Germplasm, traditional knowledge and biological wealth of developing countries have become major attractions for abuse by multinationals. The major sufferer of this bio-piracy is the farming community who is the real protector of biodiversity. In this paper, plant breeders’ right and its role in protection of new plant varieties are presented. Shortcomings of this *sui generis* protection are highlighted and some suggestions for the improvement of the system are given.

Biological diversity constitutes the most valuable ingredient of ecological stability. Traditionally, it has been exploited on intra-species basis to develop improved biotypes, but of late there has been an explosion in utilization of inter-species diversity or development of such strategies which touch the boundaries of insanity to develop biotypes which were beyond imagination till the recent past. This trend has assumed a gigantic proportion and has been under severe criticism and controversies all over the globe. The major sufferers of it were the poor farmers of the developing nations who were indirectly responsible to give rise to this trend for two reasons: (i) they were not aware of the value of their possession, e.g. germplasm, traditional knowledge and the biological wealth, around them, and (ii) they were in a hurry to reap the benefits from the technology. However, they were not aware that it would lead them deeper into poverty.

Prior to Convention on Biological Diversity (CBD), the genetic resources were considered as the common heritage to entire humanity. CBD is a legal treaty that imparts sovereign right to the nations over their natural bioresources and access to resources on prior informed consent (PIC) and mutually agreed terms.

**Intellectual Property Rights**

Intellectual property rights (IPR) provide monopoly to the holder to control the use, dissemination of products or processes that are novel, unique and useful and satisfy the test of inventiveness. They are catalytic in encouraging innovation, but sometimes may
counter the public interest at large. Although there are several positive aspects of IPR system, such as increased emphasis on the research and development, but its regulatory mechanism may affect the diffusion of knowledge and consequent application and refinement of technology. Patents, plant breeders’ rights (PBR), trademarks, geographical indications and trade secrets are the major types of IPR relevant to agriculture. Farmers’ rights and community rights are new additions, where international and national laws are yet to be evolved.

A patent is statutory privilege granted by the government to the inventors and to other persons deriving these rights from the inventor for a fixed period of time to exclude others from manufacturing, using or selling a patented product or utilizing a patented process, while PBR, a sui generis system, provides protection to the breeders, researchers and farmers with regard to use and exchange of seeds and plant genetic material, for a specific period.

**Historical Background of PBR**

Though the Trade-Related Intellectual Property Rights (TRIPS) were brought under the preview of GATT only in 1994, it was felt necessary much before to have an effective system of protection to plant breeding work which led to formation of an International Union for the Protection of New Varieties of Plants (UPOV) in 1961. The purpose of UPOV is to provide a sui generis system to protect the interest of breeders of new plant varieties, known as PBR. Before UPOV 91, the plant breeders were allowed to use the protected varieties for breeding purposes and farmers were allowed to use seeds from their harvest to plant the next crop, even if the seed was protected by the PBR\(^3\). Now the plant breeders have to pay royalty to the PBR holder if the protected variety is used in the developmental process of a new variety. Similarly, farmers can not use farm-saved seed from protected varieties without payment of royalty to the PBR holder. The standardization of method of compensation is still under discussion.

**Plant Breeders’ Right**

Developing new breeds requires plentiful of skill, effort, time and other resources and the fact that the multiplication of the developed product is fast and far less resource demanding has opened a gateway to the proliferation of improved breeds to unscrupulous production providing no incentive to the developer, which has a very demoralizing effect. Therefore, to protect the interest of breeders, PBR was developed so that they could derive sufficient benefit of developing new varieties and recover the investment involved in it, thus maintaining the tempo of genetic improvement of crops for increased food productivity. However, introduction of breeders authorization for propagation of material and limiting the farmers’ privilege, i.e. from saving seeds for further planting and innovation, have some negative effect on farmers.

To be eligible for protection, varieties have to be: (i) distinct from existing varieties, (ii) sufficiently homogeneous, (iii) stable, and (iv) new in the sense that they must not have been commercialized.

**Shortcomings**

The present system of rights on plant genetic resources suffers from a number of shortcomings. The major ones are listed below:

- The present rules do not have any mechanism to protect the interest of the farming
community who is real protector of germplasm.

- Plant breeding research faces a new obstacle as the free flow of germplasm and improved varieties will not be available for developing desirable genotypes.

- There is no proper mechanism to check the bio-piracy.

- New technology, even if disastrous like the "terminator" technology (US Patent 5723765 granted to USDA and a seed company Delta Pine and Land Co), cannot be stopped from the patenting.

- There is no check on unscrupulous patenting on the traditional knowledge, e.g. a US firm has acquired the patents on the use of turmeric traditionally used for centuries as wound healing agent by Indians and Pakistanis.

- Similarly, no checks are provided to prevent the patenting of plant materials reputed for ages for their place of cultivation, being identified by a particular name and being exported all over the globe, as is evident by patenting of basmati rice grown in India and Pakistan for centuries, and that of jasmati rice from Thailand’s famed jasmine rice.

- No provisions are made to address the problems of abuse of market by multinationals, genetic erosion and increased vulnerability of crop, if a single variety is grown over a large area, in the case of an epidemic.

- There is no mechanism to share the benefit between developer(s) and basic plant material donor(s).

- No provision is made for the compensation to the farmers by using a particular variety in case the crop fails or the variety is not eco-friendly or the produce is hazardous to health.

**Suggestions**

In view of the above, the following suggestions are made for bringing the system towards perfection:

- There is an urgent need for documentation, validation and recognition of traditional knowledge, geographical indications and plant genetic resources of an individual/community/locality/country/geographical area on international level to minimize the unscrupulous capitalization on such information/possessions.

- Breeder’s consent, on agreed terms, must be mandatory if a protected variety is used for research and development.

- The rights for research for non-commercial purpose need also be protected unless explicitly for the benefit of universal interests.

- It should be mandatory to the patent applicants for their products or processes based on plant resources to disclose the source of basic biological material, its origin (country and locality), traditional knowledge used and that from the country of origin the prior informed consents been obtained and all its laws have been complied with.

- Unethical technologies, like terminal technology, should be banned—alogous in the line of human cloning.

- The developer(s) must be made to compensate for the loss(es) resulting from adopting an improved technology, unless the user is informed in advance. The developers should not go scot free just by declaring that they bear no liability.
• There is a need to define the extent of involvement of developer(s) and donor(s) to determine the share of benefit due to each party and to evolve the mechanism to share the dividends by each party in an equitable and unambiguous way.

• Severe penalty should be posed to those who infringe the law.

• Above all, all the laws and rules must be framed in an unambiguous way that leaves no room for different interpretation by different parties, which results in litigation wherein the ultimate sufferer is the poor, who is already in a pitiable condition.

Conclusions

The present state of rights on plant genetic resources may easily be termed as chaotic. There are hoards of conflicting, ambiguous and biased rules. A number of definitions need to be evolved. These factors call for an urgent need for evolution of a system that is beneficial to the whole mankind.

References


2 IPGRI, Access to plant genetic resources and equitable sharing of benefits. *Issues in Genetic Resources No. 4* (IPGRI, Rome) 1996.
