Biodiversity Protection, Farmers and Breeders Right

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Lecture 30 : International Union for Protection of New Plant Varieties (UPOV)

Welcome to the lecture 30, which is on the International Union for Protection of Plant Varieties. At this juncture, before we start the lecture, it is important to understand whenever we look at the context of protection of plant varieties, we are also looking at the domestic legislation and how the domestic legislation has come into place based on the country's commitments with respect to different international treaties. Therefore, when we look at this area of plant variety protection, we look at the international treaty for plant genetic resources for food and agriculture. We also considered the TRIPS agreement. Member countries have been given the option of protecting them either as plants, patents or come up with an effective sui generis legislation. Many of the member countries are also member countries to CBD.

Therefore, the context of plant genetic resources in the context of agro biodiversity also is relevant. Then, of course, we have the international protection of plant varieties under the UPOV system. So, it is the right stage for us to discuss the historical context of the UPOV and how UPOV has influenced the development of plant variety protection, where countries have adopted UPOV on one end, other countries have used UPOV as a model. With this, let us begin the lecture.

So, in this, these are the following concepts that we would cover. The historical context of UPOV, the structure of UPOV as the convention, then the key features, what are the committees under UPOV, functions of UPOV, the criteria for protection and the context of how the plant breeder writes and the shift in the position with respect to UPOV. These are the keywords for the lecture. So, if one looks at the historical context of UPOV, it becomes important to go back in time where breeders were consistently developing new varieties with respect to agriculture on one end, then we also have breeders who are looking at stocks in the area of ornamental plants as well. So, the need for protection was more imperative when we look at protecting of plant varieties beyond the country.

And therefore, if one looks at the early 1900s to the 1960s, we look at the need for reviewing the existing legal and the non-legal protection for include plant varieties. Then advances in biotechnology have had their impact with respect to transforming the area of agriculture and plant genetics as well. With that we began to see a lot of new varieties being developed. So, the International Association for Protection of IP or the AIPPI was formed in 1897 to identify the context of IP and the scope of IP. Now, in this context it is

also relevant to talk about several conferences that were conducted in the Europe, notably 1938, Asincel, the International Association for Plant Breeders and the Protection of Plant Varieties.

At these conferences, the need for introducing an international convention for protection of new plant varieties was recognized. Getting into consideration the aspect that the consistent efforts that plant breeders were involved with in terms of improvement of new plant varieties required a look at how they can enhance the protection of these varieties beyond the domestic jurisdiction. And this is one end. The other end is about how to balance the context of the agriculture from the perspective of farmers and their rights. So, the UPOV is derived from the French name and the 1961 is the time when the basic text was laid out with the mandate of promoting the policy internationally with respect to promoting the development of new plants.

UPOV has 78 members and several states which are the initiating states and one organization. Now, the members to the UPOV are either party to the 78th text or to the 1991 act. We will take up some of this as we move further. The organization which is also a part is the African intellectual property. This organization ARIPO is also a member of the UPOV.

The UPOV was revised several times and today as we see the expansion of membership as typically happened during the mid 1990s. If one looks at the context of UPOV and the purpose, it is important to look at the aspect of article 1. The purpose of the convention is to recognize to ensure to the breeder of a new plant variety or to his successor in title a right subject to the conditions in respect of new plant varieties. Now, countries differ in the number of genera and species that they offer protection. Within 5 years of joining the convention, the need for protecting genera and species becomes a mandate.

So, article 4 of the convention talks about the need to all the botanical genera and species are available. If one recalls that the initial stage of the when the convention was opened up that text of 1960 was opened up, at that stage we had very few genera and species protected. Now, there is this form of intellectual property is a little peculiar from the point of view that every plant species is different from another. Hence, having examination guidelines can be of two types. One is the general guideline, another which is species specific because the characteristic of each genera is different, each genus is different.

And if you look at it at the species level also we have lot of variation. Now, when we call it a new plant variety, we are denoting the characteristics to be new. And hence, this is one form of intellectual property where you have very specific guidelines at the species level as well. So, it is important to also look at the context of how the examination

guidelines needed to be developed. And therefore, beginning we had only few plant species that were considered and much later on all the genera and species came under the purview of protection.

So, in the earlier lectures we have also looked at this particular illustration and it is relevant to bring that back here to discuss the aspects of the conditions of protection. Here we are looking at the requirement of novelty, requirement of distinctness as provided in article 7 of the convention, uniformity as in article 8, where the features of propagation should be uniform with respect to the specific characteristics, and article 9 which deals with the aspect of stability where characteristics need to be remain unchanged after repeated propagation. So, these are the most important contribution of the UPOV in laying down what we call the general guidelines with respect to the conditions of protection. With respect to denomination, the criteria for denomination have been arrived at taking into consideration several aspects. The fundamental thing is that the variety is identified on the basis of the denomination, may not be solely consisting of figures unless it is part of an established practice in that particular area.

Since UPOV also provides for reciprocal protection between member countries, it is important that we should avoid the misleading of the denominations and hence denominations need to be different. And once the denomination, a particular denomination is used, the same denomination needs to be carried forward in the countries. It is also important to note that there could be prior user rights and in that case it is important to distinguish from the prior user rights, so that they are not affected. In many instances trademarks, trade names are used and therefore, it is important to have the denomination which is more easily recognizable. The denomination continues even beyond the expiry of the breeder rights.

So, when the denominations itself were developed, we also know that there are several country based classifications that is the national list. We also have generally in the area botanical codes and cultivation plant codes. So, therefore, UPOV principles in relation to denomination are in concurrence with those as well. So, if you look at as we go forward, we discuss about some of the committees. So, these committees take up the work in relation to those particular species including the context of looking at the existing rules for the codes with respect to naming plants.

So, we now come to the aspect of discussing the UPOV organogram. As with several other conventions, we have certain differences here. There is a technical committee as part of the consultative committee and then we have the administrative and the legal committee. Now the administrative and the legal committee has an advisory group. So, wherever we are looking at the context of the implementation and the development of specific review,

then we come to the context of this particular committee.

There are several technical committees with respect to each type of plants, plant types. For instance, you have a technical working party for agriculture groups, there is one for fruit crops, there is another for ornamental plants, vegetables and today there is an enormous amount of digitization of information. So, if you look at this technical working party for automation and computer program came in much later to look at digitized records with respect to plant species. And today with the advances of biotechnology, we also have ways of detection using biomolecules, using DNA probes. So, this is an area where molecular markers can also be utilized for differentiating plants.

And therefore, the working group on the biochemical and molecular techniques or in short the BMT group is involved in looking at this particular area. So, as you may have realized, this form of intellectual property which is a plant variety protection, you have several of these working groups looking at defining the norms with respect to looking at the criteria, the denomination, how the characteristics have to be looked at from the DUS testing and all of that. The key features of the Yupov convention are in essentially to deal with identifying common principles of recognizing new plant varieties for protection. The type of varieties and how breeder rights need to be considered. What are the genera and species that come within the purview of protection? The rules for national treatment, providing a mechanism where members can come up with several guidelines in the form of consultation with respect to the technical committees and how one can also look at reciprocal protection that is also one aspect of it.

And hence, UPOV basically deals with these particular. So, the Yupov was also today become a model because it provides for the minimum scope of protection, minimum duration of protection and the conditions for grant of protection to plant varieties that are developed has also been laid out. As we know there are the several working parties. Now the way these working parties take up matters are with respect to specific aspect of that particular working party. For instance, if it is agriculture crops, the mandate is about developing guidelines in relation to agriculture crops.

Not only that, it is also the job of the working party to consult with several stakeholders, the members, non-members and experts to develop test guidelines for each type of crop. And this is a very elaborate exercise. It also involves the use of uniform notation with respect to the UPOV codes for each of these species. We will take up that as we come to that particular aspect. The other thing which is important to note is that the administrative and the legal committee also considers the context of how the market and market principles operate with respect to plant variety protection in the form of continuously studying the relationship between the competition rules and plant variety protection.

There are several studies available with respect to individual countries on how post adoption of UPOV, the area of agriculture, how it has been impacted, what happens to the market chain, these have been also studied. The UPOV also collaborates with several conventions notably, WIPO and UPOV in 1982 signed up an agreement to take up the aspect of intellectual property aspects in relation to plant variety protection. The director general of UPOV is the one who handles the functions of the UPOV convention as the appointed secretary general. The relevance of looking at right to priority is also important, especially when we look at member countries context. As you are aware, the right to priority is a very important step in determining novelty.

If the breeder files an application in one country and would like to utilize the right of priority, it would mean that there is a certain time period by when the right of priority can be preserved if you are filing across beyond the two with respect to other countries. So, the right of priority has an effect on the novelty with respect to plant variety. This is one aspect that we recognize. It is also possible that there is common knowledge with respect to a particular variety and how that has to be looked into is also a consideration. There could be prior user rights with respect to denomination which could again interfere with the context of novelty.

In the 1978 act, right to priority is under article 12 and in the 1991 act, it is under article 11. UPOV also has come up with what we call UPOV codes. It is relevant to understand if you are using the particular GENIE database. Now, what is this Yupov code system? It is the system to come up with a uniform representation in the form of codes for those varieties which are registered. So, for instance we are talking about Solanum tuberosa, then for that particular there is a specific code and all the registrations come under that particular code.

So, the general construction of the Yupov code is in the form of the alphabetical aspect of five letters with respect to the genus, three letters taken from the species part and then you have specific subspecies also sometimes mentioned. So, this entire thing is what you see as the way in which the code is developed. For instance, Salvia oxyfora, it is salvia the first five letters of it, oxy the third part of it, the three letters from the species part which are taken. So, this becomes the UPOV code. So, all of those which are under this particular code relate to Salvia oxyfora.

Similarly, we are looking at Trigonella carula, Trigo cae. So, these are important from the point of view of search. So, if you want to know what are the UPOV codes that are available, it would be good to go to the GENIE database and when you click on this, you go to the simple search and you can generally click on search at the UPOV code. That

will give you the entire list of crop species for which UPOV codes have been developed. Now, we come to the important aspect of DUS testing and how this is something which is very unique about plant variety protection from the examination point of view and also the applicant submission.

As you are aware, countries, some countries mandate applicant based information whereas, many other countries not only mandate applicant based information, but also undertake separate DUS testing from the point of view of the authority. So, the characteristics that are used in DUS testing is very important to understand. We have moved from the very initial aspects of generally how plant species are identified based on either qualitative or quantitative or both characteristics. So, qualitative characteristics are about flower type, leaf color, all of these. Quantitative characteristics are more in terms of the length, size, height, for instance grain number, grain size.

Pseudo qualitative characteristics are also sometimes utilized where the expression of a characteristic is partly continuous. That means, you do see variations in the form of a range with respect to some of these qualitative characteristics. Then there are also special characteristics. Whenever we look into DUS testing, it is also possible that the applicant may mention that whenever the examination of this is done, that is the verification of the details submitted, it is necessary maybe to introduce a condition for the best idea of that particular characteristic. So, in order to know that, for instance, a characteristic may be expressed in response to an external factor.

Chemical constituents can be the basis of identifying different. For instance, if you are looking at high yield with respect to oil, then that is the distinguishing feature, then we are looking at oil content and aspects of those. It may be also possible that you can have combined characteristics. Then new type of characteristics are also being used. For instance, if the plants which are very very close by, then the question of distinction becomes very difficult from the point of view of the general or the traditional way of looking at qualitative and quantitative characteristics.

Here is the stage where we are looking at molecular markers for testing. So, the technical working parties are typically working on some of developing of some of these guidelines. So, if you want to look at the list of test guidelines developed by the UPERP, this is the particular link. And typically, the concern is more about the cross pollinated varieties, because here you see typically a wider variation within the variety. And hence, there is also one particular norm that has been developed in order to accommodate those variations within a given stipulated period, which is called the COYD that is combined over the years distinctness to accommodate the variations which could be possible between the years.

Today, we do have a challenge of the changing climate and so, pinpointing on the native characteristics sometimes is also very difficult. So, these need to be also kept in mind. With respect to development of new characteristics, the guidelines for DNA profiling use have been developed. They are called the BMT guidelines, where selection of molecular markers, how it has to be done, then what is the kind of data that needs to be submitted, what are the validation and harmonization methods with respect to marker set, all of these are disclosed. So, when we look at the DUS examination in the YUPOP context, there is cooperation between the countries, where if you are looking at protection beyond in several countries, then some countries accept reports from the countries where earlier the application has been fine in total.

So, we have several contexts of providing, accepting existing DUS reports, some only provide for DUS reports, certain others. So, these are the aspects that we realize. So, there is no need for once again submission of a particular report. The Pluto database is very relevant from the point of view of looking at the general information on plant varieties from the YUPOP members and the OECD. Here you have records which are on plant breeder rights, plant patents, patents for inventions, we talked about the nationalists.

So, you have nationalists here and also bilateral agreements have been taken up for testing and there are several other aspects also. So, these are available in the Pluto database. The context of breeder rights is very relevant from the YUPOP perspective because several of several members are part of the 1978 text because there is a greater exemption available for farmers compared to the 1991 text. So, what is given to you in this illustration is a side by side representation of the 1978 and the 1991 act. And here you can see what are the exemptions available and greater amount of breeder rights are available with respect to 1991 act.

So, this is where we see that countries are have signed up depending on their national policy considerations. There are some conditions and limitations that are stipulated with respect to where the breeder can include that as part of the requirement, remuneration, period of authorization, what are the specific acts that can be undertaken, the maintaining of the quality and quantity of the material specifying that, and the exclusivity is carved out in terms of regions is one and other conditions as may be required. So, these are some of the ones where the breeder could look at the context of this. So, we come to the conclusion.

This was a brief overview into UPOV. UPOV has become a very important model convention because many countries in Asia are not members to the UPOV, but have used UPOW as a model to implement their national legislation. So, to conclude UPOV's mission is to provide and promote an effective system of plant variety protection and encourage the area of development of new varieties. Countries differ in the implementation of plant

variety protection based on the adherence either to the 1978 act or the 1991 act of UPOW. One of the very important significant developments in relation to UPOV convention which has contributed a lot to the area of plant variety testing is the DUS testing procedures and the harmonization of those. The context of breeder rights with respect to UPOV has been quite contentious and we see greater availability of breeder rights in the later part of the conventions in terms of the 1991 text.

National organizations cooperate with UPOV in order to develop norms with respect to plant variety protection. These are the few references for the lecture. Thank you.