary canola were found on Schmeiser's property. Canola, is a cross pollinating crop so the likely source of the offending canola was pollen from a nearby Roundup ready field but the case demonstrates the extent to which MNCs will go to establish monopolies on bioresources. Such actions would have grave consequences in developing country situations since denying rights over vital resources would ultimately affect the community's ability to survive.

Commercial interests that target bio resources on a large scale for the market will threaten the resource base, and with it, the knowledge base developed around the bio resources. The impact on women and through them, families, will be immediate. There is a steady depletion of rare medicinal flora from the hill regions because of collections being conducted by pharmaceutical companies. A sub-species of *Taxus baccata*, the *Himalayan Yew* tree in the Himalayan region is facing near extinction thanks to over exploitation for its the cancer curing properties. Large areas of the Kumaon and Garhwal Himalayas in India have been stripped of medicinal plants by head loaders collecting for foreign and Indian companies. This devastation of flora means that women lose the resources they need for use in home remedies to treat their families and their livestock.

Patents on seeds would take away the women's ability to breed new, locally adapted varieties for food, healing and rituals. This would strike at food and nutritional security of families and also at the socio-cultural identity of communities. Women have bred varieties for special uses integral to local food habits and cultural and religious practices. Some varieties are offered to the Gods at certain festivals. Still others play a role in rituals during marriage and death ceremonies.

When patents are permitted, there is currently no requirement for disclosing the source of the plant material, nor the key information lead for the claimed 'invention', that is the indigenous knowledge of the characteristics, say of the particular medicinal plant. Biopiracy is a misappropriation of the intellectual property of local communities. In the case of the patent on *turmeric*, or *neem*, the knowledge of the wound healing property or the bactericidal property of the respective plants was the basis of the 'invention' that was granted a patent by the US Patent and Trademark Office. The consequences could be twofold. Exercise of the patent in India could lead to corporate control over wound healing or antiseptic products derived from *turmeric* and *neem*. On the other hand if such products had export potential to the US, such an opportunity could be denied because the existing US patent could be used to block any imports.

Whether in the field of medicinal plants or in agriculture, it seems clear that women will be excluded from the decision making process. They will have less say in what will be planted in the field because seed availability will increasingly shift to crops with a single dominant trait. Women are likely to have fewer options and less flexibility to use bioresources for multiple

uses. Since participation in the cash economy to make up the loss in these sectors will either not be possible for women or place additional burdens on them, it is more likely that the ensuing deprivations will become permanent.

Response of the South

India, Brazil, China, Cuba, Dominican Republic, Ecuador, Pakistan, Thailand, Venezuela, Zambia, and Zimbabwe have urged the TRIPS Council to include additional clauses in the TRIPS Agreement. These are to ensure that an applicant for a patent relating to biological materials or indigenous knowledge shall provide disclosure of the source and country of origin of the biological resources and of the indigenous knowledge used in the invention. The applicant would also have to provide evidence of prior informed consent and of fair and equitable benefit sharing under the relevant national regimes, .

These countries are also pushing for an international regime that grants protection to indigenous knowledge. Due to opposition from developed countries, particularly the US, no action has been taken on these proposals. On the contrary, developed countries are advocating a 'TRIPS-plus' approach. The EU and the US have been pressurising countries through bilateral negotiations, to accept IPR regimes in excess of what the WTO demands. There are a number of bilateral or regional treaties between developed and developing countries that have more stringent rules than that provided under TRIPS.

The Way Ahead

The only way to fully ensure a fair deal for communities in developing countries is to remove biodiversity from TRIPS altogether. Since achieving this ambitious goal may take more time than the mandated review period allows, one way might be to secure a five-year suspension of the implementation of Article 27.3(b) so that developing countries may sort out their strategies. In any case, developing countries must at least ensure that there is no strengthening of the TRIPS Agreement, as some developed countries are trying to do through bilateral treaties.

The other approach could be to negotiate at the international level for establishing the primacy of CBD over TRIPS. Article 22 of the CBD says:

The provisions of this Convention shall not affect the rights and obligations of any 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.*

It is clear that the implementation of TRIPS is detrimental to the health of biological diversity and therefore its implementation must be made subservient to the conditions of the CBD.

Dr. Suman Sahai is the Convenor of Gene Campaign, and is based in New Delhi. She has published extensively in science and policy issues related to food security. She is a member of several national policy forums on research and education, international trade, biodiversity and environment, rural development, biotechnology and bioethics and intellectual property rights

Email - mail@genecampaign.org / genecamp@vsnl.com

Web - <http://www.genecampaign.org>