Traditional crop varieties and Plant Variety Protection

Sri Lanka must tread caustiously

by Jagath Gunawardene

The term Plant Variety Protection (PVP) in the normal, direct and simple usage means protecting a variety of a plant from various adverse effects such as climatic factors (drought, heat cold or floods), toxic substances in soil, water or air, infestations, by pests and diseases or the degradation of the essential characteristics by cross-breeding with other varieties. In the present day context, the term does not denote any of these but a kind of monopoly given to a breeder or discoverer of a plant variety that can be used to prevent others from cultivating, selling or using the crop for research purposes. The term PVP is simply a misnomer as there is no protection to a plant variety but only affords a set of exclusive privileges to a breeder in relation to a new variety. It is known more appropriately as Plant Breeders Rights (PBR) rather than using the obvious term PBR and is increasing referred to as PVP is evident from the documents and agreements of the World Trade Organization (WTO), the names of the acts.

In countries with agricultural traditions, it was the farmers who selected, improved, bred and shared the crop varieties with others. In Sri Lanka, farmers were known to share not only the crop varieties and resources like water, but also to help each other in land preparation, sowing of seeds, maintaining the crop, harvesting and to take necessary measures against pets and diseases when necessary. Therefore, the granting of monopolies to plant breeders goes against the traditions of mutual help, sharing of resources and altruism. However, being members of WTO, countries like ours have to follow the provisions of certain agreements. According to Article 27 (3) (b) of the Trade Related Aspects of Intellectual Property Rights (TRIPS) agreement, member countries are required to adopt a patent system, or a sui genric system or a combination of both to provide protection to new plant varieties. The term "sui generic" means unique or "special" and therefore we have a limited option of having an act that could meet our requirements or mitigate any possible adverse implications while meeting the obligations under TRIPS/WTO. Since there needs to be some acceptable criteria to determine a new plant variety, the sui generic option has its own limitations.

The history of PVP (or PBR) laws that gives Intellectual Property Rights (IPR) to plants shows the conflict between the farming and consumer interests on one side and private corporate interests on the other side. An intellectual property means anything of value made through the creativity of the human mind. The underlying assumption behind PVP is that the creation or discovery of new plant varieties is a result achieved through the human intellect and that it qualifies to be given protection as a form of intellectual property. Since these fall into the category of inventions, the form of protection is the granting of patents. A patent is a form of monopoly given to new inventions which can either be a product or a process of manufacture.

The first ever law that gave patent protection to plants was the Plant Patent Act of the United States of America that was passed in 1930. Till the early part of the last century, the US government had been producing new varieties of crops and distributing seeds free of charge to farmers. The financial crisis of the 1920s led to the abandonment of this practice in 1923. By this time, there were several prominent nurserymen engaged in breeding new varieties of plants, mainly fruits and ornamentals. In order to maintain profits, they have been making representations to grant them some property rights over their new breeds. Two families that played prominent roles in this regard had been the Burbanks and Starks who were professional nurserymen and plant breeders. The provisions of the Plant Patent Act itself show the type of interests that were intended to be protected.

According to the Plant Patent Act, a plant has to be new to get protection. The novelty is tested by comparing the description with closely related varieties to seek out the differences. The second requirement is to show that it can be sexually or vegetatively reproduced to ensure that the plant is stable through subsequent generations. A sexual reproduction is not limited to propagation through corns, bulbs, rhizomes, runners, grafts and cuttings but tissue culture as well. Plants that can only be propagated through seed do not qualify for plant patents. Although propagation through tubers is a vegetative method, such plants are excluded. This was deliberately done to prevent important food crops like potatoes and artichokes from being patented. This act was intended to give monopoly rights to breeders of fruit and ornamental plants but not to essential food crops.

The granting of monopoly rights to essential food crops wasinitiated not in USA but in Europe. In 1942, Netherlands, passed the Plant Breeders Rights Act, but this movement gathered momentum in the 1950's with the buying over of family-owned seed farms and nurseries by the private sector. In 1957, a series of negotiations were arranged by several European countries to bring in a uniform system of monopoly rights to plant breeders. These efforts culminated in 1961 with the formation of the Union for the Protection of New Varieties of plants, known widely by the French abbreviation UPOV, which called for a system of plant breeders rights common to member states. This convention used the term plant variety protection (PVP) to denote breeders rights. There were only six European countries in UPOV in the beginning and it is still not popular except in developed countries, with only 37 countries as members till the end of 1999.

The member states of UPOV started passing enactenents in accordance with provisions. In 1964, Great Britain passed the Plant Variety and Seeds Act followed by others. Germany which had a plant variety act since 1953, passed a new one in 1968, and Netherlands passed a new act in 1967, repealing the 1942 law. It is interesting to note that USA is a late entrant to UPOV and passed their Plant Variety Protection Act in 1970. This was because the consolidation of small, family-owned seed-breeding ventures in the hands of the large companies happened only in the late 1960s. It is seen that those countries that became UPOV members till 1970 have small farming communities, and less than 10% of the population depend on agriculture. The other is that many of their firms export seed and planting material.

Although the PVP laws differ from country to country, they have several basic similarities. The monopoly rights are provided only to new plant varieties and all existing, traditional varieties are left out. In Sri Lanka, this will mean that more than 2,800 traditional rice varieties and those new improved varieties developed our Rice Research Centres and released to people would derive no rights since they are not "new" or novel. The traditional and improved varieties of the other local crops will face a similar situation. These have to be carefully considered in formulation of the new act to prevent us from losing our valuable germplasm, which is our future hope of food security.

There is a lurking danger whether the government would cater to the national interests or bow down before foreign private interests. In a situation where the government considers the private sector to be the "engine of growth", there is a possibility that funding for public sector crop research may be cut-off, giving private interests little competition. The worst possible situation would be the leasing or selling out of public sector crop research institutions. The recent hand-over of seed farms to private sector is on omnious prelude to this possibility.

In order to derive rights under a PVP act, a new variety needs to fulfil the three criteria of Distinctness, Uniformity and Stability (DUS) Distinctness means that it should be clearly different from known, existing varieties of the crop. Uniformity means that all individual plants of the variety should share the same basic characteristics that make it distinct. Stability means that it should be able to pass the same characteristics to successive generations. These criteria are basically similar to the requirements of novelty, non-obviousness or inventive step and usefulness that are needed for an industrial or utility patent. Although some prefer to harp that PVP "does not amount to a patent system" or even as a "soft patent regime", no such distinctions exist in reality. In countries where patents are issued to plants, a variety that is eligible for a PVP certification is also eligible for a utility patent.

A good example is USA which has provisions for PVP certificates and utility patents to be issued to plants. The granting of utility patents for plants commenced in 1985, not by an amendment to the utility Patents Act, but following the decision of ex-parte. Hibbard case. A well known instance is the utility patent provided to Basmati Rice Lines (US 5,663,484) in September 1997, on an application made by Rice Tec in July 1994. In November 1995, Rice Tec applied for plant variety protection for the same Basmati Rice lines, and were awarded the certification (PVP 9600077) in 1996. In 1997, when they got the utility patent, the PVP was abandoned. This is because the utility patent offers the strongest possible monopoly rights and they therefore do not need the PVP anymore.

The rights conferred by PVP are usually for a period of 20 years and can be exercised against farmers who may use the variety for cultivation and other research institutes that may use it to develop new, improved plants. Since PVP gives "ownership" of the plant to a breeder, farmers need permission to grow such varieties. Permission is needed to save and re-use seed which usually require the farmers to pay a fee to the breeder. These increase the cost of seeds making the yield to be sold at higher prizes. The burden of paying a higher prize to foodstuffs will be ultimately passed on to the consumers.

An increasing trend in developed countries is that companies tend to sell their "protected" seed with a package of inputs (pesticides, herbicides and fertilizers) made by them. Those who use the seed are compelled to use only the particular brands of inputs. This is done by entering contractual agreements with farmers. Farmers who enter into such agreements are precluded from using the input sold under a different brand name by a different company even though they may be cheaper. In both Europe and USA, many seed production ventures are now owed by the major agrochemical companies. This means that both seeds and inputs being made by the same company and the PVP provisions being used to boost their own agrochemicals and create monopolies in inputs as well as on seeds.

The other set of rights conferred to breeders by PVP places restrictions on others from using protected plants to create new improved varieties, which has obstructed and stifled further research, mainly these activities carried out by public-interest research aimed at creating new varieties for poor countries. A disturbing trend in private sector crop research is that once they hit upon several promising and popular lines, all subsequent varieties tend to be further improvements to the same lines. This saves a lot of money time and other resources for the company which is in addition guaranteed with a good market as the new variety is an extention of an already popular line. This, however, create a lot of new varieties that share the same basic genetic makeup, making them all similarly susceptible to the same kinds of pests, diseases or adverse conditions. An outbreak of such a pestitence or disease may destroy much of the crops.

A country like Sri Lanka that has a large diversity of native crop varieties could face yet another set of problems if a PVP act is not drafted very carefully. All traditional varieties and even those developed by public-funded research centres are in the public domain and therefore can be used by any party without any restrictions for developing new varieties. This is a gold-mine of genetic resources that can be freely assessed to develop new varieties. They are not required to share the benefits accrued by the new varieties with the donors of germplasm. A breeder is therefore free to use available germplasm to create new varieties, get PVP and derive benefits just for himself. Even the farmers of the donor country, the rightful owners of the parent germplasm, would be compelled to buy the improved seed at prices determined by the breeder. Neither the ETO/TRIPS, nor UPOV, mentions any benefit sharing with donors.

According to Article 3 (1) of the TRIPS, a state should accord nationals of any member country the same treatment that is afforded to a national of the country. This, known as "National Treatment" paves the way for multinational seed-agrochemical giants to register their new varieties in a country after the passing of a PVP act, and enjoy the same privileges. However, countries are not precluded from having certain provisions to let farmers enjoy the rights of seed-saving or use varieties for limited research purposes in the PVP acts. In addition, the public interest research institutes need to have some form of protection to have some rights over their varieties to prevent abuse. The new act and government policy should strive to preserve the rights of farmers, consumers and the country at large, which would not violate the provisions of TRIPs but would certainly not to the liking of multinationals.

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